INDEX OF TEXAS ARCHAEOLOGY
Open Access Gray Literature from the Lone Star State

Volume 2007 Article 42

2007

Historical, Archaeological, and Geophysical Investigations at Two Proposed Safety Rest Areas, Interstate Highway (IH) 10, Chambers County, Texas

Jennifer A. Kelly

Richard A. Weinstein

Joanne Ryan

Bryan S. Haley

Jean L. Epperson
Follow this and additional works at: https://scholarworks.sfasu.edu/ita

 Part of the American Material Culture Commons, Archaeological Anthropology Commons, Environmental Studies Commons, Other American Studies Commons, Other Arts and Humanities Commons, Other History of Art, Architecture, and Archaeology Commons, and the United States History Commons

See next page for additional authors

Tell us how this article helped you.

Cite this Record

Kelly, Jennifer A.; Weinstein, Richard A.; Ryan, Joanne; Haley, Bryan S.; Epperson, Jean L.; and Hahn III, Thurston H.G. (2007) "Historical, Archaeological, and Geophysical Investigations at Two Proposed Safety Rest Areas, Interstate Highway (IH) 10, Chambers County, Texas," *Index of Texas Archaeology: Open Access Gray Literature from the Lone Star State*: Vol. 2007, Article 42. ISSN: 2475-9333
Available at: https://scholarworks.sfasu.edu/ita/vol2007/iss1/42

This Article is brought to you for free and open access by the Center for Regional Heritage Research at SFA ScholarWorks. It has been accepted for inclusion in Index of Texas Archaeology: Open Access Gray Literature from the Lone Star State by an authorized editor of SFA ScholarWorks. For more information, please contact cdsscholarworks@sfasu.edu.

Historical, Archaeological, and Geophysical Investigations at Two Proposed Safety Rest Areas, Interstate Highway (IH) 10, Chambers County, Texas

Authors

Jennifer A. Kelly, Richard A. Weinstein, Joanne Ryan, Bryan S. Haley, Jean L. Epperson, and Thurston H.G. Hahn III

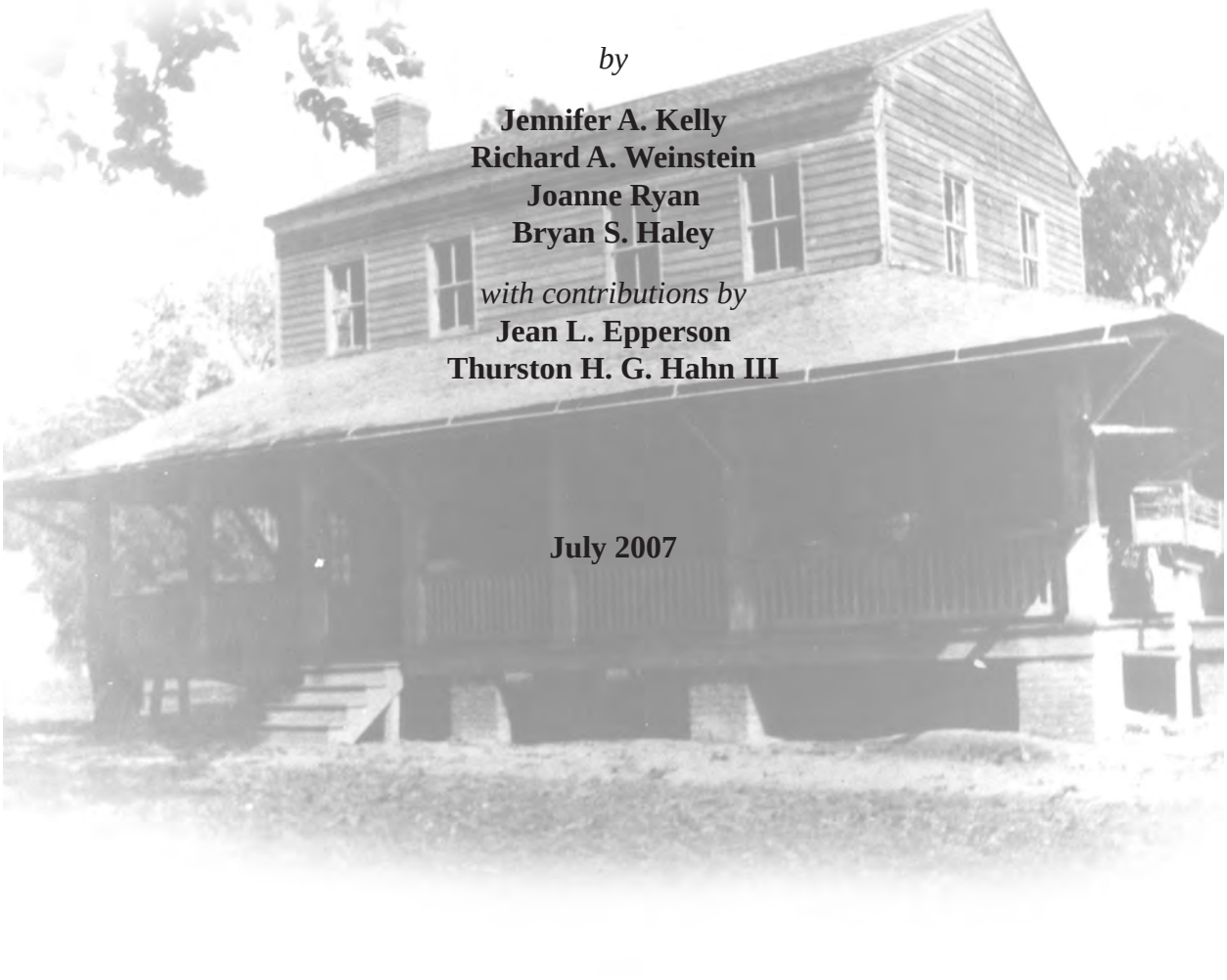
Creative Commons License

This work is licensed under a Creative Commons Attribution 4.0 International License.

This article is available in Index of Texas Archaeology: Open Access Gray Literature from the Lone Star State: https://scholarworks.sfasu.edu/ita/vol2007/iss1/42

THE HOMESTEAD OF JAMES TAYLOR WHITE II:

HISTORICAL, ARCHAEOLOGICAL, AND GEOPHYSICAL INVESTIGATIONS AT TWO PROPOSED SAFETY REST AREAS, INTERSTATE HIGHWAY (IH) 10, CHAMBERS COUNTY, TEXAS



by

Jennifer A. Kelly
Richard A. Weinstein
Joanne Ryan
Bryan S. Haley

with contributions by
Jean L. Epperson
Thurston H. G. Hahn III

July 2007

Texas Department of Transportation
Environmental Affairs Division
Archeological Studies Program, Report No. 80

Coastal Environments Incorporated
1260 Main Street
Baton Rouge, LA 70802

ISBN: 1-930788-68-1

The Homestead of James Taylor White II:

Historical, Archaeological, and Geophysical Investigations at Two Proposed Safety Rest Areas, Interstate Highway (IH) 10, Chambers County, Texas

by

Jennifer A. Kelly
Richard A. Weinstein
Joanne Ryan
Bryan S. Haley

with contributions by
Jean L. Epperson – Historical Research
Thurston H. G. Hahn III – Artifact Analysis

Richard A. Weinstein
Principal Investigator

TxDOT CSJ No. 0508-03-075

Texas Antiquities Permit No. 4229

Work Authorization No. 576 04 SA004

Contract No. 576XXSA004

July 2007

Prepared for

Texas Department of Transportation

Environmental Affairs Division
Archeological Studies Program, Report No. 80

Prepared by

Coastal Environments Incorporated
1260 Main Street
Baton Rouge, LA 70802

The Homestead of James Taylor White II:

Historical, Archaeological, and Geophysical Investigations at Two Proposed Safety Rest Areas, Interstate Highway (IH) 10, Chambers County, Texas

Copyright 2007
Texas Department of Transportation (TxDOT) and
Coastal Environments, Inc. (CEI)

TxDOT CSJ No. 0508-03-075
Texas Antiquities Permit No. 4229

All rights reserved.

TxDOT and CEI jointly own all rights, title, and interest in and to all data and other information developed for this project. Brief passages from this publication may be reproduced without permission provided that credit is given to TxDOT and CEI. Permission to reprint an entire chapter, section, figures or tables must be obtained in advance from the Supervisor of the Archaeological Studies Program, Environmental Affairs Division, Texas Department of Transportation, 125 East 11th Street, Austin, Texas 78701. Copies of this publication have been deposited with the Texas State Library in compliance with the State Depository requirements.

Printed by IPC Printing, Inc., Baton Rouge
July 2007

jointly published by

Texas Department of Transportation
Environmental Affairs Division
Archeological Studies Program
Scott Pletka, Ph.D., Supervisor

Archeological Studies Program, Report No. 80
A. McGraw, Series Editor

and

Coastal Environments, Inc.
1260 Main Street
Baton Rouge, LA 70802

ISBN: 1-930788-68-1 Printed on acid-free, 60 lb. paper

Abstract

Personnel from Coastal Environments, Inc. (CEI), Moore Archeological Consulting, Inc. (MAC), and the University of Mississippi conducted archaeological and geophysical investigations at the locations of two proposed safety rest areas on opposite sides of Interstate Highway (IH) 10 in Chambers County, Texas. The research was carried out from late August 2006 until late February 2007, under contract to the Environmental Affairs Division of the Texas Department of Transportation (TxDOT). MAC archaeologists had previously examined the two rest area tracts in 2001. Their research indicated that the north tract contained a late-nineteenth- through early-twentieth-century cemetery, identified as the Broussard Cemetery site (41CH370). Buried within the cemetery are the remains of several members of the locally prominent White family and relatives. The south tract included the remains of a below-ground cistern that likely marked the location of the main house associated with the homestead and ranch of James Taylor White II. It was estimated that this house location, labeled the White Family Cistern site (41CH371), was occupied from ca. 1854 until sometime in the early 1900s.

The field investigations examined three specific areas within the two tracts: (1) A small 20-by-45-m area situated about 10 m north of the Broussard Cemetery site where a truck-entrance road is to be built. It was considered possible that unmarked graves located outside the cemetery proper might be present in that area. (2) A 40-by-40-m area within the south tract where MAC personnel had located a piece of whiteware during their earlier investigations. It was thought that a possible outbuilding related to the White homestead might be present in that area. (3) A 110-by-115-m area in the south tract where the main house and most of the White family occupation occurred.

The area in the north tract was examined by ground-penetrating radar, resistivity surveys and mechanical stripping of anomalies recognized by the geophysical research. The small square area in the south tract was examined by systematic shovel tests. The large area in the south tract was investigated by systematic shovel tests, a metal detector survey, a geophysical search that included magnetometer and electromagnetic susceptibility surveys, a limited ground-truth assessment of selected anomalies that had been identified by the geophysical surveys, mechanical stripping of other anomalies recognized by the geophysical research, plus the controlled excavation of a few small units in locations where the stripping uncovered potential cultural features.

Overall, the various investigations identified the location, orientation, and dimensions of the White family house and its associated kitchen, a rich sheet midden situated to the rear of the house, and several possible outbuildings located to the sides of the structure. Numerous artifacts indicative of the period of suspected occupation were collected, including hundreds of pieces of metal, ceramic fragments, and glass. A few animal bones and plant remains also were obtained. Although the present study did not call for a detailed analysis of these items, such should prove useful in the future. Given these results, it is clear that site 41CH371 is eligible for inclusion in the National Register of Historic Places. Additional archaeological investigations at

selected portions of the site are recommended, along with further archival and historical research. Accordingly, construction of the rest area in the south tract should be delayed until the recommended investigations are completed.

The small area examined in the north tract near site 41CH370 failed to yield any evidence of burials. Since the cemetery itself will be avoided during construction, no further archaeological work is considered necessary in the north tract. Thus, construction of the rest area within the north tract may proceed as planned.

Table of Contents

List of Figures

List of Tables

Preface and Acknowledgements

This report presents the results of historical research plus archaeological and geophysical investigations related to two proposed safety rest areas, situated on opposite sides of Interstate Highway (IH) 10, ca. 12 miles west of the town of Winnie in Chambers County, Texas. Each of the two areas covers approximately 52 ac, and had been examined previously by personnel from Moore Archeological Consulting, Inc., (MAC) during an initial cultural resources survey conducted in 2001 (Terneny 2002). During that investigation, two historic archaeological sites (identified as the Broussard Cemetery, 41CH370, and the Cistern, 41CH371) were discovered and considered potentially eligible for inclusion in the National Register of Historic Places. Both sites were related to a mid-to-late-nineteenth- and early-twentieth-century occupation of the area by James Taylor White II and members of his family. The current research by Coastal Environments, Inc., (CEI) was conducted under contract to the Texas Department of Transportation (TxDOT) as Work Authorization No. 576 04 SA004 of Contract No. 576 XX SA004. It was designed to build upon the previous MAC research and to further investigate and assess the two sites and their association with the White family.

Fieldwork for the project was divided into two main phases. The first occurred between August 23 and October 27, 2006, and included initial mapping of the areas to be examined, systematic shovel testing, a metal detector survey, geophysical investigations (magnetometer, electromagnetic conductivity, ground-penetrating radar, and resistivity surveys), and a limited amount of hand-excavated ground-truth examination. The second phase took place between February 12 and February 20, 2007, and included mechanical stripping of selected anomaly areas that had been identified by the geophysical investigations plus hand excavation of several small units to examine potential features uncovered during the stripping.

Fieldwork was a joint effort between personnel from both CEI and MAC. Not only did this allow for previous knowledge of the rest areas to be carried over into the present study, but it also provided additional expertise on the archaeology of southeast Texas. Richard A. Weinstein, Vice President and Senior Archaeologist at CEI's main office in Baton Rouge, Louisiana, served as Principal Investigator for the project and directed the initial phase of fieldwork. He also authored or co-authored several of the chapters in the final report and was responsible for the artifact photographs included in the study. Jennifer A. Kelly, Project Manager, and Robert E. Baker, Crew Chief, both of CEI's office in Corpus Christi, Texas, aided greatly in both phases of the fieldwork. In addition, Ms. Kelly conducted a significant amount of historical research following completion of the fieldwork, helped analyze the artifacts recovered during both phases of fieldwork, and authored or co-authored several of the chapters for the present study. Mr. Baker also followed his stint as Crew Chief by aiding in the washing of the many large metal artifacts recovered during the project. Joanne Ryan, Project Manager at CEI's Baton Rouge office, directed the second phase of fieldwork, aided in analysis of the artifacts recovered during that part of the project, and authored Chapter 9 of the report. She also helped edit and finalize many of the chapters in the overall study.

Personnel from MAC's office in Houston, Texas, aided greatly during the fieldwork. Roger G. Moore, President of MAC, provided detailed information on the previous work conducted by his company at the two rest area locations, offered suggestions on the field methods to be employed during the project, and visited the field crews on several occasions in his capacity as Quality Control Officer for the current investigations. Randy Ferguson served as a Crew Chief during his involvement with the first phase of fieldwork, while Lisa Rodriquez, Kelly Schexnayder, and Darren Schubert all served as Field Technicians during the initial fieldwork. Their hard work is greatly appreciated.

In addition to the field crews, several individuals contributed both their time and expertise to the completion of this research, and the authors would like to acknowledge them at this point. Allen C. Bettis, Jr., of TxDOT's Environmental Affairs Division, oversaw the project for that agency and provided CEI with all necessary maps and project plans related to the rest areas. G. R. Dennis Price, also with the Environmental Affairs Division, offered helpful suggestions and guidance during the course of the project. Rachel Feit of Hicks and Company, Austin, Texas, kindly provided a digital copy of that company's map of Gradall excavations at Fort Anahuac for use as Figure 3-6 in the present report. Sarah V. Welshman, Librarian with the Special Collections and Preservation Division of the Chicago Public Library, Chicago, Illinois, provided information on the Bonnet-Nance Stove Company, including sections from that company's 1905 catalogue.

Several individuals in Chambers County aided in historical research. Jean L. Epperson, of Texana Heritage Services, Dayton, Texas, spent several days at the Wallisville Heritage Park, Wallisville, Texas, collecting information on the various members of the White family and their respective homes. Kevin Ladd, Director of the Wallisville Heritage Park, allowed access to the park's voluminous collections on Chambers County, particularly those related to the White family and the late John V. Clay. He also answered several questions related to the history of Chambers County.

Lastly, this project could not have been completed without the aid of several other members of CEI's professional staff. Thurston H. G. Hahn III, Project Manager at CEI's Baton Rouge office, helped analyze the artifacts obtained during the first phase of fieldwork. These included the numerous pieces of metal found during the metal detector survey. Mr. Hahn also helped produce the various artifact tables related to that part of the investigations. Sara A. Hahn and Douglas C. Wells, Archaeologist and Project Manager, respectively, at CEI's Baton Rouge office, also helped produce the artifact tables found throughout the present report. The late Curtis Latiolais, Senior Draftsman with CEI's GIS/Drafting Division in Baton Rouge, produced those figures included in the project's initial scope of work. Many of these subsequently were included in Chapter 5 of the current report. Following Mr. Latiolais untimely death, Benji Guemple and Warren Ber, also of the Baton Rouge GIS/Drafting Division, produced the remaining figures found throughout the study. Sophie Ricklis, Laboratory Director at CEI's office in Corpus Christi, washed, sorted, and catalogued all of the material recovered during both phases of fieldwork.

Chapter 1: Introduction

Jennifer A. Kelly

This report presents the results of cultural resources investigations related to two separate ca. 52-acre tracts of state-owned land that are to be developed into rest areas by the Texas Department of Transportation (TxDOT). The tracts are situated opposite one another on the north and south sides of Interstate Highway 10 (IH-10) in Chambers County, Texas, about 12 miles west of the town of Winnie (Figure 1-1). Construction in each tract has the potential to impact two known historical sites: the late-nineteenth-century through early-twentieth-century Broussard Cemetery (also known as Broussard-White Cemetery) in the north tract, and the former location of the mid-nineteenth-century to early-twentieth-century home of James Taylor White II in the south tract. Both sites were recorded and partially examined during a previous cultural resources survey by personnel from Moore Archeological Consulting, Inc., (MAC) in which they were identified as the Broussard Cemetery (41CH370) and Cistern (41CH371) sites (Terneny 2002). Overall, the current investigations were designed to further examine these sites and assess possible construction impacts to each. Basically, this entailed (1) determining the extent and make-up of the Cistern site (including the remains of the associate White house and any structures or features associated with it), and (2) identifying unmarked burials that might be present adjacent to the Broussard Cemetery.

As just noted, previous historical research by MAC showed that the cistern is associated with the former ranch house of James Taylor White II and his family, built ca. 1854 (Terneny 2002). The Broussard Cemetery is known to contain at least five burials. These include the remains of James Taylor White II, his wife Amanda Speights White, their daughter Sarah White Broussard, and two of Sarah's young children. The earliest grave dates to 1892, the latest to 1905.

Initially, an intensive program of systematic shovel testing was undertaken in those portions of the rest area that had been determined by MAC to contain historic material associated with the White family house. A subsequent metal detector survey was conducted throughout the south tract prior to further investigations of the area by magnetometer and electromagnetic (EM) surveys. The results of these investigations identified the location and probable orientation of the White house and suggested that outbuildings once were located to the east and southwest of the former building. Potential privy pit anomalies also were recognized to the north of the house. Limited hand excavations and mechanical scraping were utilized to subsequently examine these possible building locations and pit features. All of these investigations revealed several brick piers and two chimney foundations related to the White house and its associated kitchen, and a rich sheet midden located north of the house.

Resistivity and ground-penetrating radar (GPR) surveys of a portion of the north tract adjacent to the Broussard Cemetery revealed five anomalies possibly indicative of burial pits situated outside the fenced area of the cemetery. Scraping and trenching then was employed in an effort to determine if these anomalies actually represented burials.

Hopefully, the following chapters will provide the reader with a better picture of the sites and help pinpoint those areas worthy of additional research. Basically, Chapter 2 offers a brief overview of the environmental setting of the project area, while Chapter 3 provides a similar overview of previous archaeological investigations both at the two rest area tracts and at other historic sites in Chambers County. Chapter 4 offers a limited history of the White family, particularly that of James Taylor White and his son, James Taylor White II. It also reviews the White family houses, with emphasis on the house of J. T. White II as its remains are present within the south tract.

Chapter 5 provides a modified version of the original scope of work prepared prior to the first stage of fieldwork. It outlines the logic behind the

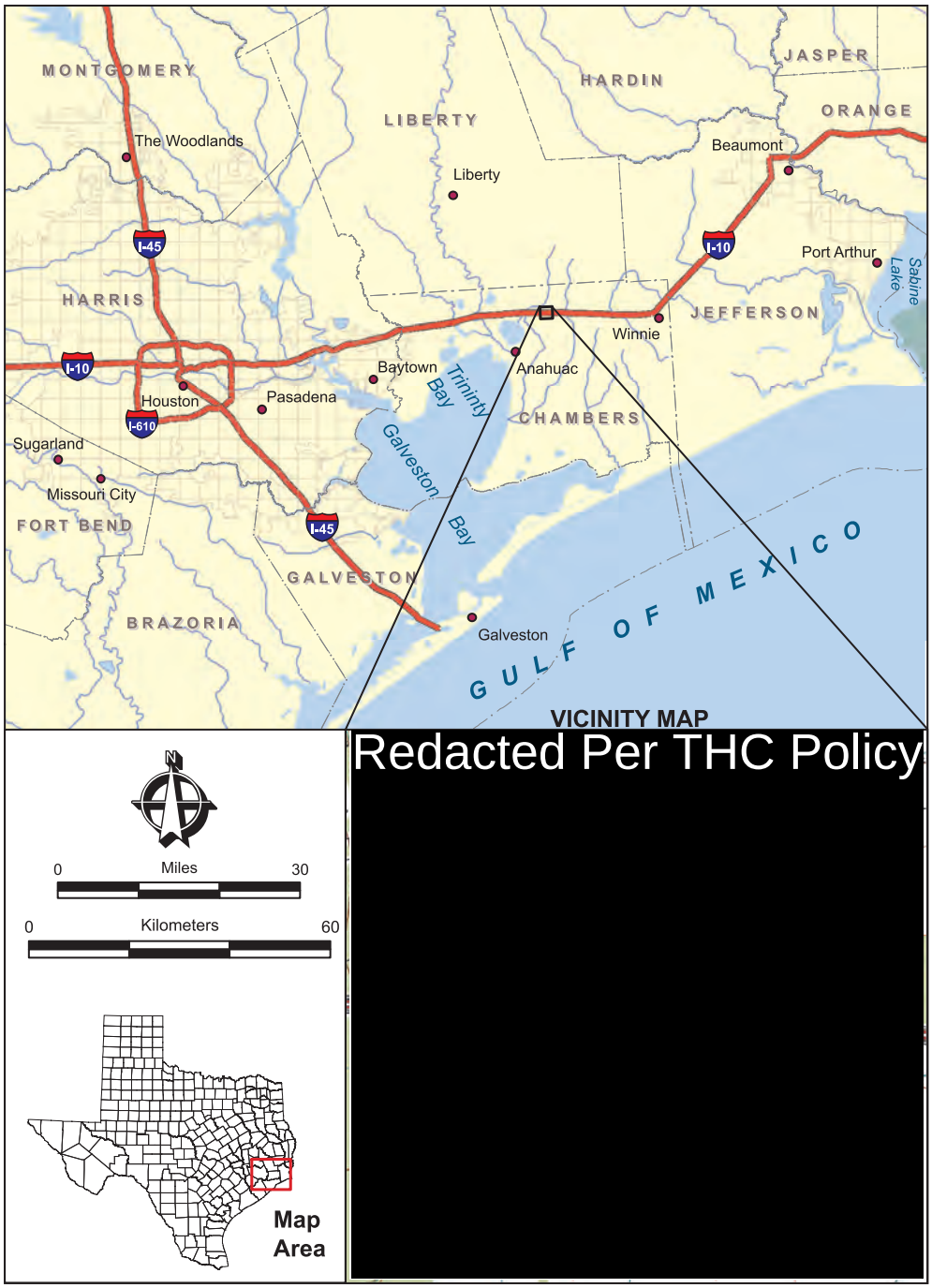


Figure 1-1. Maps showing the location of the project area along the north and south sides of IH-10. Note the Broussard Cemetery in the north tract and the cistern in the south tract. (Area map after Texas Natural Resources Information System 2005; vicinity map modified from U.S. Geological Survey 1994.)

types of investigations conducted and discusses how such work was to be carried out. Chapters 6 through 9 provide the "nuts and bolts" of the current study, as they discuss the various stages of fieldwork conducted during the course of the project. Included are discussions on the types of artifacts recovered, their potential dates, and what they reveal about the White family. Lastly, Chapter 10 summarizes the data presented in the previous sections of the report and compares it to data acquired from other historic sites of comparable age in southeast Texas. This chapter also provides suggestions for future historical and archaeological research related to the two proposed rest areas.

Chapter 2: Environmental Setting of the Proposed IH-10 Rest Areas

Jennifer A. Kelly

This chapter will serve as a brief introduction to the environment at, and adjacent to, the proposed rest area tracts. It is not meant to be a thorough discourse on the natural setting of the region, as that has been provided in several earlier archaeological, geoarchaeological, and environmental studies (Abbott 2001; Aten 1983; Fisher et al. 1973; Nordt et al. 1998) and many contract archaeological reports (Ambler 1970, 1973; Dillehay 1975; Fox et al. 1980; Gilmore 1974; Pearson et al. 1985; Prewitt et al. 1986; Shafer 1966; Stokes 1985; Weinstein et al. 1988, 1989).

Geology of the Project Area

Geologic formations of the Texas Coastal Plain generally are either Pleistocene or Holocene in age, with the former mainly composed of elements of the Beaumont Formation. This is the formation upon which lies the present project area. It is an extensive, coast-wise feature that primarily consists of fluvial and deltaic deposits dating between ca. 30,000 and 120,000 years ago (Figure 2-1). Within the vicinity of the rest areas, these deposits are mostly associated with relict courses of the Trinity River and their distributaries; the so-called Deltaic Plain phase of the Beaumont as discussed by Aronow (1971:43-51) and Aten (1983:108, Figures 8.2-8.3) (Figure 2-2).

As can be seen in Figure 2-2, the proposed rest area tracts occur mainly on sands deposited by of one of the more prominent Trinity River meander belts that once flowed through the region. These sands extend from ca. 16 km north of the project location southward to just east of Lake Anahuac. Both Turtle Bayou and Whites Bayou are more recent Holocene-age features that drain these sands immediately to the west of the project area. Interestingly, a portion of the upper part of today's Lee Gully, a tributary to Turtle Bayou, flows within a remnant channel of this belt in an area to the north-northwest of the current project location (shown as a green abandoned channel on Figure 2-2). Although all of the north tract and most of the south tract occur on the meander belt sands noted above, about one-third of the eastern part of the south tract occurs on what has been mapped as interdistributary mud that likely was deposited in a backswamp setting when the Pleistocene Trinity channels were active (see Figure 2-2). This probably accounts for the slightly lower and wetter terrain in that part of the tract. This ancient backswamp also serves to separate the project area from a small segment of fluvial sands and silts located only a few hundred meters to the east. These sands and silts actually are a disjointed segment of natural-levee material associated with a prominent distributary course of the Trinity River that flowed roughly north to south about midway between the project area and today's East Fork of Double Bayou.

Soils of the Project Area

Both the northern and southern tracts of the project area consist mainly of Acadia silt loam (Ac), although some soils associated with the Frost (Fs) and Morey (Mo) silt loams also are present (Crout 1976:Sheet 13; Natural Resources Conservation Service [NRCS] 2007a) (Figure 2-3). In both tracts, all prominent cultural features, such as the Broussard Cemetery and the Cistern site/White family house, are located on Acadia silt loam. This silt loam is a part of the Acadia Series and consists of very deep, poorly drained, very slowly permeable soils that formed in clayey alluvium. These soils are located on side slopes on low terraces of Pleistocene age. They include an Ap horizon of a dark grayish brown (10YR 4/2) color to depths of between 0 and 5 inches (0 to 12.5 cm), followed by an E horizon to depths of between 5 and 9 inches (12.5 and 22.5 cm). This is underlain by a brownish yellow (10YR 6/6) silty clay loam of the BE horizon to a depth of 19 inches (47.5 cm) (NRCS 2007a). From 19 to 30 inches (47.5 to 75 cm), a light gray (10YR 6/1) silty clay of the Btg horizon is present. A few faint yellowish brown (10YR 5/6) patches are evident, as are fine prominent masses of red iron. Below this, from 30 to 50 inches (to 125 cm), is the BCg horizon. The structure of the soil in this latter horizon is weak, medium and subangular blocky (NRCS 2007a). Colors range from light gray

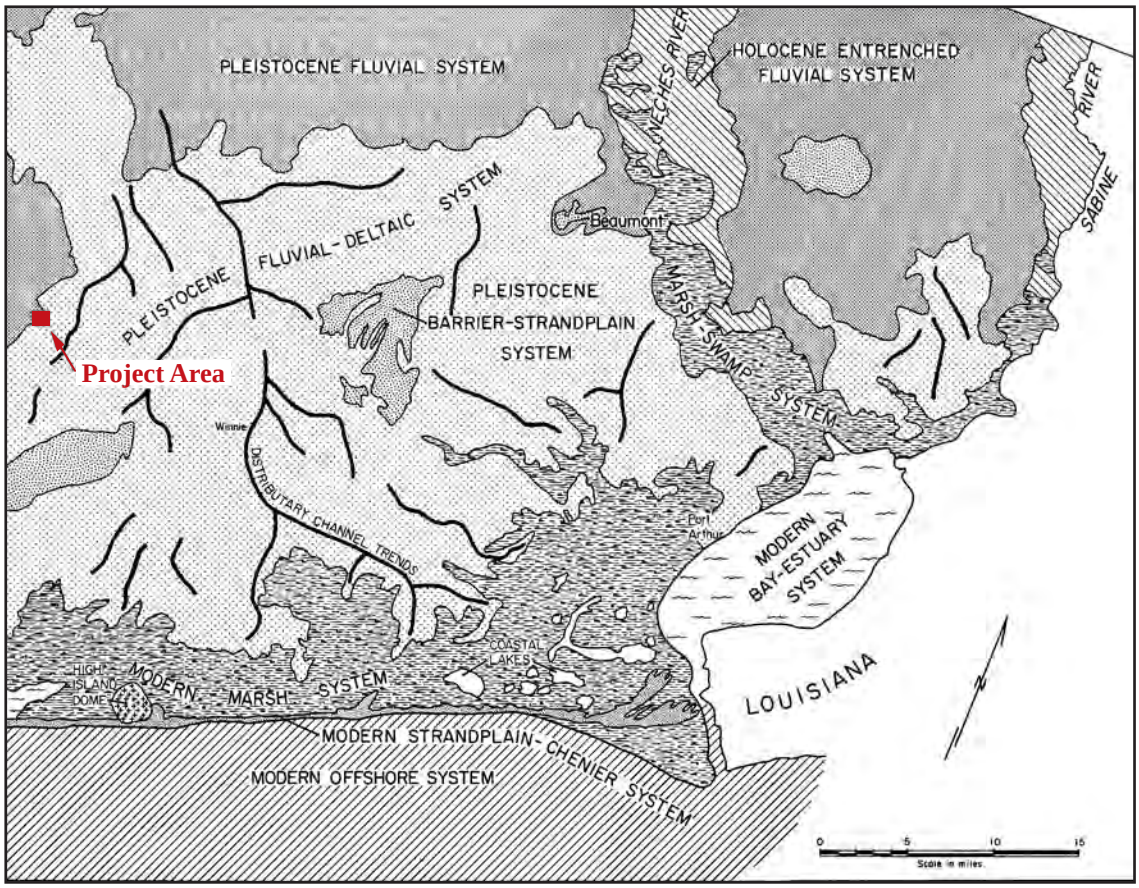


Figure 2-1. Natural systems in the Beaumont-Port Arthur area, showing Pleistocene-age fluvial and deltaic deposits related to the Trinity River. Note that the current project area occurs mainly atop fluvial deposits that are immediately adjacent to fluvial-deltaic deposits. (After Fisher et al. 1973:Figure 4.)

(10YR 6/1) to a distinct light yellowish brown (10YR 6/4) with a few mottles of medium yellowish brown (10YR 5/6) due to an accumulation of iron masses.

As can be seen in Figure 2-3, the eastern one-third of the south tract and a small part of the north tract are comprised of the Frost-Morey complex, including Morey silt loam and Frost silt loam (Crout 1976:Sheet 13; NCRS 2007a). The Frost-Morey complex consists of 45 to 55 percent Frost silt loam, and 35 to 45 percent Morey silt loam. The Frost silt loam usually occurs in depressions while the Morey silt loam (Mo) is spread more evenly across slightly higher elevations (NCRS 2007a). Both soils are suitable for cropland, similar to that of Acadia silt loam, and have Ap horizons between 0 and 6 inches (0 and 15.2 cm) deep. Frost silt loam is immediately underlain by an E horizon that is 25 to 35 percent clay, and extends to a depth of about 22 inches (55.8 cm). Morey silt loam is underlain by a B horizon to about 12 inches (30 cm), followed by a Bt horizon to about 64 inches (1.63 m) (NCRS 2007a).

Climate and Biota

Chambers County is located near the southernmost boundary of the Austroriparian biotic province that encompasses the Gulf coastal plain from extreme east Texas to the Atlantic Ocean (Dice 1943, cited in Abbott 2005). This biotic region's western boundary is demarcated by the availability of moisture. The current climate of Chambers County is humid and subtropical. The average annual temperature is 20° Celsius (C) (68° F), with mean daily temperatures ranging from 37 ° C (98.6° F) in July to 7° C (44° F) in January.

Within this type of environment, the typical vegetation includes longleaf pine (*Pinus palustris*),

loblolly pine (*P. taeda*), and hardwood forests consisting of sweetgum (*Luiquidambar styraciflua*), post oak (*Quercus stellata*), and blackjack oak (*Q. marilandica*). The lowland hardwood forests of the southeastern portion of the Austroriparian biotic province are characterized by magnolia (*Magnolia grandiflora*), tupelo (*Nyssa sylvatica*), and water oak (*Q. nigra*), in addition to the plants mentioned above. Other plants typical of this province include Spanish moss (*Tillandsia usneoides*) and palmetto (*Sabal minor*) (Abbott 2005).

The north side of the project area is forested with yellow pine (*P. echinata*), Chinese tallow (*Sapium sebiferum*), greenbrier (*Smilax glauca*), live oak (*Q. virginiana*), and various vines such as Devil's

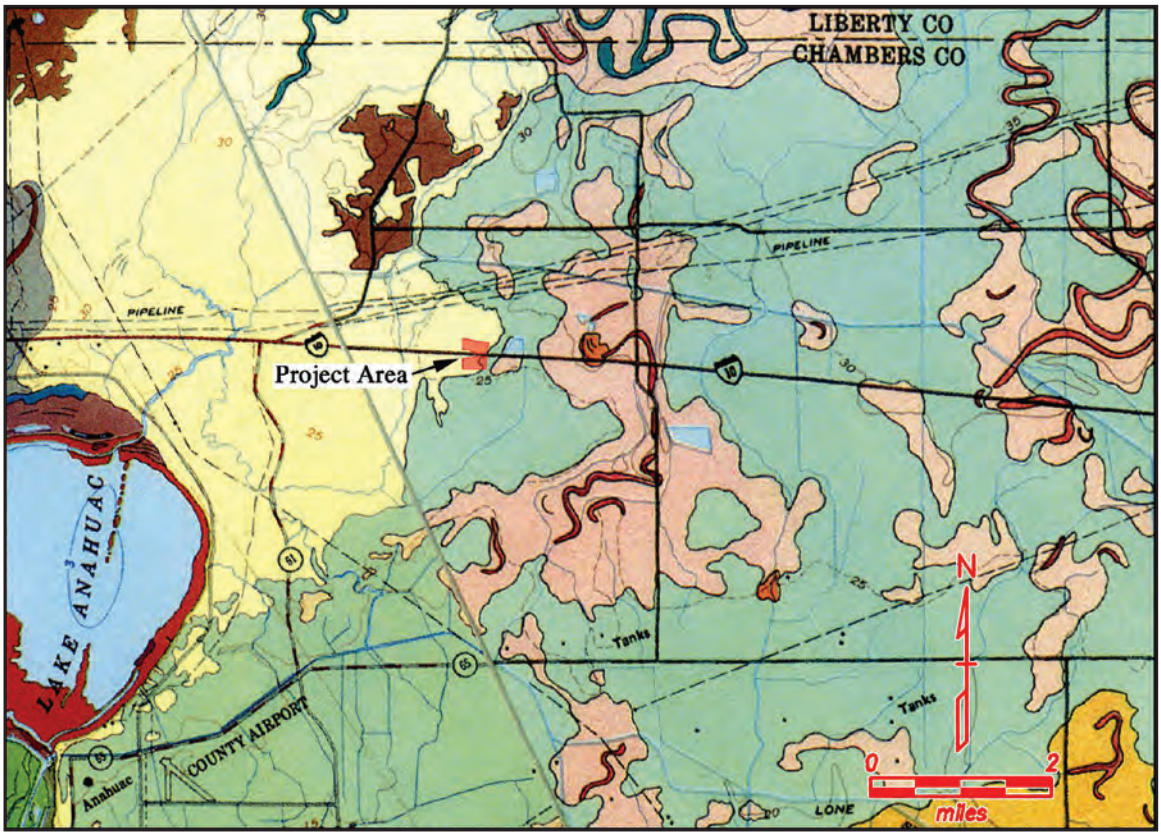
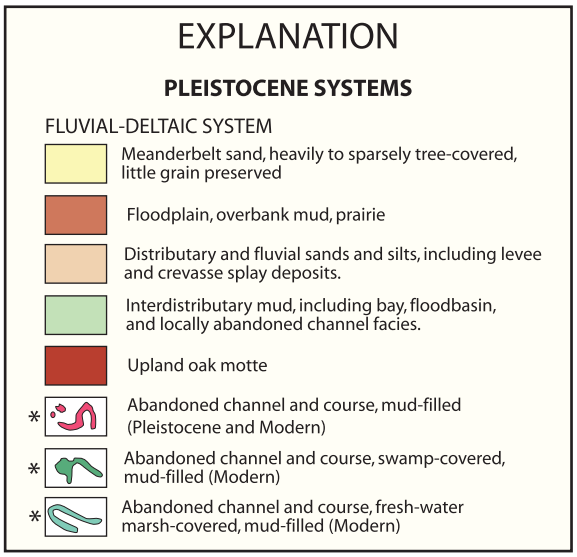


Figure 2-2.

Detail view of the geological deposits in the vicinity of the project area. Again, note that the two rest area tracts are situated at the eastern edge of fluvial sands (yellow) deposited by Pleistocene-age Trinity River systems. Also note the area of interdistributary muds (backswamp deposits—green) to the east of the project area, plus the prominent Trinity River meander belt and its associated natural-levee deposits (pink) to the east of the backswamp. (After Fisher et al. 1972: Environmental Geology Sheet; Fisher et al. 1973: Environmental Geology Sheet.)



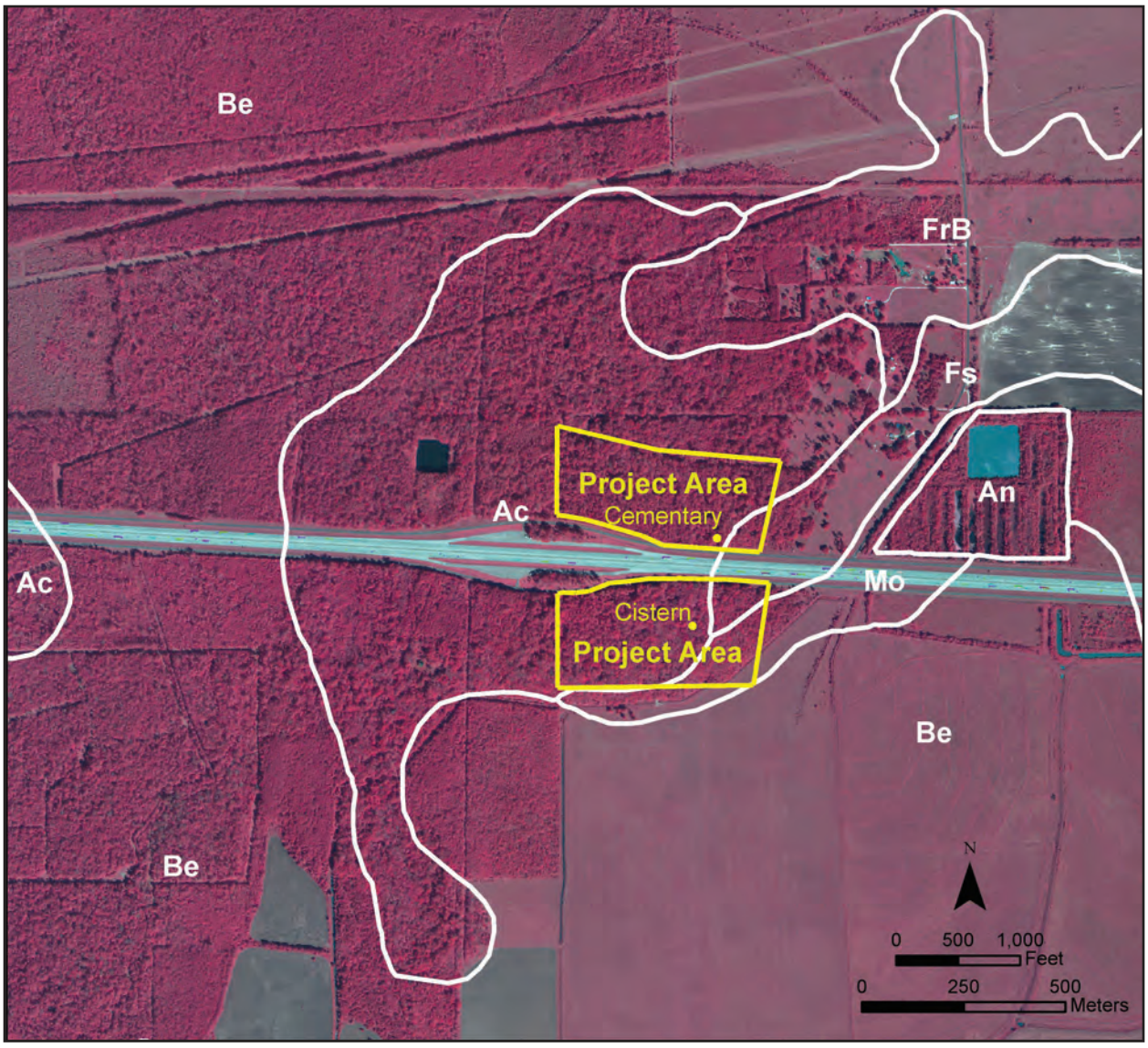


Figure 2-3. Color-infrared aerial photograph overlain with distribution of soils in the vicinity of the project area. Note that most of the two tracts consist of Acadia silt loam (Ac), although small portions include Frost (Fs) and Morey (Mo) silt loams. (Base photograph after Texas Natural Resources Information System [TNRIS] 2005; soil data after Natural Resources Conservation Service [NRCS] 2007b.)

walking stick (*Aralia spinosa*) and cat's claw (*Macfadyena unguis-cati*). Ground visibility in this area, before clearing for the present project, was virtually non-existent due to dense ground cover and undergrowth. Across the southern tract, cedar (*Cedrus* sp.), live oak, yaupon holly (*Ilex vomitoria*) yellow pine, Chinese tallow, walnut (*Juglans* sp.), and pecan (*Carya illinoensis*) are dominant. These types of trees range from less than three inches to more than 50 inches in diameter. Also present within the south tract were several cypress trees (*Taxodium distichum*), one of which in the vicinity of the cistern is fairly large and likely to be several hundred years old.

There are at least 47 species of animals associated with the Austroriparian biotic province in modern times (Blair 1950:99, cited in Terneny 2002:7). Examples include opossum (*Didelphis virginiana*), easterm cottontail rabbit (*Sylvilagus floridanus*), and white-tailed deer (*Odocoileus virginianus*). Blair also states that there are 29 reptile and 13 amphibian species, including the Texas rat snake (*Elaphe obsolets*), the Texas coral snake

(*Micrurus fulvius tener*), and the Southern copper head (*Agkistrodon contortrix*). Representatives of all three of these latter species were observed in the south tract during the current project.

Hydrology

The nearest perennial water source to the project area is Whites Bayou, situated ca. 1.3 km to the west. Named for the White family who first settled adjacent to its banks in the early 1800s (see Chapter 4), the bayou is tributary to the larger Turtle Bayou, located ca. 3.1 km farther to the west. Turtle Bayou itself was a fairly important transportation route during the 1800s, as many watercraft, including steamboats plied its waters. The lower reaches of the bayou were navigable for several miles inland and provided access to Galveston Bay, by way of Lake Anahuac and Trinity Bay, for those folks residing along its banks.

Within the project area itself, the only potential source of water noticed during the current investigations is a small, intermittent drainage located about 55 m west of the cistern in the south tract. It certainly would not have provided the water needed for people living at the White's home, at least not on an annual basis, thus explaining the need for wells and/or cisterns.

Chapter 3: Previous Archaeological Investigations

Jennifer A. Kelly

This chapter is divided into two sections. The first details previous archaeological research within the two rest area tracts, while the second examines such research at other historic sites in Chambers County and vicinity. Since the current investigations deal entirely with historic sites dating from the mid 1800s until ca. 1920, there is no need to provide a discussion of aboriginal sites or aboriginal cultures of the region. That information can be found in a number of publications and contract reports (i.e., Aten 1983; Ensor 1995, 1998; Weinstein et al. 1988, 1989).

Previous Research at the Two Rest Area Tracts

Prior to CEI's recent survey, personnel from MAC examined the two proposed rest area tracts in the spring of 2001. They noted the presence of a brick cistern in the north-central portion of the south tract (Terneny 2002:32). An inscribed marble slab, raised about 54 cm above the ground surface and resting on a cylinder composed of what appear to be relatively modern bricks, had been placed over the mouth of the cistern in 1954 (Figure 3-1). The inscriptions on the slab commemorated construction of the cistern by James Taylor White II one hundred years earlier, and listed most members of the White family.[1] The cistern was given state site number 41CH371 and recorded as the White Family Cistern site

During the same survey, a small cemetery with five above-ground crypts was found in the southeastern portion of the north tract (Terneny 2002:36-42, Figure 5) (Figure 3-2). It was given state site number 41CH370, and identified as the Broussard Cemetery, although it sometimes is known as the Broussard–White Cemetery. Within four of the five crypts are the remains of James Taylor (Jim) White II (June 13, 1829—December 24, 1905); his wife, Amanda M. (August 15, 1826—December 25, 1892); Sarah Bonetta White Broussard (September 23, 1860—May 23, 1899), daughter of Jim and Amanda White and wife of Desire Louis (D. L.) Broussard, Sr.; and Arthur Sampson Broussard (October 16, 1895—June 4, 1896), son of Sarah Bonetta White and D. L. Broussard. The fifth crypt reportedly contained the remains of an unknown child of Sarah Broussard (Terneny 2002:35-36, 39).[2]

Originally, a cast-iron fence and a similar cast-iron gate surrounded the cemetery (Terneny 2002:37, 39, 43, Figure 5) (see Figure 3-2). About one-fourth of the fence had been removed (probably by vandals) prior to the MAC investigations, and it had been replaced with a modern chain-link fence. However, the original gate and gateposts still stand and the posts contain inscriptions noting that they were built by the Champion Iron Company of Kenton, Ohio (Terneny 2002:43).

In addition to discovering the cistern and cemetery, the MAC archaeologists excavated 126 shovel tests across both tracts at 5-, 10-, 30-, and 60-m intervals, depending on the location and accessibility (Terneny 2002:30). Eighty-six of these tests were dug in the south tract, while 40 were excavated in the north tract (Figure 3-3). Eighteen of the tests, all in the south tract, proved positive for historic cultural material, and most of these items were situated within about 60 to 80 m of the cistern. This is logical, as one would expect the house associated with the cistern to have been located nearby. No aboriginal artifacts were found. This lack of aboriginal remains is understandable, given the fact that no natural waterways pass either through or adjacent to the project area. The nearest

1 For some unknown reason, one of White's sons, Joseph White (1863-1864), is not listed on the marble slab (Terneny 2002:49; Wright and Wright 1975).

2 As will be seen in Chapter 4, research by Ladd and Stewart (2000) has identified the remains in this crypt as possibly belonging to Harold Broussard, an eight-month-old son of Mr. and Mrs. J. E. Broussard, who died June 28, 1909.

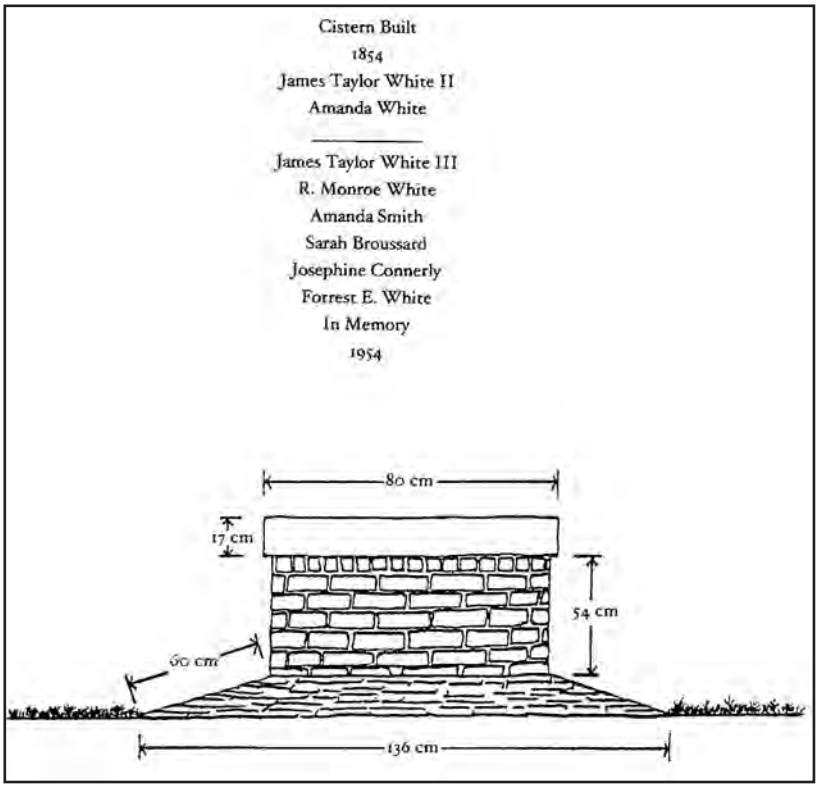


Figure 3-1.

Sketch of the above-ground portion of the cistern present in the south tract. The inscription atop the marble slab is presented above the sketch. The lower portion of the cistern with its sloping configuration appears to be fashioned out of mid-nineteenth-century bricks and likely represents the original structure. The upper portion of vertically placed bricks apparently was added to support the marble slab when the latter was added in 1954. (After Terneny 2002:Figure 4.)

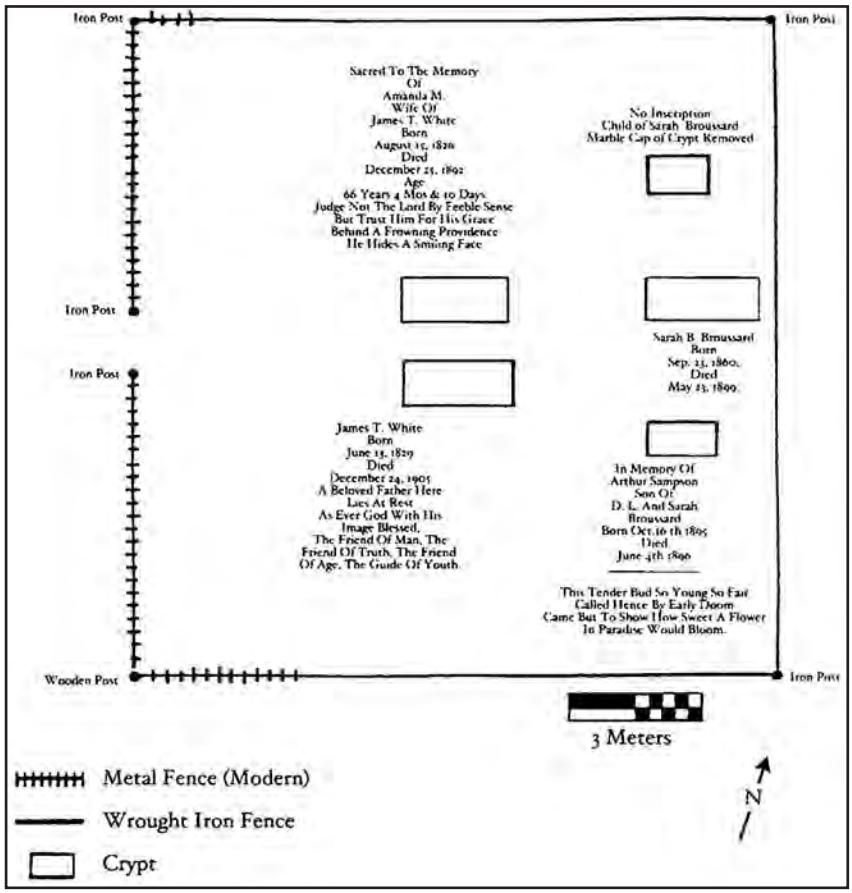


Figure 3-2.

Sketch map of the Broussard Cemetery, showing the five crypts present within the fenced area, plus the inscriptions atop each crypt. (After Terneny 2002:Figure 5.)

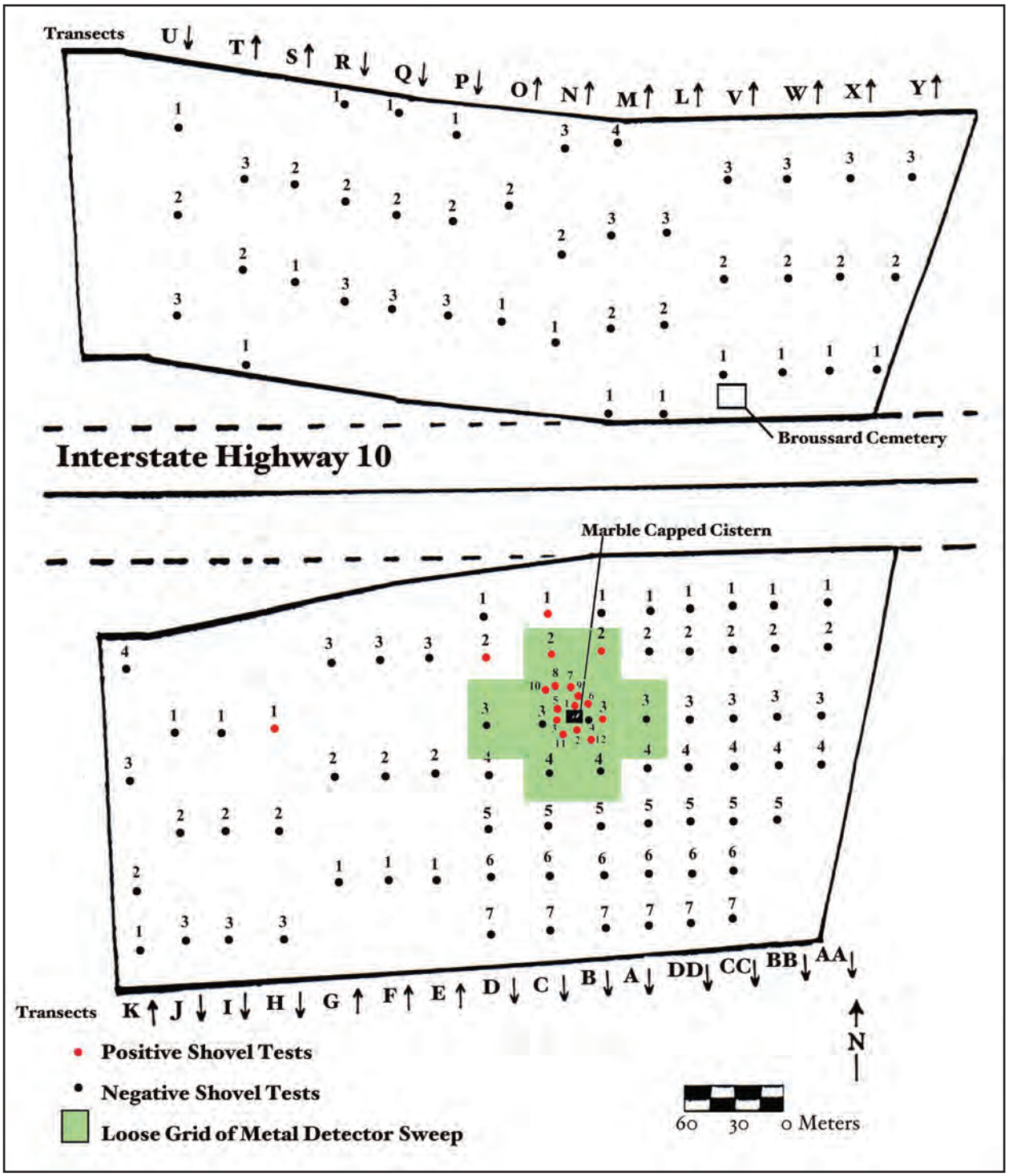


Figure 3-3. Locations of shovel tests conducted by MAC personnel in 2001. Note the complete lack of positive tests in the north tract and the concentration of positive tests around the cistern. Also note the lone positive test on Transect H (ST H-1) in the western portion of the south tract. MAC's loose grid of metal detector sweeps also is shown. (After Terneny 2002:Figure 3.)

potential stream is a relict channel of Whites Bayou located ca. 840 m to the west of the south tract (see Figure 1-1).

In order to find the remnants of the White house, believed to be associated with the cistern, MAC personnel conducted metal detector sweeps using a "loose grid" within 100 m of the cistern (Terneny 2002:Figure 3) (see Figure 3-3). Most of the metal detector hits were recorded south of the cistern, suggesting that the house was constructed in that location (Terneny 2002:32).

Although no positive shovel tests were located in the north tract, MAC personnel felt that there was a possibility that unmarked graves might exist outside the fence surrounding the Broussard Cemetery. As such, an effort was made to bring a Gradall to that location to scrape the ground surface adjacent to the cemetery in the hope of finding grave outlines. Unfortunately, the ground was too wet and the Gradall could not enter the project area without getting bogged down (Terneny 2002:33). Thus, no further investigations were conducted around the cemetery.

Once the fieldwork by MAC personnel was completed, it was clear that the cistern and cemetery had ties to the family of James Taylor White II. Thus, the MAC report devoted a significant amount of space towards a review of the history of the White family (Terneny 2002:44-48). Since the following chapter specifically deals with that aspect of the Whites, and of J. T. II's house site in particular, there is no need to go into the details at this point. Suffice it to say that the MAC report argued that both the cistern and cemetery sites were significant archaeological features. The cistern was considered potentially eligible for inclusion in the National Register of Historic Places due to its association with early cattle ranching in east Texas and its ties to the family of James Taylor White II, while the cemetery was thought to potentially qualify as a State Archeological Landmark due to the importance of the White family in the history of Chambers County (Terneny 2002:50-51).

Previous Research at other Historic Sites in the Region

Numerous archaeological sites have been recorded within Chambers and surrounding counties; however no sites have been recorded within 1,000 m of either the Broussard (Broussard-White) Cemetery or the White cistern. In fact, no sites are shown on the entire Monroe City 7.5-minute quadrangle (Texas Archeological Sites Atlas 2006), the quadrangle containing the White cistern and Broussard Cemetery. The nearest sites (41CH266, 267, and 269) are situated south of IH-10 at the junction of Whites Bayou and Turtle Bayou, ca. 4 km or more to the west (Texas Archeological Sites Atlas 2006). These are all prehistoric locales associated with aboriginal occupation of the area.

The nearest recorded historical sites to have received archaeological attention include the Presidio San Agustín de Ahumada (41CH53), Fort Anahuac (41CH226), and the Labadie Site (41CH62). The first two are military posts and do not have much in common with a mid- to late-nineteenth-century ranch/homestead. The third, on the other hand, was a home site dating from the 1830s to the first decade of the twentieth century. As such, its archaeological remains would be more compatible with the White house site. Regardless, each of these sites will be examined briefly below.

Presidio San Augustín de Ahumada (41CH53)

On May 26, 1756, Lieutenant Marcos Ruíz, along with a detachment of soldiers, cattle, horses, seed corn and additional provisions, arrived on a parcel of land on the east side of the Trinity River about two leagues above its mouth (Tunnell and Ambler 1967:11). There they established Presidio San Agustín de Ahumada on the site where a French trader by the name of Blancpain had been captured two years earlier.3 Two priests established the mission of Nuestra Señora de la Luz a short distance to the east on the south side of today's Lake Miller. Together, the presidio and mission complex came to be known as El Orcoquizac after the Spanish

3 Fox et al. (1980:85) note that the presidio actually was situated atop a low shell mound adjacent to the southwestern shore of Lake Miller. Identified as site 41CH57, it earlier had been tested by members of the Houston Archeological Society in 1967 and 1969-1970 during which a possible prepared shell floor and quantities of both French and Spanish artifacts were unearthed. However, subsequent testing by Fox and personnel from the University of Texas at San Antonio found only aboriginal pottery at the site (Fox et al. 1980:85-87.)

rendering of the name for the local Akokisa Indians for whom the mission was established (Tunnell and Ambler 1967; Guevin and Henson 1991).

The presidio and mission remained in these locations for the next 10 years. In September 1766, an extremely strong hurricane ravaged the Texas and Louisiana coasts and virtually destroyed the presidio and mission.[4] Although the mission was rebuilt at its former location, the presidio was moved to a new location on a low hill to the east of Lake Miller. Unfortunately, due to exceedingly harsh conditions and the need for soldiers elsewhere in Texas, both the mission and presidio were abandoned five years later in 1771 (Tunnell and Ambler 1967:16). The locations of both remained forgotten until 1965 when a mislabeled map showing their exact positions relative to Lake Miller was found in the British Museum (Tunnell and Ambler 1967:6). This prompted an archaeological search for the two locales that, unfortunately for most of the presidio, came several years too late as much of the hill upon which it had been built was removed as fill material during the construction of IH-10 (Tunnell and Ambler 1967:6).

Nevertheless, brief excavations were conducted in 1966 on the remainder of the hill and around the edges of one of the large borrow pits dug for the interstate. Initially, several small test pits were excavated on the highest part of the remnant hill and a large amount of "close surface examination" was conducted on the hill slopes (Tunnell and Ambler 1967:17). However, nothing of note was found in those locations and operations were moved to the east side of the site, and later to the south side (Figure 3-4). No evidence of any structures was found, nor were many artifacts recovered during these excavations. In fact, the vast majority of the artifacts discussed in the report came from random digging by the landowners. Perhaps most interesting was the discovery of a burial by one of the site's landowners on the east side of the large borrow pit. Although no records were kept when the landowner removed the remains, his recollections were of a semi-flexed burial lying on its right side with head towards the west (Tunnell and Ambler 1967:21). Subsequent analysis of the skeletal remains indicated that the burial was that of an adult female in her mid twenties, possibly a non-Indian or an Indian from an area other than Texas (Collins and McKern 1967).

Although, as noted, the vast majority of the artifacts recovered at the site did not come from controlled excavations, they clearly proved that the locale was the second location of the Spanish presidio. Included were several examples of tin-enameled wares, most notably several hundred specimens of both Puebla majolica and French faience, plus five sherds of lead-glazed earthenware, 33 sherds of salt-glazed stoneware, and six sherds of porcelain (Tunnell and Ambler 1967:24-46). Also found were many fragments of green bottle glass, most likely from wine bottles, and 4,351 glass beads of varying types; over 100 of which came from the burial noted above (Tunnell and Ambler 1967:46-61). Various metal items of iron, copper, brass, zinc, and lead also came from the site. Included were gun parts, buckles, buttons, pins, pan fragments, nails, spikes, musket balls, and a crucifix (Tunnell and Ambler 1967:61-74).

Fort Anahuac (41CH226)

Fort Anahuac is located, appropriately enough, in Fort Anahuac Park one mile south of the town of Anahuac. It was established in 1830 by Mexican forces in an effort to control access to east Texas and the Trinity River. The fort was the site of two armed confrontations between Anglo-Texans and Mexican troops, the first in June 1832 and the second in June 1835 (Feit and Clark 2004:3). Originally, the fort consisted of a large plaza surrounded by a brick wall cantonment, defense ditches, and a wooden stockade. It included soldiers' barracks, officers' quarters, and a customs house. There also may have been underground passageways leading to a powder magazine located east of the fortifications.

The most recent excavations at Fort Anahuac took place in 2002 and 2003 by representatives of Hicks & Company (H&C) (Feit and Clark 2004; Feit

4 It is interesting to note that this is the same hurricane that so devastated the last New Spain fleet to carry goods and precious metals from Mexico to Spain. One of the ships of that fleet, *El Nuevo Constante*, was driven aground on the Louisiana coast and became the subject of extensive underwater excavations over 200 years later (Pearson 1981; Pearson and Hoffman 1995).

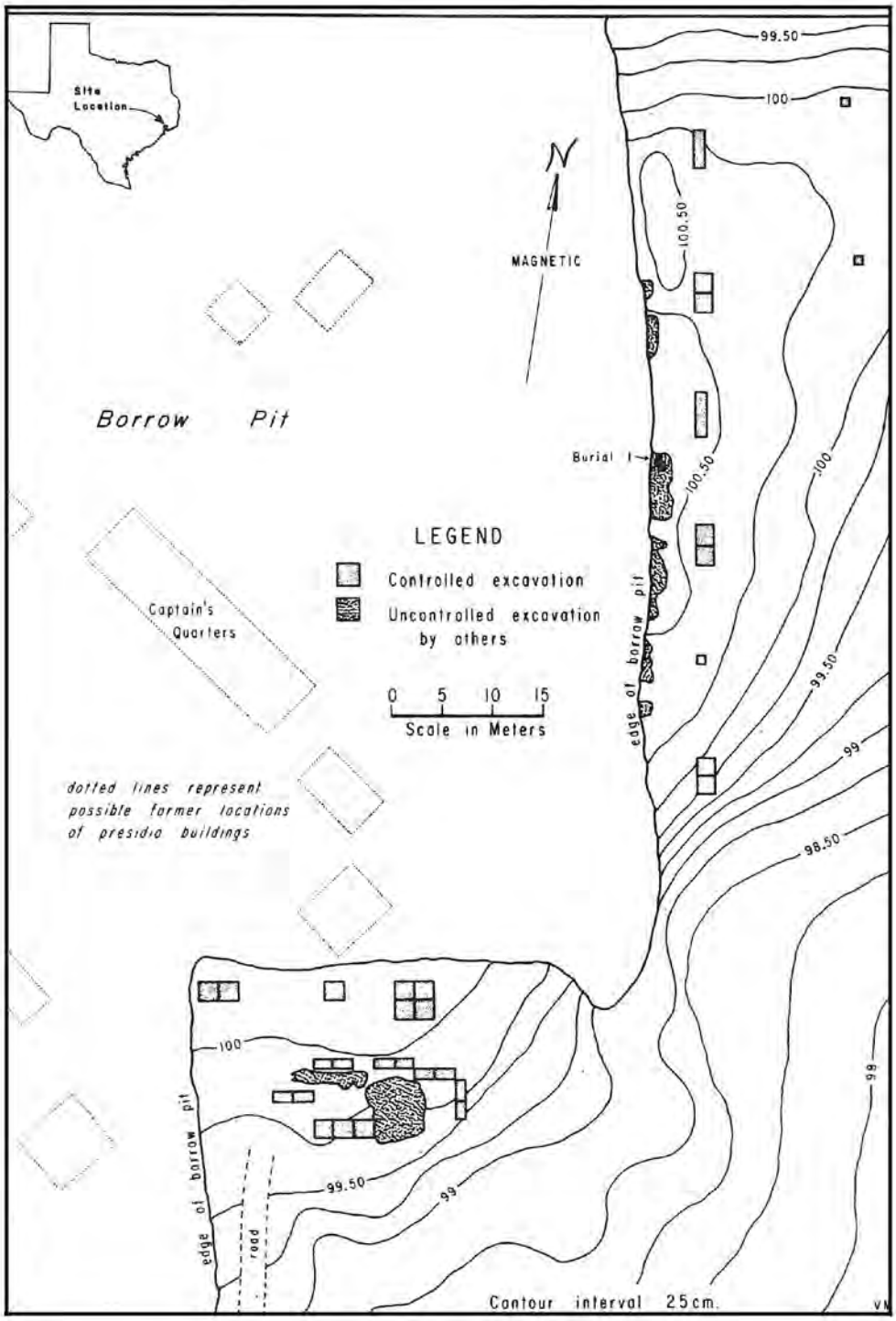


Figure 3-4. Contour map of a portion of Presidio San Agustín de Ahumada, showing locations of the 1966 excavations and the burial at the east edge of the borrow pit. (After Tunnell and Ambler 1967:2.)

et al. 2003), although previous research at the site included limited excavations by the Southwestern Historical Exploration Society (Lewis 1968), magnetometer surveys by the THC (Arnold 1977; Texas Historical Commission 2001), and a survey of Fort Anahuac Park by CEI (Guevin and Henson 1991). All of this past research is nicely summarized in the latest H&C study (Feit and Clark 2004) and in a review of that study by Brown (2005), so only a few high points of the various investigations will be noted below.

CEI's investigations included a complete (100%) surface examination of the park area, a detailed historic review of landowners within the different areas of Fort Anahuac Park, and a systematic program of subsurface investigations in five locations within the park that were either slated for the construction of new recreational facilities or were in the area of the known fort remains (Figure 3-5). The subsurface investigations employed either a gas-powered mechanical auger or shovel tests (Guevin and Henson 1991:25-41).

In one of the proposed construction areas to the south of the fort (Area III, see Figure 3-5), artifacts dating to the early- to mid-nineteenth century were recovered from a possible historic midden zone. This portion of the park was considered a high-probability area for prehistoric occupation and features related to historic fort activities. Artifacts recovered included one piece of hand-painted (floral design) whiteware, brick fragments, and much oyster shell and charcoal. In other areas to the north of the fort proper (Areas IV and V, see Figure 3-5), wire nails, brick fragments, oyster and *Rangia* shells, and one blue hand-painted pearlware sherd were recovered. Most of these items were related to an early twentieth-century house that once stood in that part of the park (Guevin and Henson 1991:37-39). Within the area of the fort proper (Areas I and II, see Figure 3-5), one of the shovel tests uncovered the probable remains of a portion of the southwest bastion (Guevin and Henson 1991:29, Figure 13). Overall, the findings of the 1991 survey at Fort Anahuac indicated the need for further investigations in an effort to confirm the presence and extent of subsurface remains relative to the historic fort.

The initial 2002 H&C investigations were based on the 2001 THC magnetometer survey that pinpointed much of the western wall of the fort and its diamond-shaped western bastion (see Feit and Clark 2004:Figure 4a). Test excavations revealed the foundation of the western wall, plus several external drains, and a brick rubble pile within the fort's plaza (Feit et al. 2003).

In 2003, H&C sought to refine the data gathered during their first phase of excavations. During this second phase of work, archaeologists used a Gradall to expose and trace out wall foundations. Eighteen walls or wall remnants were found in this manner, including portions of the southwest, diamond-shaped bastion (Figure 3-6). Of particular note was the discovery that the western side of the fort actually consisted of two roughly parallel "curtain" walls spaced about 5 m apart. One was the outer wall of the fort while the other was an inner wall. Between the two were small rooms demarcated by perpendicular "cross" walls placed between the two curtain walls. It was envisioned that the two curtain walls, besides providing space for the small interior rooms, also served as the base for a parapet that formed a roof over the small rooms and spanned the area between the curtain walls (Feit and Clark 2004:91).

Once the Gradall had exposed the various walls at the fort, a series of hand-excavated units were placed at selected features uncovered during wall definition. These hand excavations concentrated on two portions of the site: an area around an outbuilding located south of the fort (identified as Feature 7) and an area around one of the small interior rooms located on the fort's northwest side (see Figure 3-6).

Feature 7 consisted of the nearly complete foundation of an outbuilding with an intact floor made of shell and burned clay. Also uncovered were the remains of a front porch that faced the bay. Artifacts from the structure included a gunflint, a Mexican uniform button, glass, nails, and household ceramics. The structure was likely made of wood, as numerous nails were found in the area, and it was thought that it may have served as the customs house or jail known to have been associated with the fort (Feit and Clark 2004:66). Work at the interior room

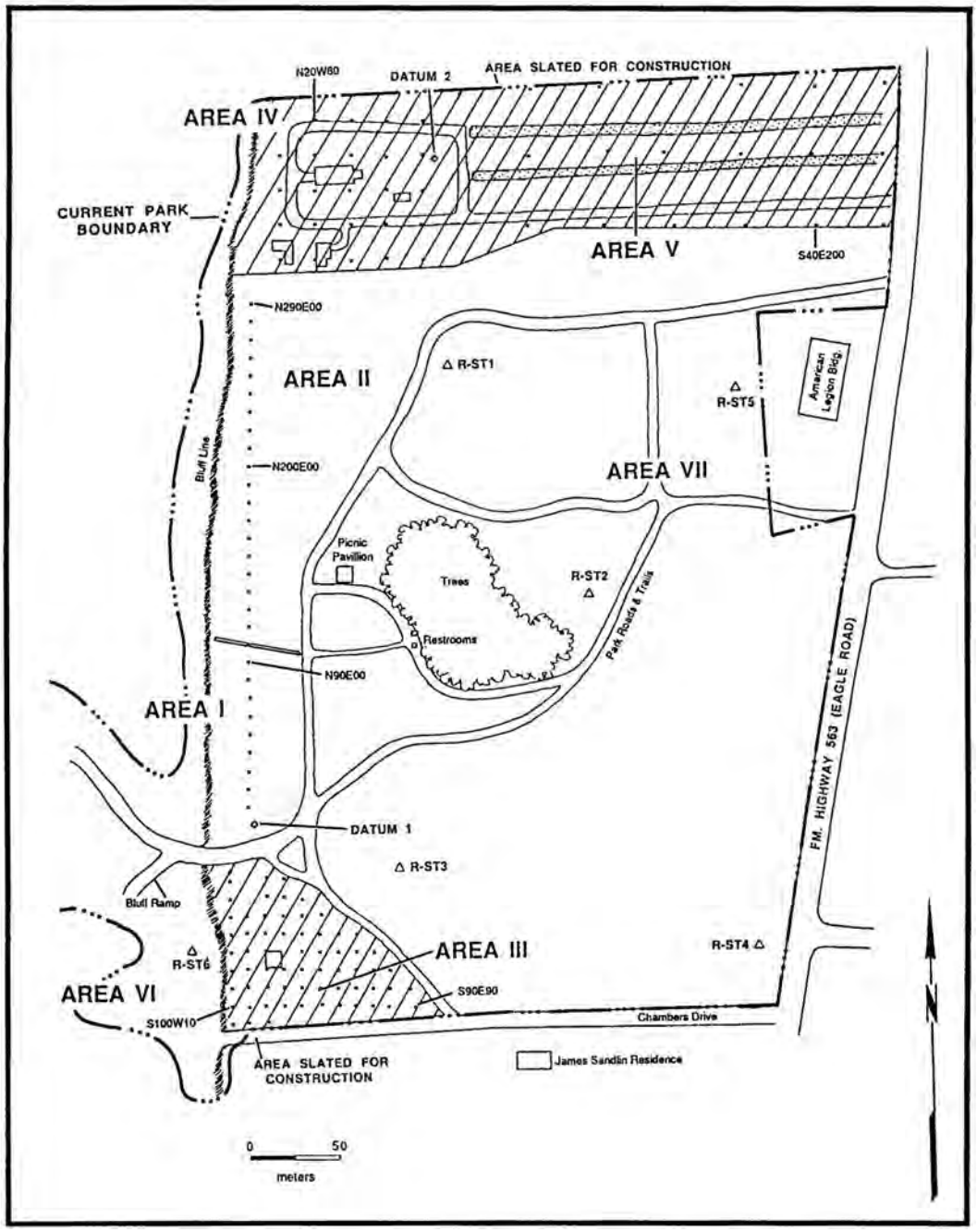


Figure 3-5. Map of Fort Anahuac Park, showing the various areas examined during CEI's research in 1990. Note the three areas slated for construction (Areas III, IV, and V) within which shovel tests and/or auger borings were excavated, and the north-south line of shovel tests in Areas I and II in the location of the fort proper. (After Guevin and Henson 1991:Figure 10.)

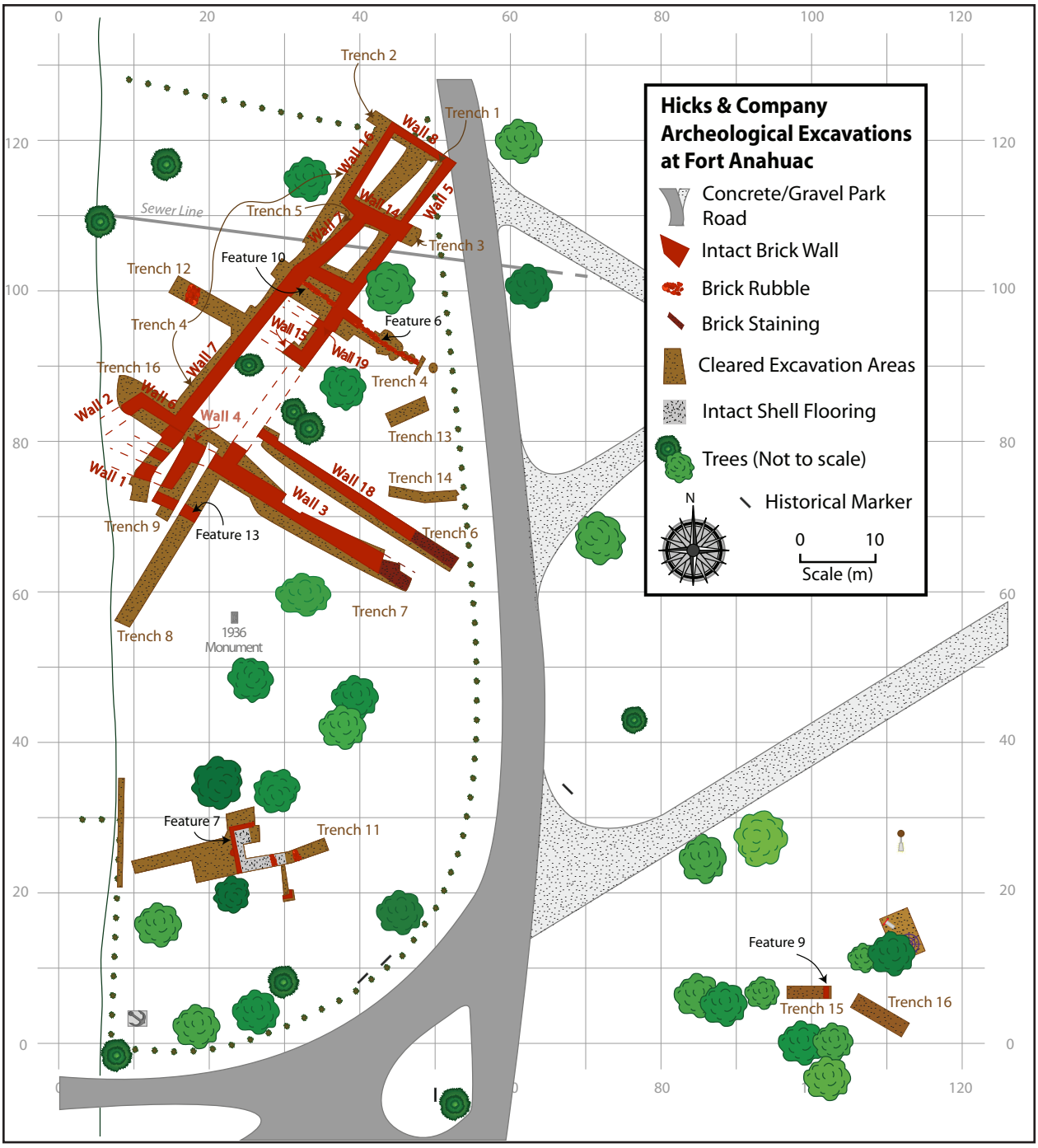


Figure 3-6. Map of Gradall excavations and exposed walls and features at Fort Anahuac. (After Feit and Clark 2004:Figure 8.)

exposed part of a possible shell-and-clay floor and a brick-lined drain that extended between the two curtain walls of the fort (Feature 10).

Interesting artifacts recovered during the investigations included several pieces of what appear to be early whiteware, two pieces of pearlware, and one specimen of stoneware (Feit and Clark 2004:76, Figure 29). Also found were numerous cut nails, the gunflint noted above, and a brass Mexican military button similar to specimens found at La Villita near the Alamo in San Antonio (Feit and Clark 2004:79-80, Figures 30-31).

Overall, the H&C investigations determined that the best preserved portion of the fort was its northwest side, with shallowly buried remains of both interior and exterior curtain walls and interior cross walls present. Unfortunately, the southwest corner of the fort had been largely destroyed, but the other corners appeared to be intact. Moreover, H&C determined that the fort was likely a square structure with curtain walls on all sides, small rooms between the curtain walls, and bastions on at least three corners (Feit and Clark 2004:91). Although it lasted only a few years, Fort Anahuac certainly was a significant structure that was fairly well built.

Labadie Site (41CH62)

The Labadie site is one of two archaeological sites located within Cedar Hill Park on the northeast shore of Lake Charlotte. Together with several other sites situated on the high ground overlooking the eastern shore of the lake, these locales bespeak an extremely intense aboriginal occupation of the area (Ambler 1970; Ensor 1998; Fox et al. 1980; Weinstein et al. 1989). Although first noted for its prominent aboriginal shell midden (Ambler 1970:15, Tables 1-3), the historic importance of the Labadie site became known only after subsequent 1979 research by Ann Fox and personnel from the University of Texas at San Antonio (UTSA) (Fox et al. 1980:64). This research, coupled with the excavation of three test units at the locale, indicated that the historic component at the Labadie site dated from at least the early 1830s to 1905. Its earliest confirmed occupation was by Nicholas D. Labadie, a well-known physician of the region. Overall, Fox et al. (1980:81, 165) suggested that the site was eligible for inclusion in the National Register of Historic Places.

Several years later, with the planned development of Cedar Hill Park fast approaching, CEI was contracted by the Galveston District, U.S. Army Corps of Engineers, to conduct both data-recovery excavations at the Labadie site and additional historical research on the property. This research indicated that, although Labadie was the first definite resident of Cedar Hill, circumstantial evidence suggested that the locale may have been occupied a decade earlier, from ca. 1822 until 1831, by one Andrew Roach (or Andreas Roachi or Andres Roche), an ex-associate of Jean Lafitte (Weinstein et al. 1989:23). The possible Roach occupation was followed by that of Nicholas D. Labadie (1802-1867), a physician, pharmacist, and entrepreneur, who previously had resided in Anahuac where he served as surgeon to the Mexican troops stationed at the fort. However, when his position as surgeon was terminated, Labadie sided with the Anglo-Texan insurgents and joined the attack on the fort in June 1832. The following year, Labadie left Anahuac and began developing a plantation on Cedar Hill. Initially he lived in what was known as the "small house," but within a year or so had built a main house with detached kitchen and associated outbuildings and a corral. He grew corn, pumpkins, sweet and Irish potatoes and raised chickens and hogs (Weinstein et al. 1989:24-26).

Labadie stayed at Cedar Hill only until 1838, at which time he moved to Galveston. However, he left two tenants on his property during the 1840s and '50s and they presumably maintained the place in his absence (Weinstein et al. 1989:29-30). Eventually, Labadie traded the title to his Cedar Hill property for wharf privileges in Galveston and the land changed hands several times before being acquired by Shadrack M. Jones and his descendants until ca. 1900. Presumably, the Jones family occupied the old Labadie house, as it still was standing in 1900 and served for a short time as the home of the last resident of the property, E. H. Sherman, who lived there while building a new house nearby. Eventually, the old Labadie house was torn down ca. 1905 (Weinstein et al. 1989:33-34).

Based on the previous testing by Fox et al. (1980), interviews with local residents, and the

excavation of an additional unit at S100E250, it was known that the Labadie site had been disturbed by past plowing and much of the upper portion of its shell midden (upon which the historic occupation occurred) had been removed in the 1920s as road gravel for the Liberty-Wallisville Road. Thus, it was decided that the most efficient means of archaeological investigation would be to strip off the plow zone and any remnant midden down to contact with the Beaumont surface. It was hoped that the stripping would uncover both aboriginal and historic features, such as postmolds, trash pits, and privies. In addition, a combination of shovel tests, auger borings, disking, and systematic surface collecting was used to help pinpoint the location of the most intense area of historic occupation and the area to be stripped (Weinstein et al. 1989:141-182).

Overall, one relatively large area (measuring roughly 40 by 45 m) and two small areas (each about 3 by 20 m) were stripped (Figure 3-7). These revealed over 130 features or possible features, of which 48 turned out to be pits or postmolds related to the historic occupation (Weinstein et al. 1989:Table 8-8, Figure 9-3). By assessing the ages and types of artifacts (sherds of pearlware, early whiteware, whiteware, salt-glazed stoneware; glass bottles and bottle fragments; early and late machine-cut nails; fragments of cast-iron cooking vessels and stoves; and gun-related items, such as shotshells, brass primer flask, gunflints, and brass primer caps) recovered from these features, it was possible to provide several scenarios on the position of the main house and other cultural features (fences, privy, corral, etc.) during the 1830s and 1840s, the 1850s through 1870s, and the 1880s through 1905, respectively (Weinstein et al. 1989:Figures 9-4 to 9-6). Since the second of these time periods equates with the first half of the known occupation at the house site of James Taylor White II (see Chapter 4), the hypothesized layout of the Labadie site during that time is presented in Figure 3-8. As such, this figure can be used as a potential model for the arrangement of similar features expected at the White house. Of particular interest is the possible privy area located about 20 m (66 ft) behind the former Labadie house. Although the exact nature

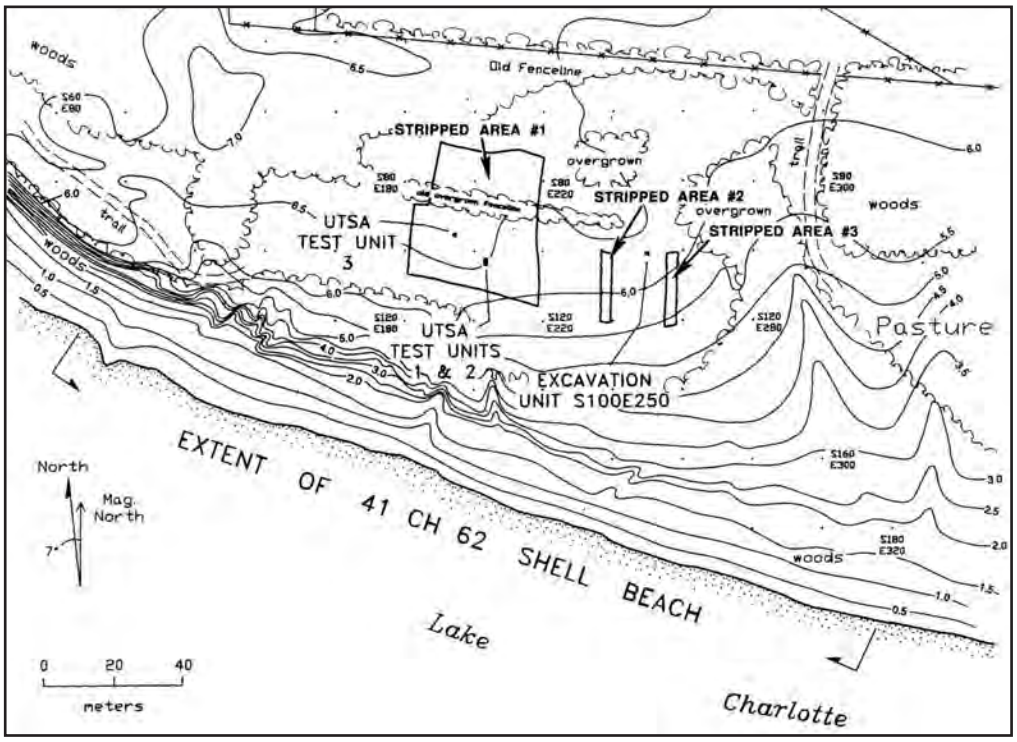


Figure 3-7. Contour map of the Labadie site (41CH62) showing the locations of UTSA's three 1979 test units, CEI's 1987 unit at S100E250, and the three areas stripped by CEI in 1987. (After Weinstein et al. 1989:Figure 8-14.)

of the midden deposit in this area was never fully identified, one possible explanation suggested that it was the result of a privy (or series of privies) set up over a shallow, natural depression (Weinstein et al. 1989:211).

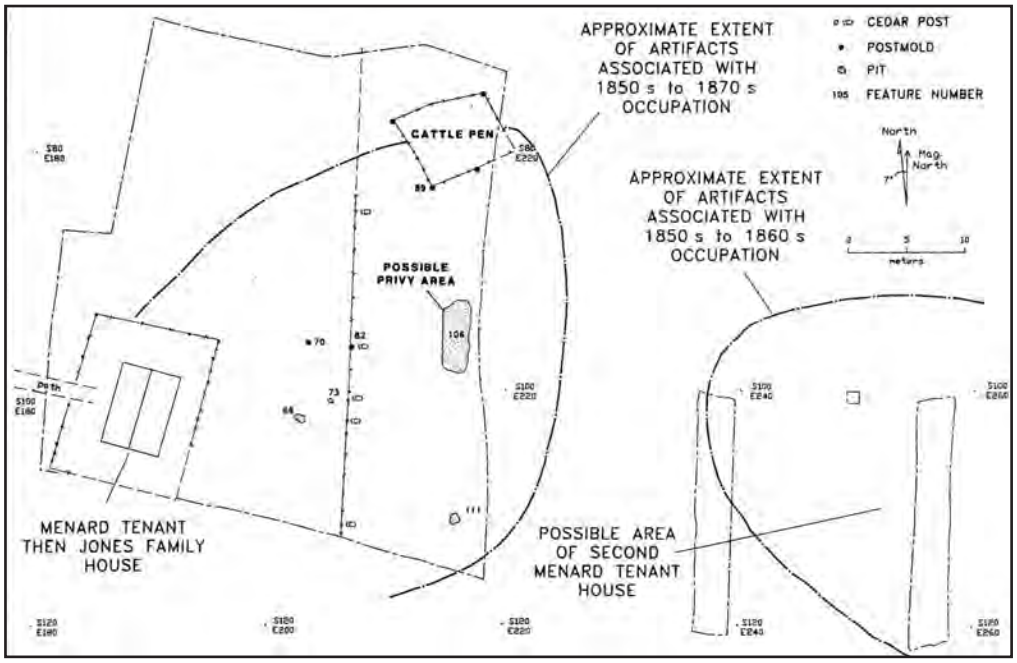


Figure 3-8. Hypothesized layout of the Labadie site, showing structures, fences, and other cultural features associated with the locale's occupation from the 1850s to the 1870s. (After Weinstein et al. 1989:Figure 9-5.)

Chapter 4: The History and Homes of the James Taylor White Family

Jennifer A. Kelly

Few families are as important to Texas history as the White family of Chambers County. In east Texas, the story of the Whites and their associated homes reflects the history of the region, from the frontier period to the twentieth century. The White family is associated with the Turtle Bayou Resolutions and the Anahuac Disturbances, while two of the White houses are representatives of the Carolina I-house style of architecture.

Brief History of the White Family

Although a significant amount of information on the Whites and their family history was collected during the 2001 MAC survey of the two rest areas (Terneny 2002), additional research was needed to interpret the archaeological evidence gathered during the current investigations. The following sections provide brief summaries of the lives of the principal family members associated with the present project area.

James Taylor White I

James Taylor White I, known to most people as "Taylor" White (1789-1852), was a cattleman. He most likely was born in Louisiana, to John and Sarah Gambill White. Church and census records indicate that John and Sarah were natives of Virginia (St. Martin Parish Clerk of Court 2003). It is believed that the family lived for a time in South Carolina and Mississippi before settling in what was then Lafayette Parish, Louisiana, but is now St. Martin Parish (St. Martin Parish Clerk of Court 2003).

According to service records from the War of 1812, Taylor White was inducted as a sergeant into Declouet's Regiment of the state militia in January 1812 (USGenWeb Archives n.d.). However, he served only until March 1812, at which time he was discharged. A year later, in 1813, Taylor White married Sarah Cade in St. Martinville Church, then Lafayette Parish, Louisiana (St. Martin Parish Clerk of Court 2003).

It is unclear when Taylor White settled in Texas. Some sources suggest that he arrived as early as 1819 *(Sunday Enterprise* 1933, in White Collection, Wallisville Heritage Park, Wallisville, Texas [hereafter cited WC]). However, in 1823 White bought two pieces of property in Lafayette Parish. Five years later, while still a Louisiana resident, White disposed of this property following the death of his mother in 1828 (Lafayette Parish Probate Records, cited in Terneny 2002:45). It is possible that White may have traveled to Texas in 1819 to examine the land in the region, but did not settle there until after 1823 (Document with unknown author, no date, WC). Records from Chambers County show that the Republic of Texas granted more than 4,000 acres to James Taylor White on January 27, 1842, but the deed was not filed until May 17, 1876, twenty-four years after Taylor's death (Chambers County Deed Records 1842; Land Grant to James T. White, January 27, 1842, WC).

Sometime during or soon after 1828, Taylor White drove a herd of cattle along the old Opelousas Road and settled in the area of Anahuac where he is said to have spent the next two years clearing his home site and building a house from native trees *(The Progress* 1937:1, WC). White then returned to Louisiana to collect his wife and children. White's ranch was established on open range and the Crossed-"W" brand of John Taylor White was registered in 1830 *(The Progress* 1937:1, WC).

Descriptions of Taylor's original house and its associated outbuildings can be used to reconstruct the probable arrangement of buildings at the site of James Taylor White II's house, situated in the current project area. Unfortunately, only fragmentary records and a few illustrations have been found that describe the appearance of Taylor's house (Figures 4-1 and 4-2). One description, however, is of some importance as it discusses the outbuildings adjacent to Taylor White's house in 1831. Asahel Langworthy, a captain in the War of 1812 and lawyer turned land speculator in Texas, described the original White house as such:

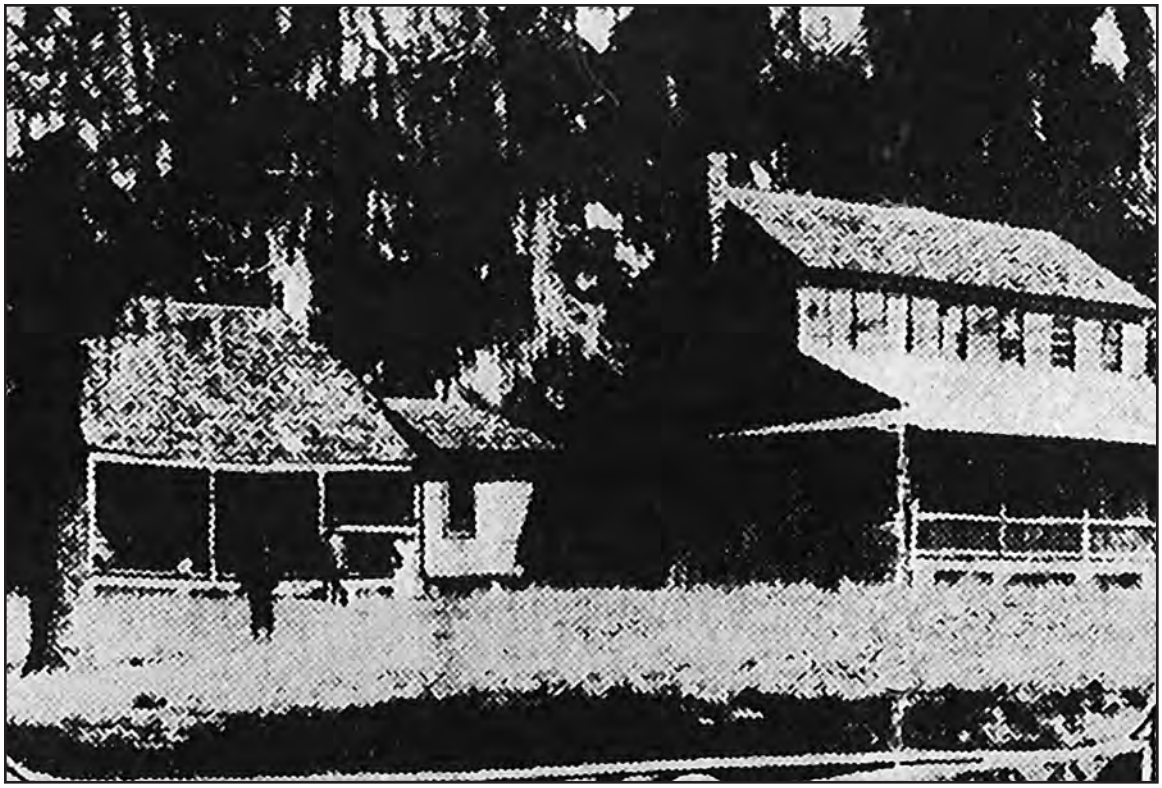


Figure 4-1. Taylor White's first home was most likely the building on the left. Historic documents suggest that White built the larger, second home (on the right) sometime later. View to the northeast. (After Sunday Enterprise *1935, JVCC.)*

Figure 4-2.

Photograph of smokehouse once located adjacent to Taylor White's house. According to local historian, John V. Clay, 11 gold coins were found within the smokehouse and kitchen areas, but the "enthusiastic" search for additional coins caused the collapse of both buildings. (After Baytown Sun *1966, JVCC.)*

THIS SMOKEHOUSE once stood to the rear of the White house. The champion cattleman himself attributed his success not to luck but to good business sense. Some accounts claim White died leaving nearly 30,000 head of cattle and about $150,000 in New Orleans banks.

> Mr. White's home stood a little advance of a tract of woodland, which skirted a small stream or bayou. It was, of course, of logs and faced the north, with an extensive prairie scene before it, on which cattle, innumerable at such a distance, were straying among rich and abundant pasturage, sometime singly, and sometimes in considerable droves. The outhouses belonging to this dwelling were such as to show that the owner had a number of laborers, and carried on a very extensive business as a cattle raiser (Bobby Scherer n.d, *Texas Cattle King*:12, WC).

It is almost certain that the laborers' "outhouses" to which Langworthy referred were slave quarters. Although the Mexican government prohibited the institution of slavery, the practice was tolerated if one's slaves were freed and reclassified as indentured servants (usually for a period of ninety-nine years). Langworthy also noted that "sugar cane and cotton grew within small patches" on the property.

Another visitor to the White ranch was Dr. David Hardee of Rich Square, North Carolina. Hardee was a friend of Sam Houston and visited the Whites several times between 1838 and 1842. He compiled his observations into letters, several of which he gave to the *Liberty Gazetta* in Liberty, Texas. He described the White house as "large and of one floor with many rooms of moderate ceiling height" (David Hardee n. d., *Liberty Gazetta*, John V. Clay Collection, Wallisville Heritage Park, Wallisville, Texas [hereafter cited JVCC]).

When Taylor White first settled in Texas, the cattle industry was limited to harvesting hides and tallow, which could be shipped without spoilage to distant towns and cities via coastal packet. Taylor White realized that if he drove his cattle to market, the whole animal could be harvested, and yield a greater profit. Thus, during the late 1830s or early 1840s, White began driving cattle to New Orleans using sections of the Opelousas Trail, thus increasing his profits. Due to his innovative ranching techniques and business savvy, both of which he passed on to his sons, Taylor became known as the "Cattle King" of east Texas. By 1840, Taylor White had acquired 4,605 acres of land in Liberty (now Chambers) County, and paid taxes on 1,800 head of cattle, 49 horses, more than 4,000 acres of land, and 16 slaves. At that time, his real estate was valued at $3,500.00 (Chambers County Census 1840).

Taylor White was not only a cattle rancher; he also tried his hand at politics. On June 12, 1832, Anglo-American settlers who opposed the rule of the Mexican commander at Anahuac, Juan Davis Bradburn, met near a crossing point on Turtle Bayou, either at or near the ranch house of Taylor White. There they signed the Turtle Bayou Resolutions, the first formal protests by Texas colonists against Mexican rule. It also is believed that Taylor gave aid or shelter to those who came by his home during the scares and skirmishes at Anahuac and Turtle Bayou. Taylor also supplied cattle to the Texas army. In July of 1836, as part of his contract with the military, White sent 75 "beeves" to the commands of Galveston by way of Bolivar Point. In September, he sent 27 more. It is recorded that the beeves were audited at $1,124.00 (Audit of Military Claim 1836, cited in Bobby Scherer n.d, *Texas Cattle King*:11, WC). Shortly after supplying the military, White received 320 acres in what is now Hutchinson County for his services to the Republic of Texas (Land Grant to J. T. White, no date, WC).

Taylor White and his wife, Sarah, died days apart in March of 1852, perhaps due to cholera after a trip to Galveston (Phelan 1963). Several of their slaves may have died at the same time, but the disease did not seem to spread to other members of the family. Taylor and Sarah are buried in a family cemetery approximately 50 yards east of their home (Figure 4-3). Other family surnames recorded in the cemetery are Barrow, Norman, Booth, Jackson, Wallis, and Lee. At death, the Whites' assets, which included cash, land, horses, "beeves," oxen, farming utensils, kitchen furniture, wagons and carts, bees, hogs, personal effects, Negroes, and future crops, were divided among their children, including sons, Robert and James Taylor White II (Will of James Taylor White I, 1852, WC).

James Taylor White II

Born on June 13, 1829, James Taylor White II (Figure 4-4), or "Jim" as he was known, appears to

Figure 4-3. Photograph of the White Cemetery on the original property of James Taylor White, with Taylor's probable second house visible in the distance. The two headstones inside the fence mark the burials of James Taylor White and his wife, Sarah Cade, both of whom died of disease in 1852. View to the west. (After Wright and Wright 1975.)

have played as prominent a role in southeast Texas history as did his father. However, perhaps because he was not the first cattle rancher in east Texas, or maybe because he was not directly involved with the Anahuac Disturbances or the Turtle Bayou Resolutions, Jim is not as well recognized as his father, nor are the events of his life as well known. Nevertheless, he was prosperous in both his personal life and as a cattleman.

James Taylor White II married Amanda Speights on December 7, 1852, only a few months after the deaths of his father and mother. Karen S. Wilbur, the great-great granddaughter of J. T. White II, indicates that Jim gave his wife a league of land, about 4,500 acres, as a wedding present (Karen S. Wilbur, 1979, WC). Soon after they were married, the Whites built a small ranch house on property inherited from Jim's father. Shortly thereafter, they built what Wilbur refers to as "the big house" (Karen S. Wilbur, 1979, WC). The big house was on a tract of land covering about 800 acres. Although the exact year in which it was built is unclear, 1854 is most probable as the big house is the home located on the south tract of the IH-10 project area. Wilbur claims that White's ranch contained 95,000 acres by the time the big house was built, but this has not been corroborated by any other sources and seems somewhat excessive in light of the tax records cited below (Karen S. Wilbur, 1979, WC). Together, Jim and Amanda White raised six children: James Taylor White III, R. Monroe, Amanda, Sarah, Josephine, and Forrest E. Wilbur states that, as the years went by and the children married, the girls moved on to other places while the boys stayed in the area sharing the property that originally had been their grandfather's (Karen S. Wilbur, 1979, WC).

According to the 1859 Tax Roll for Chambers County, brothers Robert (Bob) and Jim had a combined total of 150 horses, 4,500 head of cattle, 19 slaves, and 2,038 acres, setting their estate values at over $21,000.00 each (Ancestry.com 2007c). White I passed on his innovative spirit to both Jim and his son-in-law, James Jackson. Together, White II and Jackson were the first ranchers in southeastern Texas to build cattle fences, first from wood and later from wire (Henson and Ladd 1988). They continued to burn off pasture in order to promote

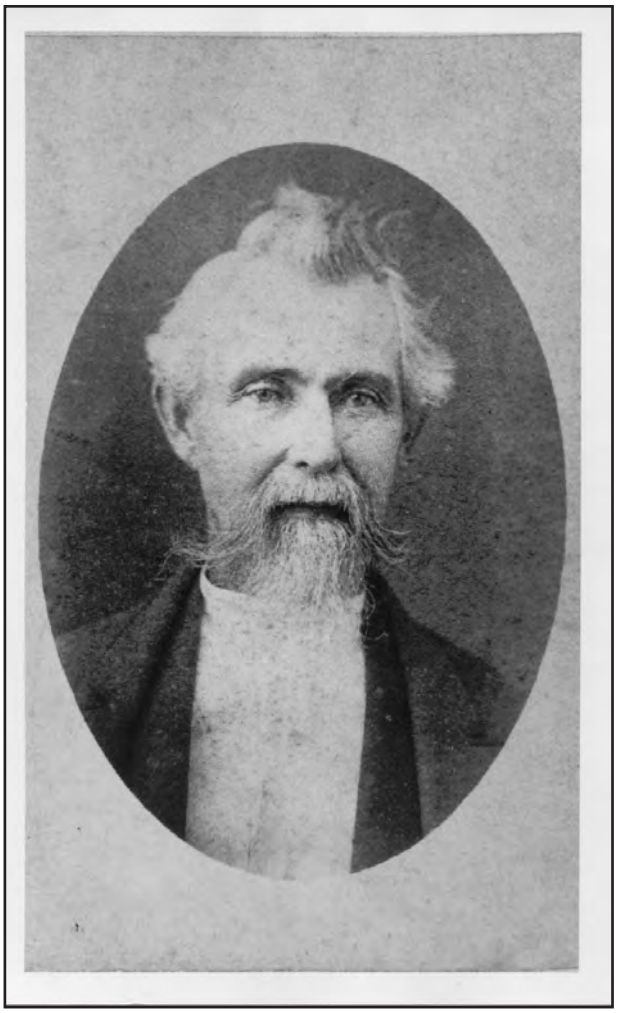


Figure 4-4. Portrait of James (Jim) Taylor White II. The year and the photographer are unknown. (Courtesy, Wallisville Heritage Park.)

new growth as Taylor White had previously done. Two cattle brands, the "JTW" and the "Crossed W," the latter inherited by Taylor from his father in 1806, are associated with at least five generations of ranching.

Taylor's and Jim's generations saw the formation of the Republic of Texas, recognition by the United States, and eventual annexation by the United States. Members of the White family also lived through the Civil War, ranching under the Confederate flag. In fact, the Civil War halted the Whites' fence-building endeavors. Jim White began building fences around his property in 1861, with his first fence running from the head of Double Bayou to Oyster Bayou, a distance of six miles (Anonymous 1996, WC). Both his fence posts and boards were ordered from Louisiana, and Jim's first order arrived safely by ship at Double Bayou. However, the ship carrying his second order reportedly was sunk by Union forces, thus curtailing his fence construction (Anonymous 1996, WC).

Other documentation indicates that at least one member of the White family served during the Civil War. Karen Wilbur, recounting memories of her family as told by her grandmother, Amanda White Smith, notes that "Uncle Bob" asked his sister "Mandy" to hold on to $20,000 in gold as he was going to war (Karen S. Wilbur, 1979, WC). After 18 months, Robert's family had no word from him, and they were worried about his fate (Karen S. Wilbur, 1979, WC). One hundred thirteen days after that, however, her Uncle Bob returned home. James Taylor White II apparently did not serve as either a soldier or a sailor during the Civil War. It seems likely that he was exempt from military service due to the importance of his large cattle operation.

Census records from Chambers County indicate that James Taylor White II was still living in the county in 1880. No census records are available for 1890, while the 1900 records indicate that James Taylor White III was residing in Chambers County with his wife, Sarah E., and their three children, including James Taylor White, Jr. (J. T. White IV). However, there is no mention of J. T. White II, who did not die until five years after the census was taken. Despite the census, both J. T. White II and his wife Amanda were probably still living on their property in the 1890s, as Amanda, who died in 1892, is the first person buried in what has become known as the Broussard Cemetery, located in the north tract of the current project area. It seems highly unlikely that a cemetery would have been established on the property if no one was living there at the time of Amanda's death.

Although not necessarily supporting the notion that J. T. White II still was residing in Chambers County and on his ranch in the 1880s and 1890s, the letterhead shown in Figure 4-5 clearly indicates that either J. T. White II or his son, J. T. White III, was operating the family business during the last decade of the century. Also of interest is the fact that the letterhead was printed in San Antonio, Texas.

In the census of 1910, James Taylor White III is recorded as "Taylor" White (like his grandfather),

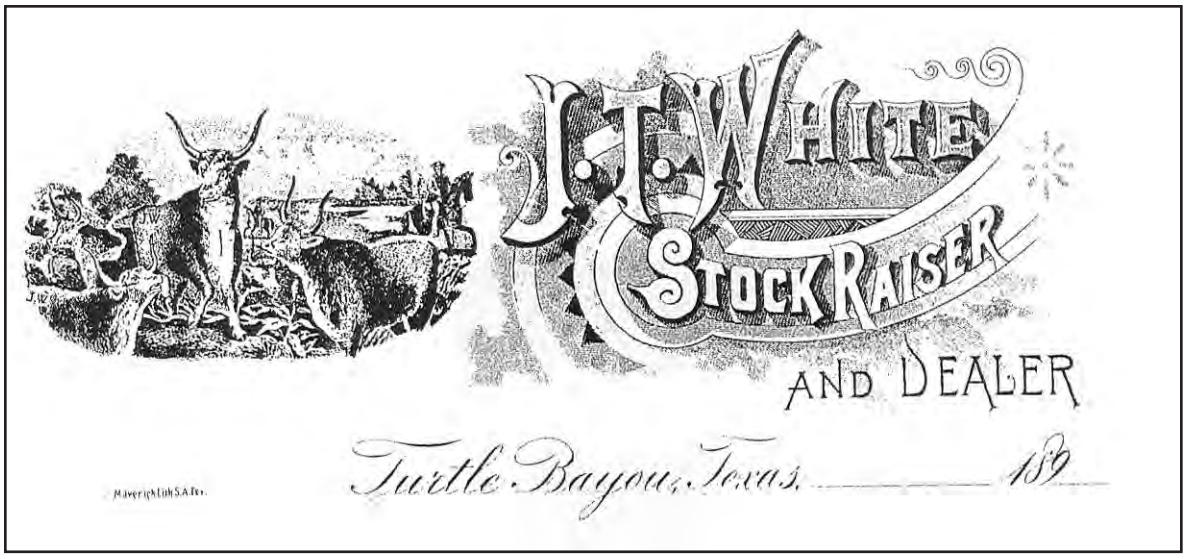


Figure 4-5. Letterhead of the J. T. White ranch during the 1890s. Unfortunately, it is not possible to determine if J. T. White II or J. T. White III was the White managing the business at that time. (Courtesy, WC)

and was 57 years old. His family members included his (second) wife, J T, three sons, and his father-in-law, E. Moss.[1] Later, the 1920 census lists a 25-year-old James Taylor White (J. T. White IV) and his wife, Virginia. It is clear that the White history is a complex one and that more research is needed to sort out the James Taylor Whites on several branches of the White family tree.

What is important to note here, is that James Taylor White II does not appear in any official document after 1880, save for his death record in 1905 (Generations Network, Inc. 2006). It is only through the inscription on his burial crypt in the Broussard Cemetery that his death date is known. Since he was buried in the same cemetery as his wife, Amanda, who had passed away 13 years earlier, it would appear that Jim had not traveled very far from home and was probably living with one of children at the time of his death in 1905.

The White Houses

Also worthy of more research and discussion are the homes of James Taylor White, his son Robert White (whose home may have been one and the same as that of his father), and Robert's brother, James Taylor White II. The house believed to have belonged to both Taylor and Robert remains standing today and aided in the reconstruction of Jim's home, which no longer exists. Although early photos can serve as the best resource, it is sometimes difficult to put a date on an image and/or to determine exactly which house is captured in the photograph. For those reasons, historic records (e.g. newspaper articles and historic letters) also proved to be helpful in deciphering the stories of the houses.

James and Robert were each reportedly given 1,019 acres upon their father's death in 1852 (see above). They built homes in ca. 1854 about 500 meters (0.3 mile) apart. These two houses are similar in their appearance and structure. Unfortunately, the home of James Taylor White II is no longer standing, but Robert's home, although collapsing, still remains. Nevertheless, photographs taken of Jim's house around 1900 (Figure 4-6) may be compared to those of Robert's house taken ca. 1966 (Figure 4-7) and in September 2006 (Figure 4-8). Both can be classified as examples of the Carolina I-house style of architecture. This almost certainly reflects the fact that the White family had its roots in South Carolina and other areas of the "deep" south.

1 With a plethora of J. T. Whites already discussed in this chapter, it is somewhat amazing, not to mention downright confusing, to find that the name of J. T. White III's second wife also is recorded in the census records as "J T."

Figure 4-6. Photograph of the home of James (Jim) Taylor White II and his family. Date of photograph is unknown, but it probably was taken during the last decade of the nineteenth century or the first decade of the twentieth century. View is to the northwest. (Courtesy, Wallisville Heritage Park.)

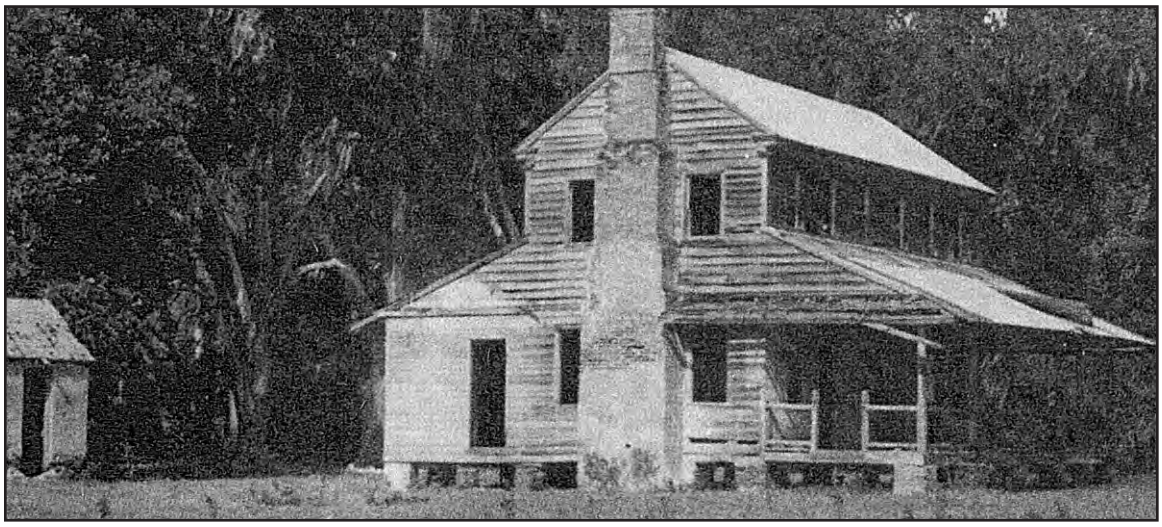


Figure 4-7. Photograph of the Taylor/Robert White house. It is likely that this was the second home built by Taylor White, and it became Robert's home after Taylor's death. Note the smokehouse, which no longer exists, at the left edge of the picture. The photograph was taken in the mid 1960s by J. Justin Jenson, once the County Attorney for Chambers County. View to the east-northeast. (Courtesy, JVCC.)

Figure 4-8. View to the northeast of the Taylor/Robert White house, September 2006. The porch has partially collapsed and the interior has been greatly damaged due to the storage of hay in the structure. Compare with Figure 4-7.

As previously mentioned, Karen Wilbur states that James Taylor White II built two homes (Karen S. Wilbur, 1979, WC). At this time, it is not known where the first of these houses was located, but it is virtually certain that the house built around 1854 once stood within the south tract of the current project area. From the photograph of the structure (see Figure 4-6), it is clear that the two-story house rested on brick piers. If local tradition can be believed, then the piers of both Robert's house and Jim's house were constructed of slave-made bricks (Karen S. Wilbur, 1979, WC). The bricks are symmetrical in size and lack any identifying maker's marks. They vary somewhat in color, ranging from what is commonly thought of as brick red (10R 3/3) to a bright orange (10R 5/8). This may be due to weathering and wear, variation in the material from which the bricks were made, or inconsistencies in the firing temperatures or firing methods.

Of particular importance to the present study is a floor plan of the home of J. T. White II drawn by the late John V. Clay, an avocational historian from Houston (Figure 4-9). Although Clay's scale shows a structure twice as large as subsequent archaeological data suggest (see Chapter 8), the plan itself appears to be extremely accurate with regard to the locations of the cistern and the two fireplaces, and is only slight off regarding alignment with the cardinal directions. Unfortunately, it is not known if Clay's floor plan was drawn during an on-site visit or if it was put together from interviews with various informants, perhaps years after the house had disappeared. The fact that the plans are highly accurate argues for the former, while its excessive scale might argue for the latter. Either way, the plan proved to be an invaluable asset in attempting to decipher the archaeological remains, as will be seen later in Chapter 8.

It should be stressed that Clay's floor plan of Jim White's house does not show any of the outbuildings (besides the kitchen) that once were located nearby. As will be seen in subsequent

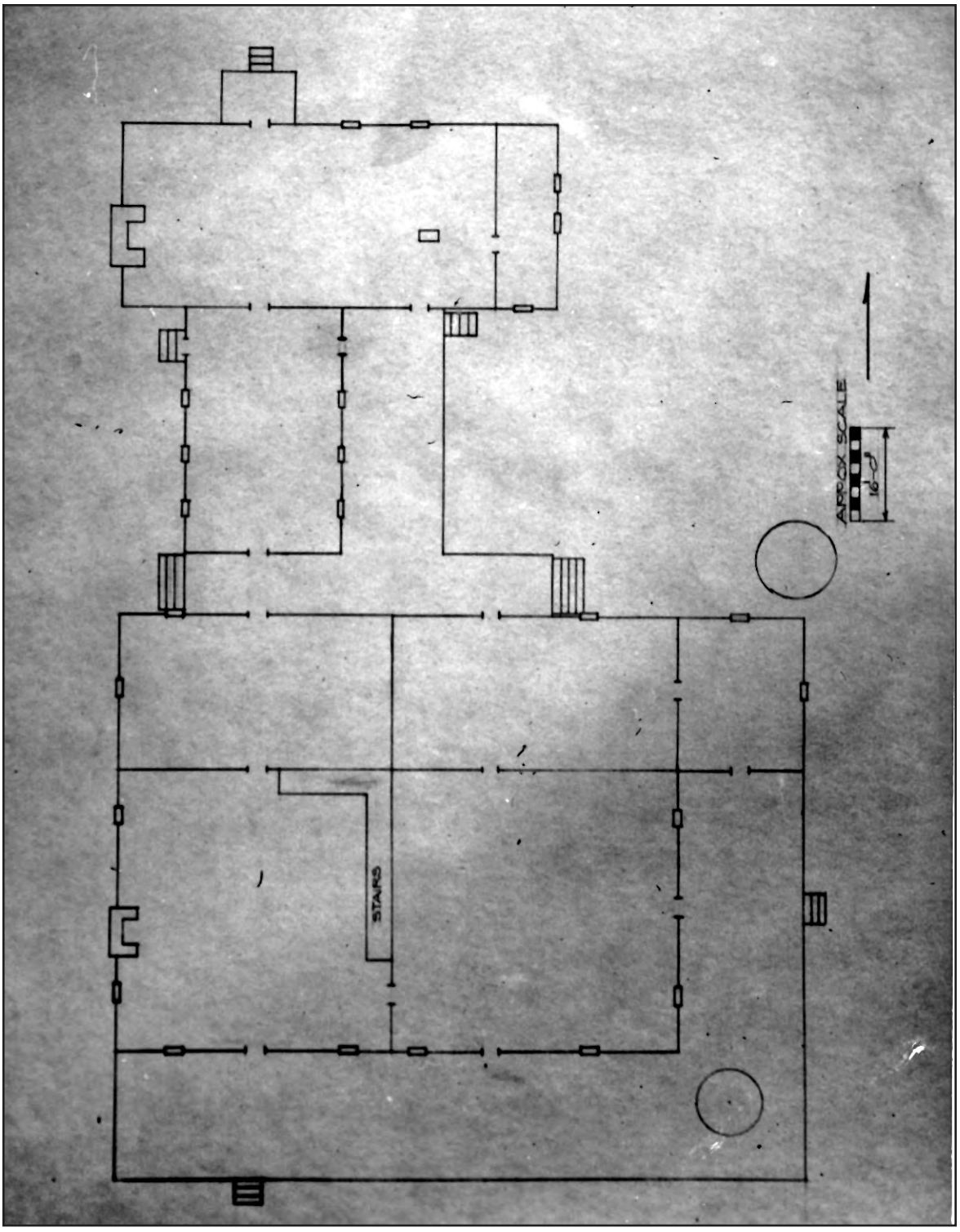


Figure 4-9. Floor plan of the James Taylor White II house, drawn by John V. Clay. Despite the fact that the scale is too big, the overall layout is extremely accurate. Unfortunately, the plan is not dated, nor is it known if Clay drew it from an on-site visit or from interviews with local informants. (Courtesy, JVCC).

chapters, several potential outbuilding locations were identified during the geophysical and metal detector investigations. Nevertheless, there is very brief mention of one of the outbuildings in a transcription by Jean Epperson of Clay's original notes (Epperson n.d.). In discussing the photograph of the house shown in Figure 4-6, Clay reported: "It is regrettable that the photographs [sic] (circa 1900) of this old home do not include more of the appearance of a small portion of a large wooden structure located a few yards to the east. The last residents of the II home remember this as a ruin that had collapsed prior to their coming" (Epperson n.d.).

Clay then goes on to speculate that this wooden structure might have been built by Taylor White. As discussed previously on p. 26, Asahel Langworthy visited Taylor's home in 1831 and noted that it was built of logs. Somewhat later, between 1838 and 1842, David Hardee visited Taylor White and left a slightly different description of Taylor's home in which there was no mention of log construction. This raised the possibility to Clay that Taylor may have built two houses, one of logs when he first arrived in Texas in the 1820s and another of wooden boards sometime between 1831 and 1838. Given the rather large nature of the structure to the east of Jim's house, Clay suggests that it may have been Taylor's second house. After Jim built his house ca. 1854, this wooden structure could have served as additional living space for some of his family members or possibly as quarters for his slaves.

Regardless of whether or not the large wooden structure to the east of Jim's house was the second home of Taylor White, it certainly was a substantial building that had become a ruin by the time the final residents of Jim's former house lived there. As will be seen, both the geophysical data and a limited amount of archaeological research to the east of the main house indicate that some form of structure probably was located in that area. Besides the potential presence of a substantial structure near the main house, it may be important to note that Clay refers to the last people residing at Jim's house as "residents" rather than White family members. This might suggest that Jim's descendants had moved elsewhere and tenants likely occupied the house for the final years of its existence.

Much more information is available on Robert's home than there is on Jim's. The writer believes this is because Taylor White once resided in what later became Robert's home. Nevertheless, Robert's home can be compared to the J. T. White II home in regards to location, construction methods and materials.

That the builders of these houses intended to construct permanent residences is apparent by an inspection of Robert's home, and the fact that his house still stands more than 150 years after its construction. Historical documents indicate that Robert's house was made of natural hardwoods found locally. A description of the infrastructure states that many of the beams used for joists and supports were hand-hewn (Description of Robert White's house, no date, JVCC). The house was reported to have had nine-foot-high ceilings in the lower rooms. Robert's home originally had two fireplaces; the one once present on the east side of the house is reported to have collapsed in 1903. Another floor plan drawn by John V. Clay of Robert's house, does, in fact, show two chimneys (Figure 4-10). The plan for J. T. White II's house, however, does not indicate a second fireplace within the living area, thus suggesting a modest difference between the two structures (compare Figures 4-9 and 4-10). There is also a difference in the location of the kitchens at the two house sites. The kitchen at Robert's house was connected by a dogleg coming off the northwest corner of the main building, creating a "false gallery" (see Figure 4-10). The kitchen at the house built by J. T. White II also came off the northwest corner of the main structure, but it was located directly behind the house and connected by what appears to have been a breezeway (see Figure 4-9). Other small differences between the two houses also are evident. For example, Robert's home appears to have four rooms on the first floor, and a central hallway and stairs. Jim' house had five rooms on the first floor with the stairs leading to the second floor located within one of the front rooms. Nevertheless, it seems almost certain that the two houses were built in the same general style using the same local materials.

What is not clear from any of the records examined for this project is when the home of James

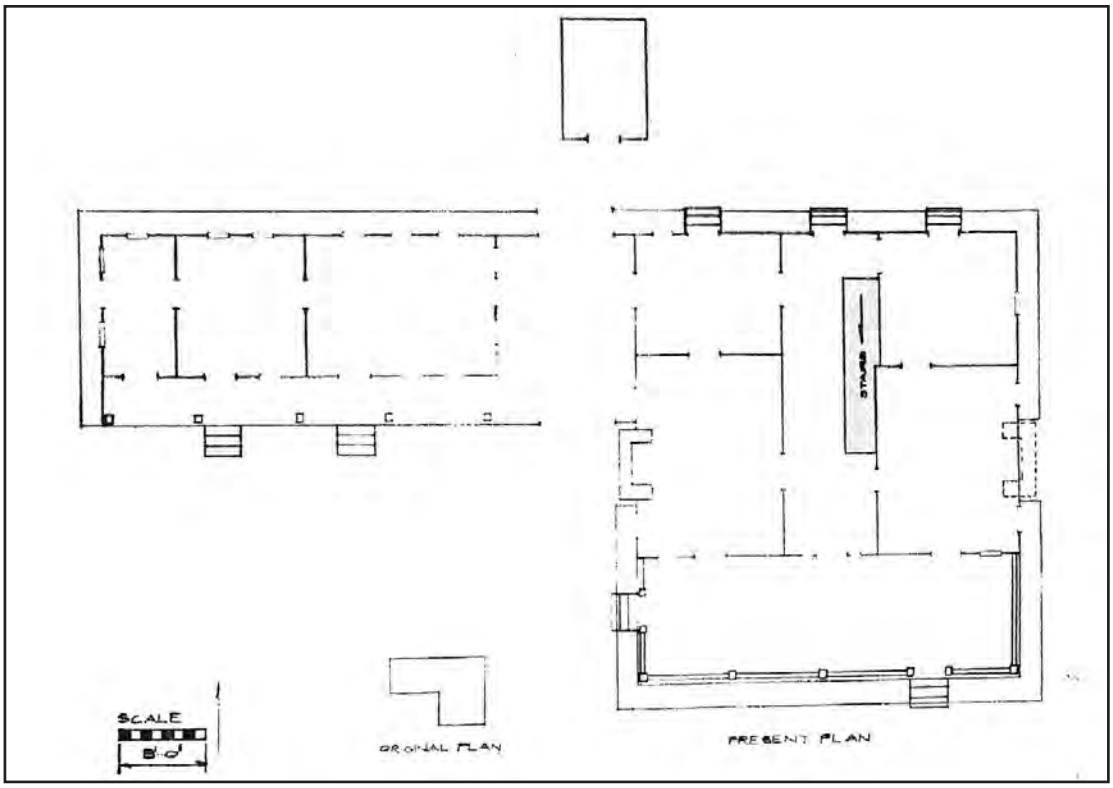


Figure 4-10. Floor plan of the home of James Taylor White and his son Robert White, created by John V. Clay. Note that the scale is half that on Clay's floor plan of Jim White's house (see Figure 4-9), providing additional evidence that the scale on the latter plan is erroneous. (Courtesy, JVCC)

Taylor White II disappeared, or how it disappeared. As will be seen later, the archaeological evidence does not support destruction by fire. Several informants mentioned to the CEI field crew that the house was salvaged over some extended period time. This may have been the case, but the physical condition of the remaining piers suggests that the area was graded or bulldozed once the building itself was gone. The remaining pier foundations and chimney bases were found between approximately 5 and 15 cm below the surface, and appear to have been cleanly sheered off at ground level.

The only document located during the brief records search that would appear to provide some evidence regarding the demise of the J. T. White II house comes from a 1928 Anahuac, 1:125,000-scale map of the region (U.S. Geological Survey [USGS] 1928). A blow-up of that portion of the map containing the current project area is shown in Figure 4-11. Visible is an east-west road that runs eastward from Store, crosses Whites Bayou at the location of what is identified as a "POOR BR" (Poor Bridge), and continues on to an intersection with a north-south road east of Whites Bayou. Two buildings are shown by solid square symbols on the west side of Whites Bayou at the location of the poor bridge, one on the north side of the road and identified by the name "Moody" and the other on the south side of the road on property labeled "Dr. Morgans." About midway between the name "Moody" and the "FARMERS RICE CANAL" is what appears to be an open-square symbol possibly signifying an abandoned structure or barn or shed. This may be Robert's abandoned house, although the map is so distorted that it is virtually impossible to align it with any modern topographic map. If the symbol does designate Robert's house, then it is important to note that no similar symbol is shown to the east of Robert's house where J. T. White II's house once stood. This would suggest that J. T. White II's house no longer was standing

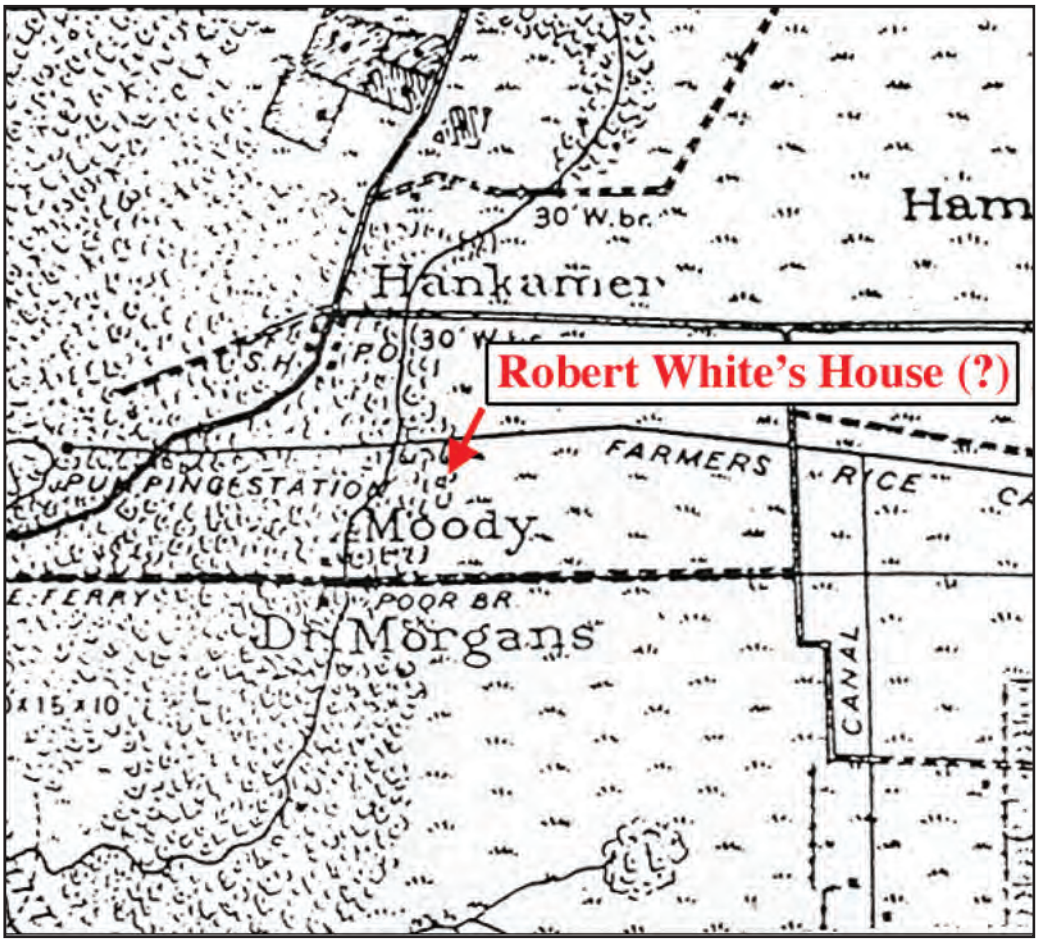


Figure 4-11. 1928 Anahuac, 1:125,000-scale map of the region (USGS 1928). Note the possible location of the Robert White House.

at the time this map was compiled. According to the map's legend, the original data used to make the map was acquired between 1906 and 1911, with revised information added in 1922. Thus, if these interpretations are correct, then it could be argued that the home of J. T. White II, and the subject of most of the subsequent research in the current study, no longer was standing by 1922. Of course, additional data, including an examination of other maps and the information obtained during the archaeological investigations discussed in the following chapters, will be needed to further narrow down the period of destruction.

As with data on the J. T. White II house, the historical information collected for this project is incomplete after about 1880. Census and tax records for Chambers County after that year have not been published online, and it would be necessary to conduct courthouse searches and other archival investigations to find any possible missing information, something that was beyond the scope of the present project. Therefore, at this time, and without more research, it is not possible to say exactly whether Jim White II was residing in his home at the time of his death (on Christmas Eve in 1905), or how many generations of Whites continued to live at the site after ca. 1880.

The branch of the White family discussed in this chapter can be traced back to its origins (Kelly 2007). Nine generations of Whites have been recorded, beginning with Thomas Whit(e) who was born in 1574 in Roche, Cornwall, England. The first White to have been born on American soil was the great-grandfather of James Taylor White II, also known as James Taylor White, who was born in Virginia in 1710 and died in Natchez in 1774. The

current generation of Whites carry on the tradition of cattle ranching today, and undoubtedly use some of the same techniques honed by the "Cattle King" of east Texas and his son, James Taylor White II.

Chapter 5: Fieldwork Research Objectives

Richard A. Weinstein

When originally contracted by TxDOT to conduct the investigations discussed in the current report, CEI was asked to develop a scope of work that would provide a limited amount of information on previous archaeological and historical research conducted for the two rest areas tracts and their vicinity, briefly review the environmental setting of the two tracts, and discuss methods to be employed during the upcoming fieldwork. Much of the previous environmental information presented in that scope has been provided in Chapter 2, while the previous archaeological and historical research concerning the two tracts was discussed in Chapters 3 and 4. Thus, this chapter will present the substantive part of the original scope and review the proposed methods to be employed during the fieldwork and the logic behind those methods. It will set the stage for the following four chapters that actually describe the different phases of fieldwork.

Initial Research Design

In reality, CEI produced two scopes of work for the fieldwork discussed in this report. The first, presented here, mainly covered the methods necessary to better define those areas in each tract that needed additional field investigations and by what means those investigations would take place. It revolved around the need to identify the actual location of the White house relative to the existing cistern and to determine if there were any potential burials located outside the fenced portion of the Broussard Cemetery, two subjects touched upon in the 2002 MAC study by Terneny. The second scope of work addressed the need for limited subsurface investigations once it became clear that there were numerous cultural features and potential cultural features in both tracts. Since it would be premature to present that scope in this chapter, prior to a review of the actual fieldwork, it will be offered at the beginning of Chapter 9. Accordingly, this chapter will review the first four field objectives discussed in the initial scope of work. Each objective is presented as a brief introductory statement, followed by the details needed to achieve that objective.

1. **Systematic Shovel Testing.** To conduct an intense program of systematic shovel testing in those portions of the safety rest areas that had been identified previously by personnel from MAC as the locations of the late-nineteenth- through early-twentieth-century cemetery (site 41CH370) in the north tract and the mid-nineteenth-century cistern (site 41CH371) in the south tract. These, and all other investigations, were to be conducted according to guidelines defined in 13 TAC 26,5(35) and 13 TAC 26.20(2), and were to comply with recognized THC/CTA survey standards.

In order to accomplish these initial objectives, it first would be necessary to more accurately delimit those locations within the two rest areas that would be selected for CEI's fieldwork. Additionally, since both tracts were covered in moderate to extremely dense vegetation, it would be necessary to clear these selected areas prior to the proposed tasks noted above. Those areas related to shovel testing were considered first.

As noted in Chapter 3, the 2001 MAC investigators excavated 126 shovel tests in the two tracts (see Figure 3-3). As can be seen on that figure, plus Figure 5-1 which shows the MAC tests overlain on the proposed TxDOT construction plans, no positive tests were located in the north tract, although two areas of positive tests were situated in the south tract. These included (1) a fairly pronounced concentration both around and to the north of the cistern and (2) a single, isolated test (MAC's ST H-1) in the western part of the tract. Although these tests helped identify the two areas in the south tract containing historic artifacts, heavy vegetation and other factors prevented complete coverage of the areas at much finer shovel-test intervals. Accordingly, it was decided that CEI would "fill in the gaps" in the MAC coverage by placing shovel tests at 10-m intervals in those two locations (Figure 5-2). These tests would be positioned along east-west transects that also would be spaced 10 m apart, with shovel tests along adjacent transects offset by 5 m. New tests would not be placed

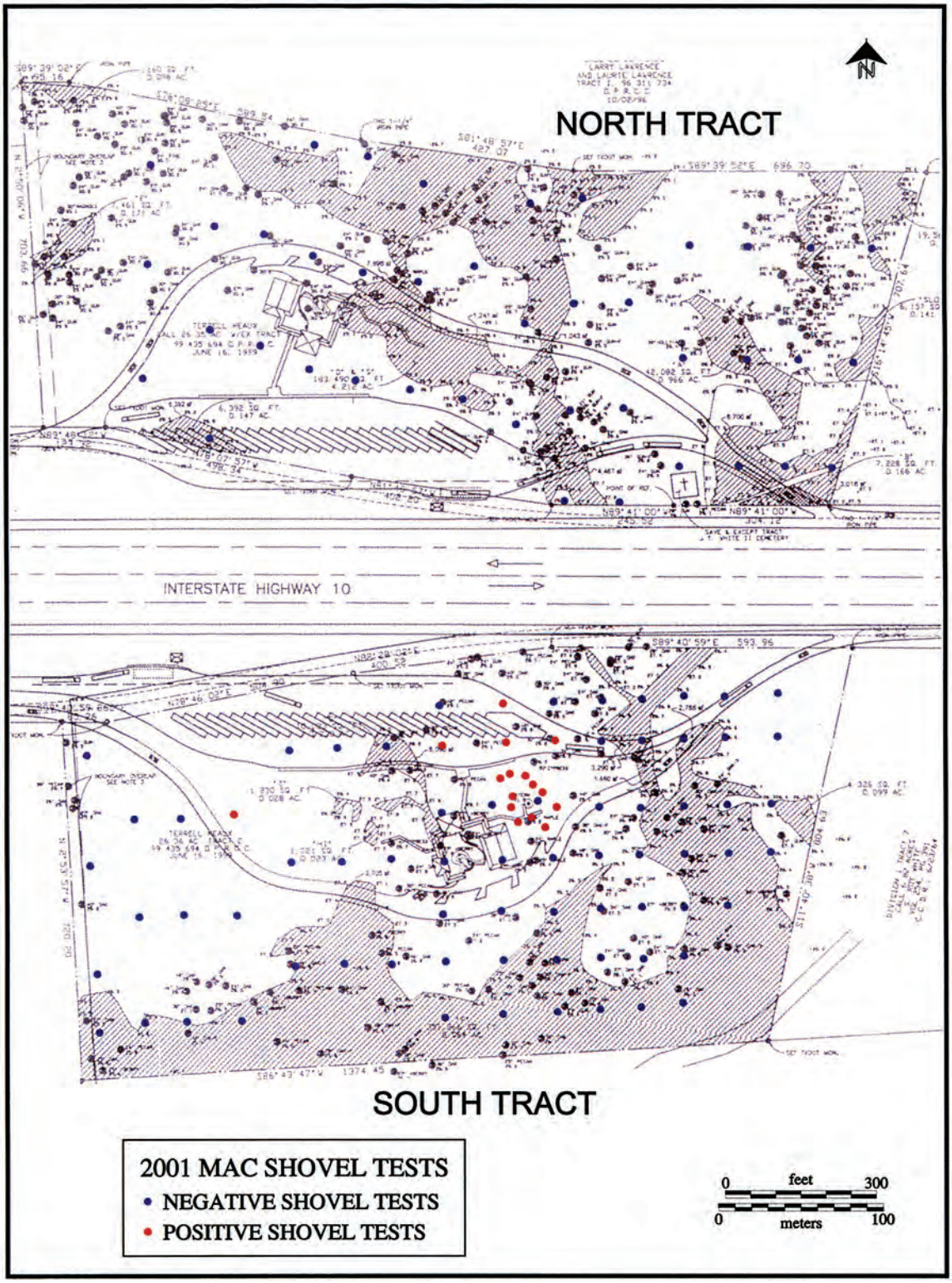


Figure 5-1. Locations of shovel tests excavated by MAC personnel in 2001 overlain on TxDOT's construction plans of the proposed rest areas. (Shovel test locations taken from Terneny 2002:Figure 3.)

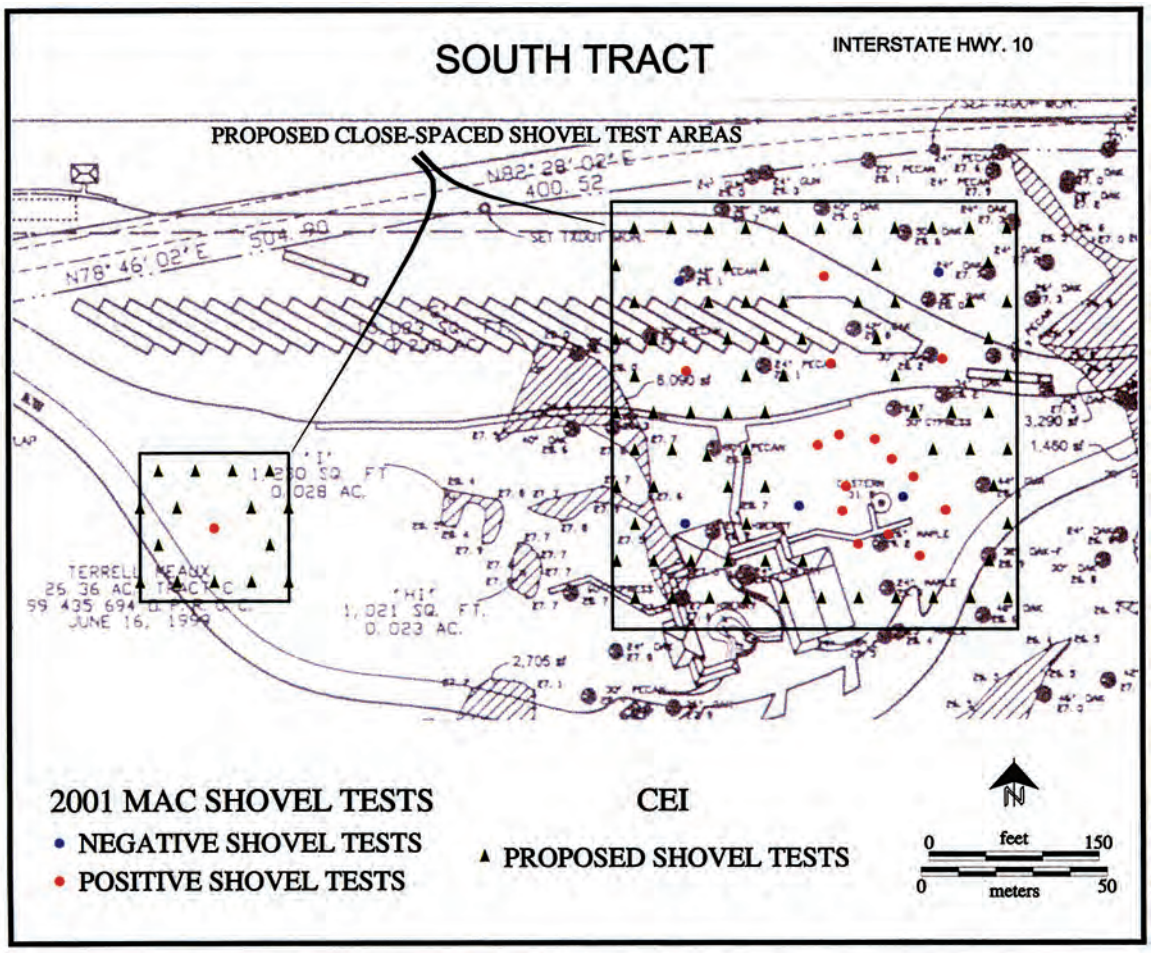


Figure 5-2. Proposed CEI shovel test locations overlain on a blow-up section of TxDOT's construction plans for the south tract. Positive and negative STs by MAC also are shown. CEI's proposed tests are spaced 10 m apart along east-west transects that also are spaced 10 m apart. Note that potential CEI test locations falling within 10 m of previous MAC tests have been eliminated.

down, however, if they fell within 10 m of a previous MAC test.

Additionally, it was decided to extend each of the proposed shovel test areas outward in the cardinal directions for a distance of 20 m beyond the position of the last positive MAC shovel test (see Figure 5-2). For instance, where MAC recorded only one positive test (H-1) in the western part of the south tract, the proposed CEI shovel tests would be laid out within a 40-by-40-m square whose boundary lines were to be located 20 m from the positive test. In the case of the larger cistern/house area within which most of the positive MAC tests were located, it was decided to draw the north boundary line 20 m to the north of positive ST C-1, the east boundary line 20 m to the east of positive ST B-3, etc. This resulted in a larger box measuring 110 by 115 m. Again, Figure 5-2 shows the proposed placement of the CEI shovel tests in these two areas, along with those tests previously excavated by MAC.

2. **Metal Detector Examination.** To conduct a program of metal detecting across that portion of the south tract where the previous research by MAC had identified the greatest concentration of historic artifacts. This concentration likely coincided with the location of the 1850s White ranch house, of which the cistern is the most obvious remaining feature. This survey was to be conducted prior to the magnetometer and electromagnetic (EM)

susceptibility surveys (discussed next), mainly to clear the area of any large metal objects that would affect the later surveys.

As noted in Chapter 3, the 2001 MAC investigations included a "loose grid" of metal detector sweeps in the area around the cistern (see Figure 3-3). Most of the "hits" obtained during those sweeps were located to the south and west of the cistern. Thus, there was a good potential for metal objects to be located in that area and these conceivably could interfere with the planned magnetometer survey.

Nevertheless, based on previous magnetic surveys, it was known that only fairly large metal objects interfere with a magnetometer and hide potentially important anomalies. Thus, the metal detector survey would be a relatively quick and simple endeavor that only needed to locate (for subsequent removal) large pieces of metal, such as strings or rolls of barbed wire, fragments of iron water pipes, broken plows, etc. Small objects, like nails, would not interfere with the magnetometer and could be left in place. In fact, as will be discussed further below, by leaving such small items in place it would be possible for the magnetometer to record small anomalies derived from nails and to produce a precise map of their distribution across the area, thus identifying the potential locations of both the main ranch house and any associated outbuildings.

Accordingly, Figure 5-3 shows the area selected for the CEI magnetometer survey in the south tract, and by consequence the area that first will need to be searched by the metal detector. For ease in survey, this

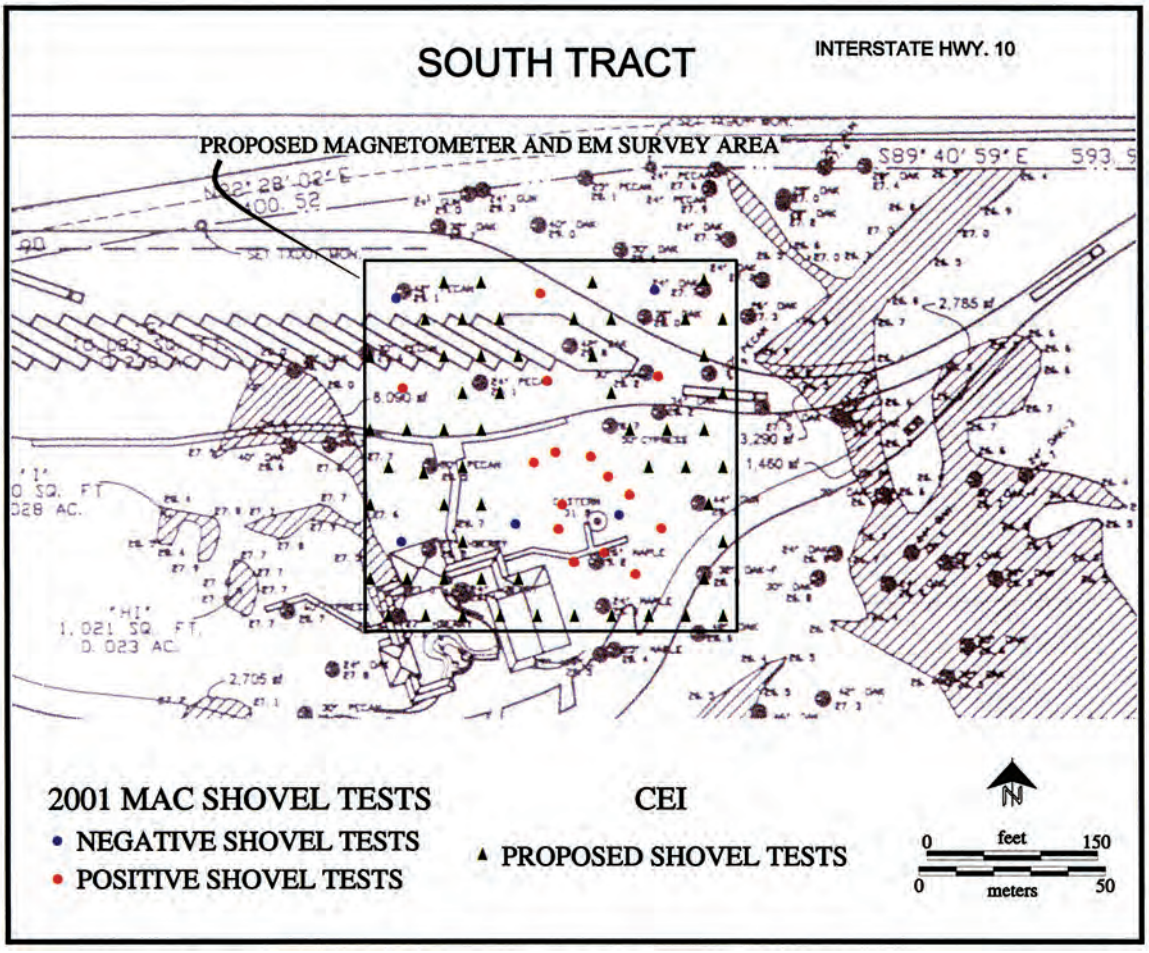


Figure 5-3. Blow-up of a portion of TxDOT's construction plans for the south tract, showing the area around the cistern selected for initial investigation by metal detector and later by magnetometer and EM surveys. MAC's 2001 shovel tests within the area, plus CEI's proposed shovel test locations, also are shown.

area was to be slightly smaller than that chosen for the shovel tests in the same location. Instead of measuring 110 by 115 m, the metal detector/magnetometer area would measure 100 by 100 m. However, it still was designed to encompass all of the positive shovel tests excavated by MAC in 2001 and to examine all of the area potentially associated with the White family house and any nearby outbuildings.

In addition to identifying any large metal objects, this aspect of the fieldwork would include an attempt to determine the identity of objects pinpointed by the metal detector. This endeavor would only entail slight excavation of the area of the possible object and no holes deeper than ca. 20 cm were to be dug. If a large item was uncovered and considered to have the potential of dating to the nineteenth or early twentieth centuries (i.e., not recent highway trash or obviously modern cans or wire) then its characteristics were to be noted and its location recorded with a total station. It then would be removed for further processing in the laboratory. All recent trash likewise would be removed so as not to interfere with the magnetometer survey, but it simply would be discarded.

3. **Magnetometer and EM Susceptibility Surveys.** To conduct magnetometer and EM susceptibility surveys of that portion of the south tract of the project area where the 1850s White ranch house was thought to have been located.

It was envisioned that such a survey could identify buried features, such as small trash pits and privies that may have been missed by the metal detector survey, plus distinguish and record smaller metal items, such as nails, that could provide important distributional data relative to the exact whereabouts of the White house and its outbuildings. A magnetometer survey also would have the ability to locate burned soil and buried brick concentrations should any be present. When coupled with a magnetic-susceptibility survey (using the in-phase component of an EM 38B sensor), which only records non-metallic disturbances in the earth's magnetic field, then a clearer picture of the types of anomalies present in the area could be obtained.

Given the extent of the 2001 positive shovel tests around the cistern (see Figure 3-3), it was felt that the magnetometer survey should concentrate on a square area measuring 100 m on a side, and that it should cover the same area as the metal detector survey (see Figure 5-3). This survey would provide coverage of 10,000 m^2 around the cistern. Mr. Bryan Haley of the University of Mississippi would direct this aspect of the research and would supply all specialized equipment.

Following completion of the magnetometer and EM susceptibility surveys, a small amount of time would be devoted to ground-truth testing of a selected sample of the anomalies pinpointed in the field by the remote-sensing instruments. While it was recognized that many of the more subtle anomalies might not be identified until the magnetic data were examined in the laboratory after the fieldwork had ended, it still would be possible, based on the initial field readings, to pick out a few anomalies for immediate examination. If possible, these were to include both large and small anomalies, plus those related to metal objects and those associated with non-metal objects.

4. **Resistivity and GPR Surveys.** To conduct resistivity and GPR (ground-penetrating radar) investigations in those construction areas near the cemetery in the north tract in an effort to locate potential graves situated beyond the limits of the cemetery. However, both the THC and TxDOT asked that the area immediately adjacent to the cemetery (where no construction will occur) be left in a wooded state to prevent recognition and possible vandalism. Thus, no resistivity or GPR surveys would occur immediately adjacent to the cemetery itself.

As discussed in Chapter 3, the 2002 MAC report noted that unmarked graves might be present beyond the limits of the fence surrounding the Broussard Cemetery. An effort to strip the ground outside the fence in order to find possible grave outlines was not possible, as the ground was too wet to allow a Gradall access to the area. Thus, TxDOT asked that remote-sensing investigations be conducted around the Broussard Cemetery in an attempt to locate any unmarked graves that might be present. However, since the cemetery itself was to remain in a heavily wooded state to avoid detection by people utilizing the rest area, as just noted, it was decided that only those areas within a reasonable distance of the cemetery

that will be affected by actual construction activities should be examined.

Thus, CEI recommended that GPR (ground-penetrating radar) and resistivity surveys be conducted over a rectangular-shaped, 20-by-45-m area along a nearby portion of the truck-access road leading to the rest area from IH-10 (Figure 5-4). This is the only area of actual construction deemed close enough to the cemetery to warrant such remote-sensing investigations. As seen on Figure 5-4, the southern boundary of this area would be situated about 28 ft north of the northern edge of the cemetery. Thus, not only would the cemetery be left in a wooded state, but an intervening 28-ft-wide buffer zone also would remain wooded.

Past experience had shown that GPR is a very effective tool in searching for unmarked graves, particularly in situations where the B horizon or its equivalent is fairly close to the surface (such as in the project area, see Chapter 2) and the top of a grave shaft can be detected by a break in that boundary. Similarly, a resistivity survey could be employed to detect changes in moisture content of the soil and thus help identify possible burial pits.

Again, Bryan Haley of the University of Mississippi would direct the GPR and resistivity surveys and supply all necessary equipment. As with the magnetometer and EM susceptibility surveys, additional time would be set aside for ground-truth testing at a sample of the anomalies identified in the field by the GPR and resistivity surveys, assuming any actually were identified.

Overall, it was envisioned that the proposed research would determine the likely placement of the White house in relation to the cistern, define other possible outbuildings associated with the house, and provide a basis for expanding and updating the existing site description. A similar situation might pertain at the Broussard Cemetery, although such seemed less likely. In that case, only additional graves discovered along the truck-access road (if such actually were found) would necessitate adjustments to the site description.

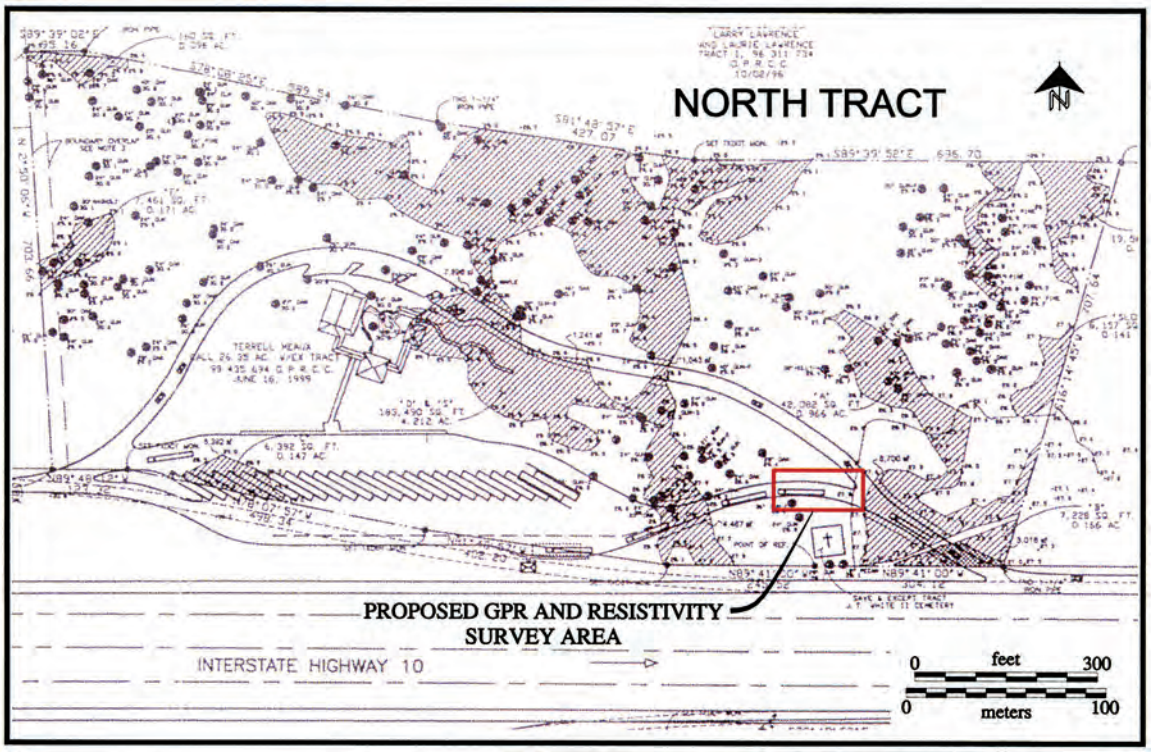


Figure 5-4. TxDOT construction plans of the north tract, showing the proposed GPR and resistivity survey area along a portion of the truck-access road situated ca. 28 ft north of the northern edge of the Broussard Cemetery.

The following three chapters present the results of the initial set of field investigations designed to address the objectives discussed above. Chapter 9 will follow with a review of the second phase of fieldwork that was enacted once it was discovered that there were numerous cultural remains and potential remains in the two survey tracts. As noted earlier, that chapter will begin with a review of the additional objectives outlined in a subsequent scope of work prepared prior to that final phase of fieldwork.

Chapter 6: Initial Field Investigations (Clearing, Shovel Testing, and Metal Detector Search)

Richard A. Weinstein and Jennifer A. Kelly

This chapter will discuss the first three phases of the field investigations, as just outlined in the previous chapter. These included clearing the survey areas in both the north and south tracts, conducting systematic shovel testing across the south survey area, and performing a metal detector search of the south survey area in an effort to locate large metal items that might interfere with the subsequent remote-sensing work.

Clearing of the Two Survey Areas

North Tract

As noted in the research design, the area to be cleared on the north tract consisted of a 20-by-45-m rectangle that was designed to facilitate the subsequent GPR and resistivity searches for possible burials located outside the fenced area of the Broussard Cemetery. Since the only planned construction near the cemetery consisted of a truck-access road, the cleared area was to be positioned to cover that part of the road located immediately north of the cemetery, with its eastern side adjacent to the wetlands identified on the TxDOT construction plans (Figure 6-1).

In order to link the cleared area and any possible cultural remains to the construction plans, the first step of the fieldwork entailed locating the iron pipe that marked the southeastern corner of the north tract (see Figure 5-1 for location of that pipe). Luckily, the pipe was easy to find, as it protruded from the ground directly beneath the barbed-wire fence that marks the north edge of the current IH-10 ROW. A survey line was then run westward from the iron pipe, basically following the barbed-wire fence, for a distance of 70.36 m at an angle of 270˚19'. From that point, another line was cut due north through the woods for a distance of 28.10 m and a chaining pin was placed at what would be the south-eastern corner of the proposed 20-by-45-m rectangle (Figure 6-2). From there, a third line was cut due west through the woods for 45 m to the southwestern corner of the rectangle where another chaining pin was placed down. This line also marked the southern edge of the area to be cleared. From the southeast corner, a fourth line was cut to the north for 20 m to the northwestern corner of the rectangle, and this was followed by a line to the east for 45 m to the northeast corner of the rectangle. As done at the southeast and southwest corners, chaining pins also were placed at these latter two corners.

Once the corners of the rectangle were identified, strips of flagging tape were hung from trees along the four sides of the rectangle so the edges of the area to be cleared could be easily recognized. Trees adjacent to the corner pins also were encircled with flagging tape for ease in identification.

Following identification of the area to be cleared in the north tract, Bio-Landscape and Maintenance, Inc., of Houston, Texas, was contracted to conduct the actual clearing. Per TxDOT instructions, trees greater than 4 inches in diameter were left standing. All other trees and understory vegetation were cleared by hand, using machetes and chainsaws, with all resulting debris removed from the property. Since this area was to be examined by the GPR, it was necessary for all remaining stumps to be cut down to ground surface to facilitate a clean contact between the GPR's antenna and the ground. This was accomplished through the use of a small stump grinder.

Exposed Brick Piles

Although no further work was slated for the north tract until the GPR and resistivity surveys were to take place within the 20-by-45-m rectangle, clearing of the area exposed three piles of brick on the surface of the ground (Figures 6-3 through 6-5). One of the piles, apparently Pile 1, also had been seen by MAC personnel during their 2001 survey (Terneny 2002:33). In order to better assess

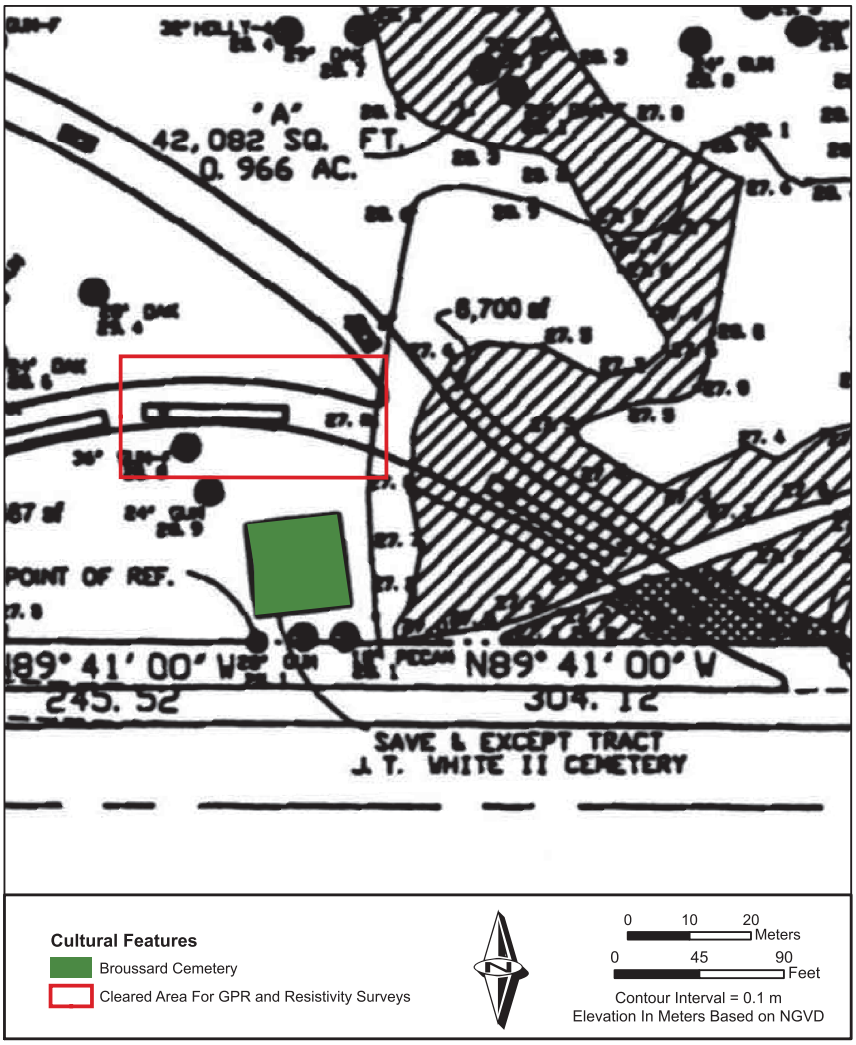


Figure 6-1. Portion of the TxDOT construction plans for the north tract, showing the area to be cleared for the GPR and resistivity surveys. Note the proximity of the cleared area to the Broussard Cemetery to the south and the wetlands (hatched area) to the east.

their possible significance, the three piles were examined briefly through a program of mapping and shovel testing.

Initially, 96 elevation readings were acquired with a Sokkia Set2110 total station and a contour map of the cleared area was created (Figure 6-6). As can be seen, the map shows the location of the three brick piles, the drive leading to the cemetery from the IH-10 feeder road, and the cemetery itself. One of the brick piles was near the center of the cleared area while the other two were in the southwest quadrant.

Each brick pile was assigned a separate number, its horizontal dimensions recorded, and a shovel test was placed down through the center of the pile. Once the shovel test was completed, a sample of bricks from each pile was collected. Visual examination of the piles, along with the information provided by the shovel tests, showed that the bricks were confined to the surface and consisted of jumbled piles that appeared simply to have been dumped in place. Furthermore, no evidence of mortar or cement was seen on any of the bricks. The initial impression was that these piles were nothing more than extra bricks of the types used in the construction of the brick tombs present in the nearby Broussard Cemetery. This was similar to the conclusion reached by the MAC survey (Terneny 2002:33), although that study did not discuss

Figure 6-2. Setting up the Sokkia total station at the edge of the barbed-wire fence that runs along the northern edge of the current IH-10 ROW adjacent to the north tract. A line was cut from this location to the north, through the dense woods to the right, for a distance of 28.10 m to the southeastern corner of the area to be cleared.

Figure 6-3.

Brick Pile 1 located within the cleared area on the north side of IH-10.

Figure 6-4.

Brick Pile 2.

Figure 6-5. Brick Pile 3.

the resemblance to the bricks in the cemetery.

In order to verify this impression, the bricks from the piles were compared to bricks in the tomb of Amanda White. They matched almost identically. In addition, both the bricks from Amanda's tomb and the piles were identical to bricks housed at CEI's laboratory in Baton Rouge that had been manufactured around the turn of the twentieth century. They were much harder, more evenly shaped, and had more pronounced edges and corners than the bricks found associated with the White house in the south tract, presumably dating to ca. 1854. This makes perfect sense, given that Amanda died in 1892. By then, better-made bricks were available for construction of her tomb, as opposed to the softer and slightly flatter versions employed for the house almost 40 years earlier.

Regardless of the types of bricks found in the three brick piles, it was clear that the piles did not represent anything of particular cultural significance. Accordingly, there is no need to alter construction plans for the rest area due to the presence of these brick piles.

South Tract

A similar methodology was employed for the south tract, and hinged upon locating the iron pipe placed in the ground at the northeastern corner of the tract (again, see Figure 5-1 for the location of this pipe). Once more, this was easily accomplished as the pipe protruded from the ground a few centimeters south of the barbed-wire fence marking the southern boundary of the existing IH-10 ROW. From the pipe, a survey line was run to the west for 160.40 m at the same angle of 270˚19' used for the north tract. From there, a line then was cut due south into the woods for a distance of 14.40 m to the northeastern corner of the large area that would be cleared for shovel testing and the magnetometer and EM surveys. After placing a chaining pin at that point, lines were cut due west for 110 m and due south for 115 m to the northwestern and southeastern corners of the large area, respectively. Chaining pins were placed at those two corners, and then a final chaining pin was positioned at the southwestern corner of the area to be cleared, thus framing a large al-

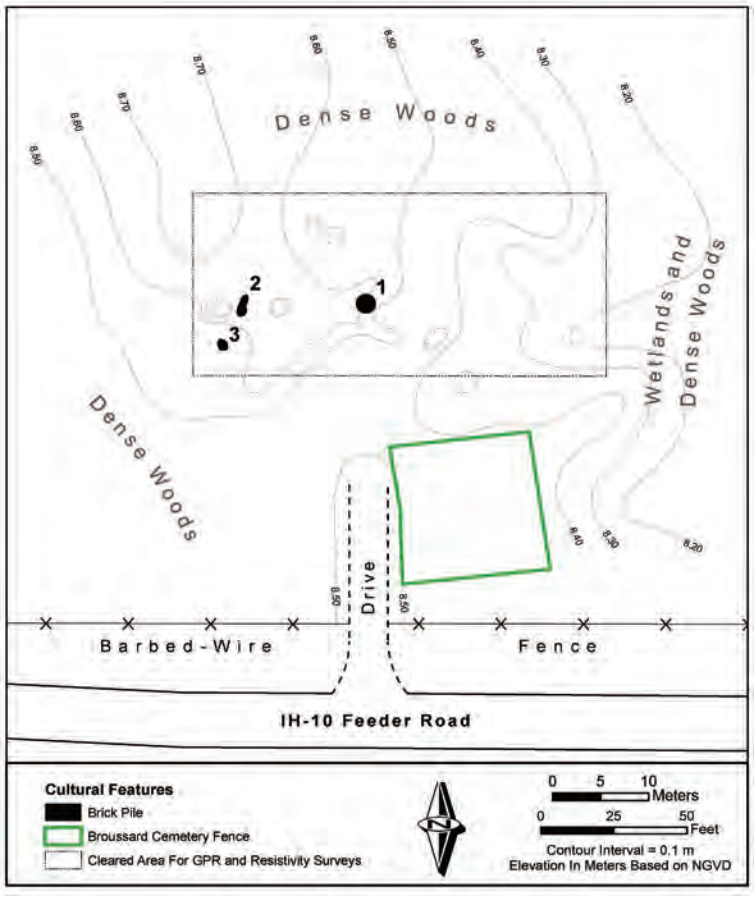


Figure 6-6. Contour map of the cleared area within the north tract, showing the locations of the three brick piles found on the surface.

most-square area that measured 110 east-west by 115 m north-south (Figure 6-7). As with the north tract, strips of flagging tape were hung from trees along each side of the area, and trees adjacent to the corner chaining pins were encircled with additional strips of flagging tape. All of this provided the clearing crew with an easily identified perimeter within which to conduct their work.

Since the majority of all subsequent archaeological work was likely to occur within this large area, it was decided to establish a standard archaeological grid for the south tract to which could be tied all shovel tests, metal detector finds, remote-sensing anomalies, and potential cultural features. Accordingly, the southwestern corner of the large area was identified as the N00E00 point. This, then, placed the northwestern corner at N115E00, the southeastern corner at N00E110, and the northeastern corner at N115E110.

Once the large area was identified, it became necessary to mark off the small 40-by-40-m area to the west where additional shovel tests were to be placed around the positive MAC shovel test identified as H-1. Thus, a line was cut through the woods due west from the N00E00 grid point for a distance of 86.55 m. From this location (recognized as N00W86.55), a line then was cut due north for 47.40 m. Chaining pins were placed along this latter line at 7.40 m (N7.40W86.55) and 47.40 m (N47.40W86.55) in order to identify the southeastern and northeastern corners of the small shovel test area, respectively. Finally, lines were cut westward from each of these two points for 40 m, and chaining pins were placed down at N7.40W126.55 and N47.40W126.55, thus marking the southwestern and northwestern corners of the small shovel test area. Once again, strips of flagging tape were tied to trees along the fours sides of the small area and trees near the corner pins were encircled with flagging tape for ease in identification.

Following identification of the sides and corners of the two areas to be cleared in the south tract,

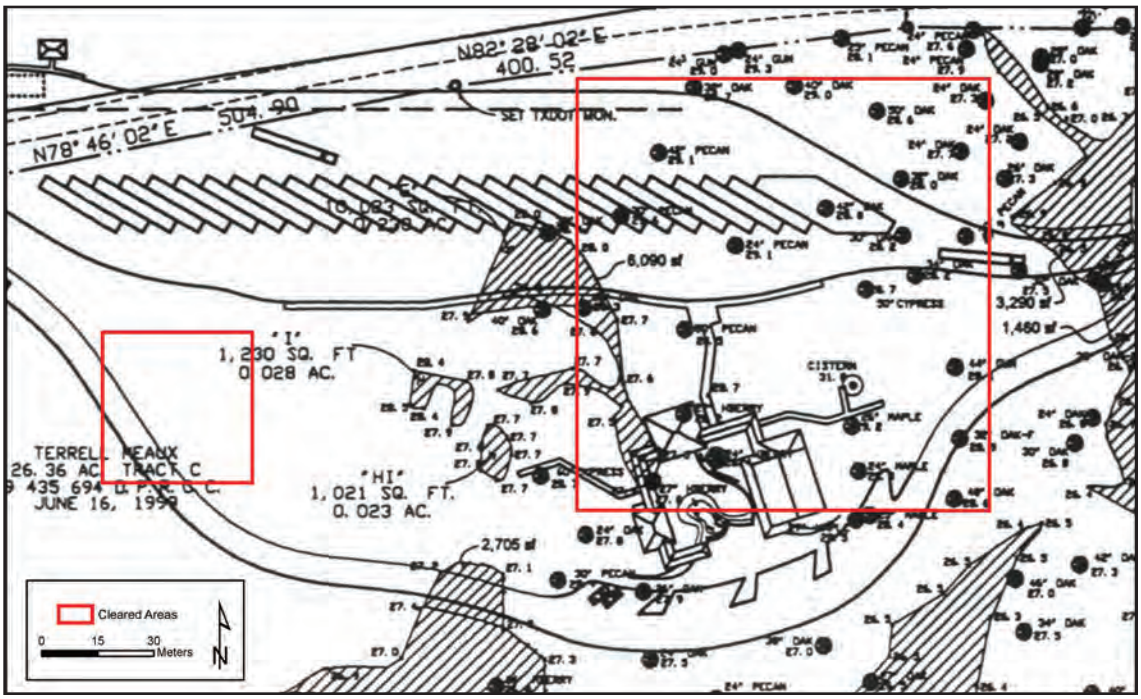


Figure 6-7. Portion of the TxDOT construction plans for the south tract, showing the two areas cleared for the current investigations. Shovel tests were conducted in both areas, while the metal detector search and the EM and magnetometer surveys took place only in the large cleared area.

personnel from Bio-Landscape and Maintenance, Inc., again removed all small trees and understory vegetation (Figures 6-8 and 6-9). As with the north tract, only machete and chainsaws were employed to cut down trees less than 4 inches in diameter. Although the original clearing plan also included the removal of those large dead trees that lay strewn across the two areas, heavy rains delayed the entire clearing process and lack of time precluded their removal. Fortunately, these dead trees did not greatly hinder the subsequent archaeological work, although there were cases where their presence required that shovel tests be offset a meter or so from their planned locations and some small sections of the tract could not be investigated by the magnetometer and EM surveys. Finally, after removal of all debris, a bush hog mower was brought to the large area to cut the tall grass that covered much of the area and obscured the ground surface.

Systematic Shovel Testing in the South Tract

Establishing the Transects

Once the two areas of the south tract had been cleared of hindering vegetation, two systematic sets of shovel tests were excavated in an effort to better define the extent of occupation related to the White house. As specified in the research design presented in the previous chapter, the current investigations called for the excavation of 77 shovel tests in the larger area and 15 shovel tests in the smaller area (see Figure 5-2). Their locations were to be along east-west transects that were to be spaced 10 m apart. Shovel tests along each transect also were to be 10 m apart, save where they fell within 10 m of one of the tests excavated by MAC personnel in 2001. In the latter instance, no test would be dug since it seemed redundant to dig so close to previous MAC tests. Lastly, shovel tests along each transect were to be offset by 5 m from those tests located on adjacent transects.

In order to establish the east-west transects in the large cleared area, the E110 line that ran north-south along the eastern edge of the area was used as a "baseline." A series of pin flags was placed down at 10-m intervals along the baseline, from N08E110 to N108E110.[1] Initially, transects were extended westward from each of these 10-m points and locations of proposed shovel tests were marked by additional plastic pin flags.[2] Depending on the specific transect, these latter shovel test locations began either at E03 or E08 and extended eastward to E103 or E108.[3] Later on, as discussed below, it was decided to add new shovel test locations to the east of the baseline beyond the cleared area. These new locations extended the majority of the transects to either E128 or E133.

Establishment of the shovel test locations in the small cleared area employed a similar strategy. A north-south baseline was set up along the W86.55 line at the eastern edge of the area and pin flags were placed down at 10-m intervals beginning at N12W86.55 and extending to N42W86.55. To avoid having to deal with fractions of a meter, and to offset tests on adjacent lines by 5 m, it was decided to extend transects westward from these points beginning either at W87 or W92. Thus, the southernmost line at N12 had shovel tests at N12W87, N12W97, N12W107, N12W117, and N12W127, while the northernmost line at N42 had tests at N42W92, N42W102, N42W112, and N42W122. Overall, Figure 6-10 shows the locations of the large and small cleared areas, the 2001 MAC tests within each area, and the 2006 CEI shovel test locations.

Results of the Shovel Tests

Once the proposed shovel test locations had been established in the large and small cleared areas,

---

1 The use of east-west transects along lines with a northing coordinate ending in the number 8 derived from the need to fit the 11 transects relatively evenly within an area that measured 115 m north-south. Thus, the southernmost transect (the N08 line) was positioned 8 m north of the southern edge of the cleared area, while the northernmost transect (the N108 line) fell 7 m south of the northern edge of the cleared area.

2 Plastic pin flags were used, as opposed to metal pin flags, since they would not affect the subsequent magnetometer survey slated for the area.

3 Again, placement of these shovel tests was guided by the need to position the tests relatively evenly within an area that measured 110 m east-west and to be able to offset those on adjacent transects by 5 m. Thus, shovel tests on the east-west transects had easting coordinates that ended in either the number 3 or the number 8.

Figure 6-8. View to the southwest within the cleared area on the south tract, following removal of small trees and understory vegetation.

Figure 6-9. View to the north-northeast within the cleared area on the south tract. The east-bound lane of IH-10 can be seen in the distance.

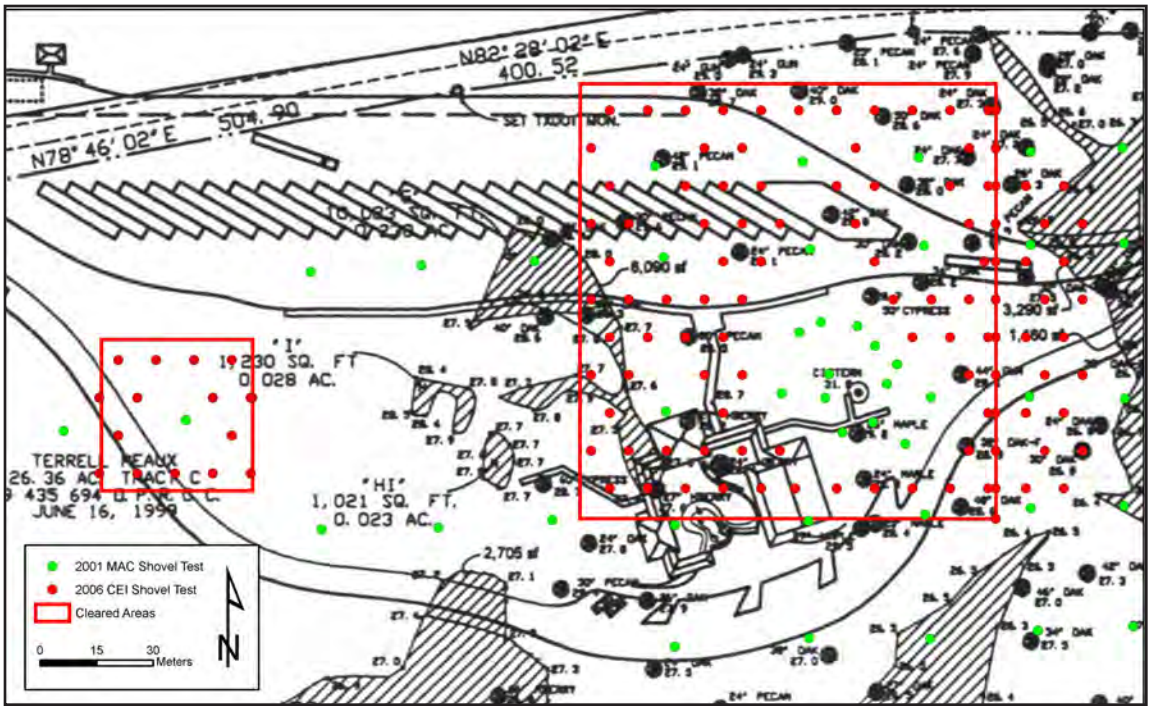


Figure 6-10. Locations of the 92 planned shovel tests excavated by CEI within the two cleared areas in the south tract. Also shown are those shovel tests excavated by MAC personnel in 2001, plus an additional set of tests excavated by CEI to the east of the large cleared area to better determine the extent of occupation (see discussion on page 53).

then the actual excavation of the tests commenced. As specified in the research design, each test was dug in 10-cm arbitrary levels and soil from each level screened through 1/4-inch wire mesh (Figure 6-11). All tests were roughly 30 cm or more in diameter and dug until sterile soil was reached or until ground water prevented further excavation. The stratigraphy of each test was recorded, along with a field summary of any artifacts recovered, while profiles of selected tests were cleaned, photographed, and drawn.

As with just about any archaeological undertaking, plans established in the office often have to be modified due to field conditions or preliminary field results. At other times, accidental errors occur and these can affect the overall execution of the desired plan. While excavation of the shovel tests in the small cleared area went according to the research design, a few deviations from the plan took place within the large cleared area, and these had both positive and negative effects. On the positive side, the shovel testing crews (which consisted of two teams of two people each) accidentally dug more shovel tests than initially required. This occurred along the E110 line, where shovel tests were excavated at each of the baseline points, although they were not required, plus at the N00E110 point in the southeast corner of the area (see Figure 6-10). This resulted in the excavation of 12 additional shovel tests.

On the negative side, recording of artifacts on the field forms for each shovel test sometimes was not accurately carried out and it was not until fieldwork had ended and the numerous bags of artifacts processed in the laboratory that it was learned that a shovel test had been positive when the field forms indicated that it was negative. Unfortunately, this mostly occurred during the excavation of those tests situated along the N08 line, thereby giving the false impression that there were no positive shovel tests south of the N18 line. This was particularly troublesome after reviewing the field data and noting that several of the shovel

Figure 6-11. Survey personnel (Randy Ferguson and Lisa Rodriguez of MAC) excavating the shovel test at N12W87 at the edge of the small cleared area on the south side of IH-10. View to the southeast.

tests at the eastern ends of most of the southernmost transects were positive, suggesting that additional tests should be dug farther to the east, beyond the eastern limit of the cleared area, in an effort to better define the extent of occupational debris. Given the data at hand at the time, no such necessity was noted along the southern limit of the cleared area, so no shovel tests were dug to the south. It was only after the laboratory information was evaluated that it was learned that the occupation area most likely extends to the south of the N08 line and that additional shovel tests should have been excavated to the south of the cleared area.

Regardless of the failure to recognize the need for shovel tests to the south of the cleared area, the need for additional tests to the east of the area was noted. Accordingly, as mentioned above, 18 new shovel tests were positioned to the east of the cleared area, with two each along the N08 through N88 transects. These were dug and recorded in the same manner as the original set of shovel tests. With the addition of these tests, the total number of shovel tests excavated in and around the large cleared area amounted to 107.

Overall, basic information on each of the shovel tests is presented in Table 6-1, while Table 6-2 provides a more detailed analysis of the artifacts recovered from the positive shovel tests.

With regard to the soils encountered in the shovel tests excavated in the two cleared areas, one test in particular (at N108E38) stood out from most of the others. While that test's soils consisted of sandy loams, as with most of the other tests, its various strata were darker in color and contained a significantly greater quantity of artifacts. Overall, its colors ranged from a very dark grayish brown (10YR 3/2) between 0 and 23 cm, to a dark brown (10YR 3/3) between 23 and 53 cm, to, finally, a brown (10YR 5/3) at 66 cm below the surface (Figure 6-12). In addition, the test was situated in an area roughly 4 m in diameter that was marked by a preponderance of yaupon holly. The significance of this is not clear; however, the data suggest that the ST had possibly penetrated a privy or an artifact-rich sheet midden.

The results of 18 shovel tests excavated to the east of the large cleared area suggested that debris from the homestead continued in that direction.

Table 6-1. Basic Data Recorded for Each of the Shovel Tests Excavated in the South Tract.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
LARGE SHOVEL TEST AREA						
N00E110	0-12	10YR4/3	Brown	Sandy Loam	None	None
	12-39	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	39-50	10YR5/3	Brown	Sandy loam	None	None
N08E08	0-20	10YR5/3	Brown	Sandy Loam	None	None
	20-50	10YR6/3	Pale Brown	Sandy Loam	None	None
N08E18	0-50	10YR4/2, 7/1	Dark Grayish Brown, Light Gray	Sandy Clay Loam	0-10: 2 Metal	None
N08E28	0-38	10YR4/2	Dark Grayish Brown	Sandy Loam	0-10: 3 Metal	None
	38-50	10YR4/2, 7/1	Dark Grayish Brown, Light Gray	Sandy Clay Loam	None	None
N08E38	0-40	None	None	Sandy Loam	0-10: 18 Metal; 10-20: 2 Metal, 2 Glass	Disturbed
	40-50	10YR4/3	Brown	Sandy Loam	None	None
N08E48	0-12	10YR3/3	Dark Brown	Sandy Loam	0-10: 1 Glass	None
	12-27	10YR2/2	Very Dark Brown	Sandy Loam	10-20: 1 Metal	None
	27-53	10YR4/3	Brown	Sandy Loam	None	None
N08E57	0-23	None	None	Sandy Loam	0-10: 1 Glass, 3 Brick; 10-20: 1 Ceramic, 5 Metal, 1 Brick	Disturbed
	23-50	10YR4/3	Brown	Sandy Loam	20-30: 2 Metal, 1 Brick; 30-40: 7 Glass, 2 Metal, 1 Snake Vertebra	None
N08E68	0-10	10YR4/4	Dark Yellowish Brown	Sandy Loam	0-10: 3 Glass	None
	10-24	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	24-50	10YR4/4	Dark Yellowish Brown	Sandy Loam	None	None

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N08E78	0-16	10YR4/3	Brown	Sandy Loam	0-10: 1 Glass; 10-20: 2 Glass,	None
	16-35	10YR2/2	Very Dark Brown	Sandy Loam	None	None
	35-50	10YR4/3	Brown	Sandy Loam	None	None
N08E88	0-19	10YR3/3	Dark Brown	Sandy Loam	None	None
	19-41	10YR2/2	Very Dark Brown	Sandy Loam	None	None
	41-52	10YR4/3	Brown	Sandy Loam	None	None
N08E98	0-14	10YR4/3	Brown	Fine Sandy Loam	None	None
	14-26	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	None	None
	26-50	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N08E108	0-10	10YR4/3	Brown	Fine Sandy Loam	None	None
	10-42	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	10-20: 1 Glass	None
	42-50	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N08E110	0-19	10YR4/3	Brown	Fine Sandy Loam	None	None
	19-36	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	None	None
	36-50	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N08E118	0-15	10YR3/1	Very Dark Gray	Humus	None	None
	15-38	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	38-50	10YR5/3	Brown	Sandy Loam	None	None
N08E128	0-33	10YR4/3	Brown	Sandy Loam	10-20: 1 Metal, 2 Glass, 1 Brick	None
	33-51	10YR5/3	Brown	Sandy Loam	None	None
N18E03	0-10	10YR5/3	Brown	Sandy Loam	None	None
	10-50	10YR6/3	Pale Brown	Sandy Loam	None	None
N18E13	0-20	10YR5/3	Brown	Sandy Loam	None	None
	20-50	10YR6/3	Pale Brown	Sandy Loam	None	None

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N18E23	0-10	10YR5/3	Brown	Sandy Loam	0-10: 1 Brick	None
	10-50	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
N18E33	0-20	10YR3/2	Very Dark Grayish Brown	Sandy Loam	10-20: 1 Brick, 1 Copper (?) Piece	None
	20-50	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
N18E43	0-20	10YR3/2	Very Dark Grayish Brown	Sandy Loam	0-10: 1 Metal; 10-20: 5 Glass, 6 Nails	None
	20-50	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
N18E53	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	10-20: 2 Glass, 3 Brick, 1 Primer Cap(?)	None
	20-50	10YR4/2	Dark Grayish Brown	Sandy Loam	20-30: 1 Glass, 1 Brick; 30-40: 1 Brick, 1 Nail	None
N18E103	0-44	10YR3/2, 4/2	Very Dark Grayish Brown; Dark Grayish Brown	Humus; Sandy Loam	None	None
	44-50	10YR3/1	Very Dark Brown	Sandy Loam	None	None
N18E110	0-30	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	30-40	10YR4/2	Dark Grayish Brown	Sandy Loam	1 Glass	None
	40-50	10YR4/2	Dark grayish Brown	Sandy Loam	None	None
N18E123	0-40	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	40-55	10YR5/3	Brown	Sandy Loam	None	None
N18E133	0-35	10YR4/3	Brown	Sandy Loam	None	None
	35-55	10YR5/3	Brown	Sandy Loam	None	None
N28E08	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-50	10YR4/3	Brown	Sandy Loam	None	None

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N28E38	0-10	10YR4/2	Dark Grayish Brown	Sandy Loam	3 Brick	Below root ball of fallen tree
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	1 Mortar, 1 Metal, 14 Brick, 1 Glass	Below root ball of fallen tree
	20-30	10YR4/2	Dark Grayish Brown	Sandy Loam	17 Brick, 1 Metal	Below root ball of fallen tree
	30-40	10YR4/2	Dark Grayish Brown	Sandy Loam	6 Brick, 2 Glass	Below root ball of fallen tree
	40-50	10YR3/1	Very Dark Brown	Sandy Loam	4 Brick, 1 Glass	Below root ball of fallen tree
N28E108	0-10	10YR3/2	Very Dark Grayish Brown	Sandy Loam	None	None
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	6 Metal, 4 Brick	None
	20-40	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	40-50	10YR3/1	Very Dark Brown	Sandy Loam	None	None
N28E110	0-50	10YR4/2	Dark Grayish Brown	Sandy Loam	0-10: 7 Metal; 10-20: 10 Metal, 1 Glass; 20-30: 2, Brick, 1 Metal (bolt?)	None
N28E118	0-12	10YR3/1	Very Dark Gray	Humus	None	None
	12-25	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	25-51	10YR5/3	Brown	Sandy Loam	None	None
N28E128	0-20	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	20-50	10YR5/3	Brown	Sandy Loam	None	None
N38E03	0-9	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	None	None
	9-50	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N38E13	0-12	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
	12-30	10YR4/3	Brown	Fine Sandy Loam	None	None
	30-50	10YR5/3	Brown	Fine Sandy Loam	None	None

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N38E33	0-12	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
	12-38	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	10-20: 1 Brick	None
	38-52	10YR4/3	Brown	Fine Sandy Loam	None	None
N38E43	0-52	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	0-10: 2 Metal	None
	52-55	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N38E103	0-14	10YR4/3	Brown	Fine Sandy Loam	0-10: 1 Ceramic, 3 Glass, 2 Brick, 2 Metal, 1 Nail	None
	14-34	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	10-20: 2 Metal	None
	34-52	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	30-40: 1 Metal, 1 Brick	None
N38E110	0-19	10YR4/3	Brown	Fine Sandy Loam	0-10: 1 Nail; 10-20: 1 Nail	None
	19-33	10YR4/2	Dark Grayish Brown	Fine Sandy Loam		None
	33-50	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	30-40: 2 Metal	None
N38E123	0-19	10YR4/3	Brown	Sandy Loam	0-10: 4 Metal; 10-20: 1 Shell, 6 Metal	None
	19-35	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	35-50	10YR5/3	Brown	Sandy Loam	None	None
N38E133	0-13	10YR4/3	Brown	Sandy Loam	2 Metal	None
	13-28	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	28-36	10YR5/3	Brown	Sandy Loam	None	None
	36-43	10YR5/3	Brown	Sandy Loam	None	Orange clay mottling
N48E08	0-50	10YR4/1, 3/1, 4/3	Dark Gray, Very Dark Brown, Brown	Wet Sandy Loam; increased clay with depth	None	In a depression; small drainage

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N48E18	0-10	10YR3/2	Very Dark Grayish Brown	Sandy Loam	1 Ceramic, 7 Metal	Soil is much more compact here. Top is mottled. Disturbed?
	10-20	10YR3/2, 4/2	Very Dark Grayish Brown; Dark Grayish Brown	Sandy Loam/Clay	5 Metal (3 Nails), 1 Brick	
	20-40	10YR3/2, 4/2	Very Dark Grayish Brown; Dark Grayish Brown	Sandy Loam/Clay	20-30: 1 Metal, 1 Shell; 30-40: 1 Metal, 1 Glass	None
N48E28	0-30	10YR3/2	Very Dark Grayish Brown	Sandy Loam	20-30: 1 Metal	None
	30-50	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
N48E38	0-35	10YR3/2	Very Dark Grayish Brown	Sandy Loam	None	None
	35-50	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
N48E88	0-30	10YR3/2	Very Dark Grayish Brown	Sandy Loam	0-10: 7 Glass; 10-20: 2 Bone, 1 Ceramic, 3 Glass; 20-30: 2 Glass, 1 Shell, 4 Metal, 2 Bone	None
	30-50	10YR4/2	Dark Grayish Brown	Sandy Loam	30-40: 2 Glass, 1 Ceramic; 40-50: 3 Glass	None
N48E98	0-40	10YR3/2	Very Dark Grayish Brown	Sandy Loam	10-20: 1 Metal; 30-40: 1 Metal	None
	40-50	10YR4/2	Dark Grayish Brown	Sandy Loam	40-50: 1 Metal	None
N48E108	0-10	10YR3/2	Very Dark Grayish Brown	Humus	1 Metal (Nail?)	None
	10-30	10YR3/1	Very Dark Brown	Sandy Loam	10-20: 1 Metal; 20-30: 2 Metal, 1 Glass	None
	30-50	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
N48E110	0-10	10YR3/2	Very Dark Grayish Brown	Humus	0-10: 1 Metal	None
	10-30	10YR3/1	Very Dark Brown	Sandy Loam	10-20: 1 Glass; 20-30: 24 Metal, 21 Ceramic	None
	30-50	10YR4/2	Dark Graish Brown	Sandy Loam	30-40: 1 Glass	None

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N48E118	0-10	10YR3/1	Very Dark Gray	Humus	2 Glass	None
	10-40	10YR4/2	Dark Grayish Brown	Sandy Loam	10-20: 2 Nails; 20-30: 9 Glass; 30-40: 1 Glass	None
	40-50	10YR5/3	Brown	Sandy Loam	None	None
N48E128	0-20	10YR4/3	Brown	Sandy Loam	0-10: 1 Ceramic	None
	20-50	10YR4/1	Dark Gray	Sandy Loam	None	None
N58E03	0-12	10YR4/3	Brown	Fine Sandy Loam	None	None
	12-52	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	10-20: 2 Brick; 20-30: 2 Brick; 30-40: 1 Ceramic	None
N58E13	0-10	10YR3/3	Dark Brown	Fine Sandy Loam	None	None
	10-45	10YR4/3	Brown	Fine Sandy Loam	10-20: 2 Brick	None
	45-50	5YR4/1	Dark Gray	Sandy Clay	None	None
N58E23	0-10	10YR4/3	Brown	Fine Sandy Loam	1 Brick	None
	10-38	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	None	None
	38-50	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	Some clay mottling
N58E33	0-8	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	None	None
	8-13	10YR4/3	Brown	Fine Sandy Loam	None	None
	13-26	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	None	None
	26-52	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N58E43	0-19	10YR4/3	Brown	Fine Sandy Loam	0-10: 1 Glass, 1 Brick	Large frags/whole brick 6 m NE-left on surface
	19-31	10YR4/2	Brown	Fine Sandy Loam	None	None
	31-54	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N58E83	0-13	10YR4/2	Brown	Fine Sandy Loam	0-10: 1 Ceramic, 1 Brick, 1 Glass, 2 Metal, 1 Bone	None
	13-44	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	10-20: 1 Ceramic, 1 Brick, 2 Metal	None
	44-50	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N58E93	0-12	10YR4/3	Brown	Fine Sandy Loam	0-10: 1 Glass (Bottle), 1 Metal	None
	12-45	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	10-20: 2 Metal, 1 Rivet, 1 Brick; 20-30: 4 Metal, 1 Glass	None
	45-53	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N58E103	0-16	10YR4/3	Brown	Fine Sandy Loam	None	None
	16-38	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	None	None
	38-50	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N58E110	0-17	10YR4/3	Brown	Fine Sandy Loam	0-10: 10 Brick, 1 Metal; 10-20: 3 Glass	None
	17-27	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	None	None
	27-50	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N58E123	0-14	10YR4/3	Brown	Sandy Loam	0-10: 1 Glass	None
	14-38	10YR3/2	Very Dark Garyish Brown	Sandy Loam	None	None
	38-50	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
N58E133	0-20	10YR4/3	Brown	Sandy Loam	0-10: 6 Metal, 1 Brick; 10-20: 1 Brick	None
	20-30	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	30-40	10YR5/3	Brown	Sandy Loam	None	None
	40-43	10YR5/3	Brown	Clay	None	Orange clay mottling

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N68E08	0-19	10YR4/3	Brown	Fine Sandy Loam	None	None
	19-45	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	None	None
	45-52	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N68E38	0-16	10YR4/3	Brown	Fine Sandy Loam	0-10: 2 Glass	None
	16-46	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	10-20: 1 Nail, 3 Metal, 23 Brick; 20-30: 1 Ceramic	None
	46-52	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N68E48	0-17	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	0-10: 3 Metal, 1 Brick, 2 Ceramic; 10-20: 1 Brick, 3 Metal, 1 Burned Bone, 4 Charred Nutshells	None
	17-48	10YR4/3	Brown	Fine Sandy Loam	None	None
	48-52	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N68E78	0-28	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	0-10: 3 Ceramic; 10-20: 2 Ceramic, 2 Glass; 20-30: 1 Ceramic; 30-40: 1 Glass	None
	28-52	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N68E107	0-15	10YR4/3	Brown	Fine Sandy Loam	None	Moist soil
	15-39	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	20-30: 1 Metal	Moist soil
	39-50	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	Moist soil
N68E110	0-12	10YR4/3	Brown	Fine Sandy Loam	0-10: 2 Ceramic	None
	12-44	10YR4/2	Dark Grayish Brown	Fine Sandy Loam	10-20: 1 Brick, 1 Glass	None
	44-52	10YR4/4	Dark Yellowish Brown	Fine Sandy Loam	None	None
N68E118	0-10	10YR3/1	Very Dark Gray	Humus	None	None
	10-33	10YR4/2	Dark Grayish brown	Sandy Loam	20-30: 1 Brick	None
	33-52	10YR5/3	Brown	Sandy Loam	30-40: 1 Brick	None

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N68E128	0-20	10YR4/3	Brown	Silty loam	None	None
	20-50	10YR4/1	Dark Gray	Gray Loamy Clay	None	Wet
N78E03	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-40	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	40-50	10YR3/1	Very Dark Brown	Sandy Loam	None	None
N78E13	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-50	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
N78E33	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-40	10YR4/2	Dark Grayish Brown	Sandy Loam	20-30: 3 Brick, 1 Metal	None
	40-50	10YR4/2, 3/1	Dark Grayish Brown, Very Dark Brown	Sandy Loam, Sandy Loam & Clay	40-50: 1 Glass	10YR4/2, 3/2 below 44 cm
N78E43	0-50	10YR4/2	Dark grayish Brown	Sandy Loam	0-10: 2 Glass; 20-30: 1 Metal; 30-40: 2 Glass	None
N78E53	0-10	10YR3/2, 4/2	Very Dark Grayish Brown; Dark Grayish Brown	Humus; Sandy Loam	1 Metal, 1 Ceramic	None
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	1 Brick, 2 Metal, 1 Glass, 1 Bone	None
	20-30	10YR4/2	Dark Grayish Brown	Sandy Loam	2 Glass, 1 Metal, 1 Bone, 1 Brick	None
	30-50	10YR4/2	Dark Grayish Brown	Sandy Loam	30-40: 3 Glass, 2 Brick, 1 Nail; 40-50: 2 Brick, 2 Metal	None
N78E73	0-10	10YR3/2, 4/2	Very Dark Grayish Brown; Dark Grayish Brown	Humus	1 (burned?) Ceramic, 1 Bone, 3 Brick, 5 Metal	None
	10-50	10YR4/2	Dark Grayish Brown	Sandy Loam	10-20: 1 Mortar, 2 Bone, 3 Brick, 1 Glass, 7 Metal; 20-30: I Metal; 40-50: 2 Charred Bone, 1 Brick	None

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N78E103	0-10	10YR3/2	Very Dark Grayish Brown	Humus	1 Glass	None
	10-50	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
N78E110	0-10	10YR3/2, 4/2	Very Dark Grayish Brown; Dark Grayish Brown	Humus/Sandy Loam	None	None
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	20-50	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
N78E123	0-15	10YR5/3	Brown	Sandy Clay Loam	0-10: 2 Glass	None
	15-30	10YR3/2	Very Dark Grayish Brown	Sandy Clay Loam	20-30: 2 Glass, 1 Brick	None
	30-50	10YR7/1, 3/2	Light Gray, Very Dark Grayish Brown	Clayey Loam	None	Mottling
N78E133	0-12	10YR3/3	Brown	Sandy Clay Loam	None	None
	12-45	10YR7/1, 4/2	Dark Grayish Brown, Light Gray	Sandy Clay Loam	None	Mottling
N88E08	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	20-50	10YR3/1	Very Dark Brown	Sandy Loam	None	None
N88E28	0-20	10YR3/2	Very Dark Grayish Brown	Humus	0-10: 1 Ceramic	None
	20-40	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	40-50	10YR3/1	Very Dark Brown	Sandy Loam	None	Nove
N88E38	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-30	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	30-50	10YR3/1	Very Dark Brown	Sandy Loam	None	None
N88E48	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-30	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	30-50	10YR3/1	Very Dark Gray	Sandy Loam	None	None

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N88E68	0-10	10YR3/2	Very Dark Grayish Brown	Sandy Loam	2 Brick	None
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	20-50	10YR3/1	Very Dark Gray	(Wet) Sandy Loam	None	None
N88E78	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	20-50	10YR3/1	Very Dark Gray	Sandy Loam	None	None
N88E98	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	2 Brick	None
	20-40	10YR3/1	Very Dark Gray	Sandy Loam	None	None
	40-50	10YR3/2, 4/2	Very Dark Grayish Brown; Dark Grayish Brown	(Wet) Sandy Loam	None	None
N88E108	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	s
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	1 Ceramic, 1 Glass	None
	20-40	10YR3/1	Very Dark Gray	Sandy Loam	None	None
	40-50	10YR3/2,4/2	Very Dark Grayish Brown; Dark Grayish Brown	Sandy Clay Loam	None	Mottled
N88E110	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	20-30	10YR3/1	Very Dark Brown	Sandy Loam	None	None
	30-40	10YR3/2,4/2	Very Dark Grayish Brown; Dark Grayish Brown	Sandy Clay Loam	None	Mottled
	40-50	10YR6/3	Pale Brown	Fine Sand	None	Powder-like Sand
N88E118	0-12	10YR3/2	Very Dark Grayish Brown	Sandy Clay Loam	0-10: 14 Metal	None
	12-45	10YR5/3, 7/1	Brown, Light Gray	Sandy Clay Loam	10-20: 1 Glass, 44 Metal; 20-30: 1 Ceramic, 2 Metal; 30-40: 1 Glass, 2 Metal	Mottling
	45-50	10YR4/3	Brown	Sandy Clay Loam	None	None

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N88E128	0-25	10YR4/2	Dark Grayish Brown	Sandy Clay Loam	None	None
	25-50	10YR4/2, 7/1	Dark Grayish Brown, Light Gray	Sandy Clay Loam	None	mottled; last 5 cm had calcium carbonate concretions
N98E03	0-10	10YR3/2	Very Dark Grayish Brown	Sandy Loam	None	None
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	30-50	10YR3/1	Very Dark Gray	Sandy Loam	None	None
N98E33	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-30	10YR4/2	Dark Grayish Brown	Sandy Loam	20-30: 1 Metal	None
	30-50	10YR3/2, 4/2	Very Dark Grayish Brown; Dark Grayish Brown	Sandy Clay Loam	30-40: 14 Metal	Mottled
N98E43	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	20-50	10YR3/1	Very Dark Gray	Sandy Clay Loam	20-30: 2 Metal	None
N98E73	0-10	10YR3/2	Very Dark Grayish Brown	Humus	3 Ceramic	None
	10-40	10YR4/2	Dark grayish brown	Sandy Loam	None	None
	40-50	10YR3/2, 4/2	Very Dark Grayish Brown; Dark Grayish Brown	(Wet) Sandy Loam	None	Mottled
N98E103	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	20-40	10YR3/1	Very Dark Brown	Sandy Loam	None	None
	40-50	10YR3/2, 4/2	Very Dark Grayish Brown; Dark Grayish Brown	(Wet) Sandy Loam	None	None
N98E110	0-10	10YR3/2	Very Dark Grayish Brown	Humus	None	None
	10-20	10YR4/2	Dark Grayish Brown	Sandy Loam	None	None
	20-40	10YR3/1	Very Dark Brown	Sandy Loam	None	None
	40-50	10YR5/3	Brown	Fine Sandy Loam	None	None

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N108E08	0-38	10YR4/2	Dark Grayish Brown	Sandy Clay Loam	None	None
	38-48	10YR4/3	Brown	Sandy Clay Loam	None	Mottled clay
N108E18	0-35	10YR4/2	Dark Grayish Brown	Sandy Clay Loam	None	Disturbed by large wheel ruts
	35-50	10YR4/3	Brown	Sandy Clay Loam	None	None
N108E28	0-32	10YR4/2	Dark Grayish Brown	Sandy Clay Loam	None	Large roots at 10-20 cm
	32-50	10YR4/3	Brown	Sandy Clay Loam	None	None
N108E38	0-10	10YR3/2	Very Dark Grayish Brown	Sandy Clay Loam	6 Ceramic, 1 Glass bottle, 1 Glass	Vegetation different
	10-23	10YR3/2	Very Dark Grayish Brown	Sandy Clay Loam	10-20: 1 Ceramic, 21 Glass, 1 Metal	None
	23-53	10YR3/3	Dark Brown	Sandy Loam	20-30: 4 Ceramic, 80 Glass, 70 Metal; 30-40: 23 Glass	None
	53-66	10YR5/3	Brown	Sandy Loam	None	None
N108E48	0-21	10YR3/2	Very Dark Grayish Brown	Sandy Loam	None	None
	21-48	10YR3/3	Dark Brown	Sandy Loam	None	None
	48-56	10YR5/5	Brown	Sandy Loam	None	None
N108E58	0-19	10YR3/2	Very Dark Grayish Brown	Sandy Loam	None	None
	19-50	10YR3/3	Dark Brown	Sandy Loam	None	None
N108E68	0-30	10YR3/2	Very Dark Grayish Brown	Sandy Loam	20-30: 1 Glass	None
	30-45	10YR3/3	Dark Brown	Sandy Loam	None	None
	45-50	10YR5/3	Brown	Sandy Loam	40-50: 1 Glass	None
N108E78	0-18	10YR2/2	Very Dark Brown	Sandy Loam	None	None
	18-49	10YR3/3	Dark Brown	Sandy Loam	None	None
	49-53	10YR5/3	Brown	Sandy Loam	None	None

(Continued)

Table 6-1. Continued.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N108E88	0-22	10YR3/3	Dark Brown	Sandy Loam	None	None
	22-45	10YR2/2	Very Dark Brown	Sandy Loam	None	None
	45-50	10YR5/3	Brown	Sandy Loam	None	None
N108E98	0-20	10YR3/3	Dark Brown	Sandy Loam	None	None
	20-41	10YR3/2	Very Dark Grayish Brown	Sandy Loam	None	None
	41-52	7.5YR4/3	Brown	Sandy Loam	None	None
N108E108	0-20	10YR4/3	Brown	Sandy Loam	0-10: 1 Metal, 1 Brick, 1 Glass; 10-20: 1 Metal, 1 Brick	None
	20-40	10YR3/3	Dark Brown	Sandy Loam	None	None
	40-53	10YR4/3	Brown	Sandy Loam	None	None
N108E110	0-16	10YR4/2	Dark Grayish Brown	Sandy Loam	0-10: 1 Glass	None
	16-38	10YR3/3	Dark Brown	Sandy Loam	None	None
	38-50	10YR4/3	Brown	Sandy Loam	None	None
SMALL SHOVEL TEST AREA						
N12W87	0-50	10YR4/3	Brown	Sandy Loam	None	None
N12W97	0-5	10YR3/2	Very Dark Grayish Brown	Sandy loam	None	None
	5-50	10YR4/3	Brown	Sandy Loam	None	None
N12W107	0-7	10YR3/2	Very Dark Grayish Brown	Sandy Loam	None	None
	7-50	10YR4/3	Brown	Sandy Loam	None	None
N12W117	0-5	10YR3/2	Very Dark Grayish Brown	Sandy Loam	None	None
	5-45	10YR4/3	Brown	Sandy Loam	None	None
	45-50	10YR5/3	Brown	Sandy Loam	None	None
N12W127	0-19	10YR5/3	Brown	Sandy Loam	None	None
	19-40	10YR3/2	Very Dark Grayish Brown	Sandy Loam	None	None
	40-50	10YR4/3	Brown	Sandy Loam	None	None

(Continued)

Table 6-1. Concluded.

Shovel Test	Depth (cmbs)	Munsell Color	Color Name	Soil Description	Artifacts	Comments
N108E88	0-22	10YR3/3	Dark Brown	Sandy Loam	None	None
	22-45	10YR2/2	Very Dark Brown	Sandy Loam	None	None
	45-50	10YR5/3	Brown	Sandy Loam	None	None
N108E98	0-20	10YR3/3	Dark Brown	Sandy Loam	None	None
	20-41	10YR3/2	Very Dark Grayish Brown	Sandy Loam	None	None
	41-52	7.5YR4/3	Brown	Sandy Loam	None	None
N108E108	0-20	10YR4/3	Brown	Sandy Loam	0-10: 1 Metal, 1 Brick, 1 Glass; 10-20: 1 Metal, 1 Brick	None
	20-40	10YR3/3	Dark Brown	Sandy Loam	None	None
	40-53	10YR4/3	Brown	Sandy Loam	None	None
N108E110	0-16	10YR4/2	Dark Grayish Brown	Sandy Loam	0-10: 1 Glass	None
	16-38	10YR3/3	Dark Brown	Sandy Loam	None	None
	38-50	10YR4/3	Brown	Sandy Loam	None	None
SMALL SHOVEL TEST AREA						
N12W87	0-50	10YR4/3	Brown	Sandy Loam	None	None
N12W97	0-5	10YR3/2	Very Dark Grayish Brown	Sandy loam	None	None
	5-50	10YR4/3	Brown	Sandy Loam	None	None
N12W107	0-7	10YR3/2	Very Dark Grayish Brown	Sandy Loam	None	None
	7-50	10YR4/3	Brown	Sandy Loam	None	None
N12W117	0-5	10YR3/2	Very Dark Grayish Brown	Sandy Loam	None	None
	5-45	10YR4/3	Brown	Sandy Loam	None	None
	45-50	10YR5/3	Brown	Sandy Loam	None	None
N12W127	0-19	10YR5/3	Brown	Sandy Loam	None	None
	19-40	10YR3/2	Very Dark Grayish Brown	Sandy Loam	None	None
	40-50	10YR4/3	Brown	Sandy Loam	None	None

Table 6-2. Material Recovered from Shovel Tests in the South Tract.

ARTIFACT	NORTH 08 LINE OF SHOVEL TESTS														
	N08 E18	N08 E28	N08 E38		N08 E48		N08 E57				N08 E68	N08 E78		N08 E108	N08 E128
	0-10 cm	0-10 cm	0-10 cm	10-20 cm	0-10 cm	10-20 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	0-10 cm	0-10 cm	10-20 cm	10-20 cm	10-20 cm
CERAMIC															
Porcelain															
Hard Paste															
Undecorated															
Cup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refined Earthenware															
Bristol (int.)/Unglazed (ext.)															
Undecorated															
Hollowware	—	—	—	—	—	—–	—	—	—	—	—	—–	—	—	—
Ironstone															
Molded															
Hollowware	—	—	—	—	—	—–	—	—	—	—	—	—–	—	—	—
Undecorated															
Hollowware	—	—	—	—	—	—–	—	—	—	—	—	—–	—	—	—
Unidentified	—	—	—	—	—	—–	—	1	—	—	—	—–	—	—	—
Unidentified decoration															
brown															
Unidentified	—	—	—	—	—	—–	—	—	—	—	—	—–	—	—	—
White Improved Earthenware															
Transfer printed															
Hollowware	—	—	—	—	—	—–	—	—	—	—	—	—–	—	—	—
Vessel	—	—	—	—	—	—–	—	—	—	—	—	—–	—	—	—
Semi-Refined Earthenware															
Yellowware															
Annular															
Mocha															
polychrome															
Hollowware	—	—	—	—	—	—–	—	—	—	—	—	—–	—	—	—
Stoneware															
Bristol Glazed															
Molded															
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undecorated															
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.															
Unidentified															
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GLASS															
Molded															
Unidentified Lipping Technique															
Unidentified															
brown															
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear blue															
Beveled rectangular	—–	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear green															
Bottle	—–	—	—	—	—	—	—–	—	—	—	—	—	—–	—	—
Lipping Tooled															
Post bottom molded															
clear blue															
Cylindrical	—–	—	—	—	—	—	—–	—	—	—	—	—	—–	—	—
Unidentified															
clear blue															
Bottle	—–	—	—	—	—	—	—–	—	—	—	—	—	—–	—	—
Unidentified Manufacturing Tech.															
Unidentified mold type															
amber															
Vessel	—–	—	—	—	—	—	—–	—	—	—	—	—	—–	—	—
brown															

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 08 LINE OF SHOVEL TESTS														
	N08 E18	N08 E28	N08 E38		N08 E48		N08 E57				N08 E68	N08 E78		N08 E108	N08 E128
	0-10 cm	0-10 cm	0-10 cm	10-20 cm	0-10 cm	10-20 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	0-10 cm	0-10 cm	10-20 cm	10-20 cm	10-20 cm
GLASS (Cont.)															
Unidentified mold type															
brown															
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear															
Lamp glass	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	2	1	—	1	—	—	—	3	—	—	1	2
clear blue															
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Window	—	—	—	—	—	—	—	—	—	7	—	—	1	—	—
clear green															
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
olive															
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
white milk															
Vessel	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—
METAL															
Cuprous															
Brass															
Cartridge Casing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rivet	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cuprous?															
Copper?															
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferrous															
Cast-Iron															
Flange	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	15	—	—	—	—	—	—	—	—	—	—	—	—
Iron															
Fumiture Decoration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	3	2	—	1	—	—	2	—	—	—	2	—	1
Unidentified															
Unidentified	2	3	—	—	—	—	—	5	—	2	—	—	—	—	—
FAUNA															
Invertebrate															
Shell															
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vertebrate															
Nonhuman															
Snake Vertebra	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FLORA															
Seeds															
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BRICK															
Unidentified	—	—	—	—	—	—	3	1	1	—	—	—	—	—	1
MORTAR															
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
STONE															
Slate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	**2**	**3**	**18**	**4**	**1**	**1**	**4**	**7**	**3**	**10**	**3**	**1**	**4**	**1**	**4**

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 18 LINE OF SHOVEL TESTS								NORTH 28 LINE OF SHOVEL TESTS								
	N18 E23	N18 E33	N18 E43		N18 E53			N18 E110	N28 E38					N28 E108	N28 E110		
	0-10 cm	10-20 cm	0-10 cm	10-20 cm	10-20 cm	20-30 cm	30-40 cm	30-40 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	40-50 cm	10-20 cm	0-10 cm	10-20 cm	20-30 cm
CERAMIC																	
Porcelain																	
Hard Paste																	
Undecorated																	
Cup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refined Earthenware																	
Bristol (int.)/Unglazed (ext.)																	
Undecorated																	
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ironstone																	
Molded																	
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undecorated																	
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified decoration																	
brown																	
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
White Improved Earthenware																	
Transfer printed																	
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Refined Earthenware																	
Yellowware																	
Annular																	
Mocha																	
polychrome																	
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stoneware																	
Bristol Glazed																	
Molded																	
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undecorated																	
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.																	
Unidentified																	
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GLASS																	
Molded																	
Unidentified Lipping Technique																	
Unidentified																	
brown																	
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear blue																	
Beveled rectangular	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear green																	
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lipping Tooled																	
Post bottom molded																	
clear blue																	
Cylindrical	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified																	
clear blue																	
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.																	
Unidentified mold type																	
amber																	
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
brown																	

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 18 LINE OF SHOVEL TESTS								NORTH 28 LINE OF SHOVEL TESTS								
	N18 E23	N18 E33	N18 E43		N18 E53			N18 E110	N28 E38					N28 E108	N28 E110		
	0-10 cm	10-20 cm	0-10 cm	10-20 cm	10-20 cm	20-30 cm	30-40 cm	30-40 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	40-50 cm	10-20 cm	0-10 cm	10-20 cm	20-30 cm
GLASS (Cont.)																	
Unidentified mold type																	
brown																	
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
clear																	
Lamp glass	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	2	—	—	—	—	1	—	1	—	—	—	—	—
Vessel	—	—	—	5	—	1	—	—	—	—	—	—	1	—	—	1	—
clear blue																	
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Window	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear green																	
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
olive																	
Vessel	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
white milk																	
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
METAL																	
Cuprous																	
Brass																	
Cartridge Casing	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Rivet	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cuprous?																	
Copper?																	
Unidentified	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferrous																	
Cast-Iron																	
Flange	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron																	
Furniture Decoration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nail	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	1	6	—	—	—	—	—	1	1	—	—	6	7	10	1
Unidentified																	
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FAUNA																	
Invertebrate																	
Shell																	
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vertebrate																	
Nonhuman																	
Snake Vertebra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FLORA																	
Seeds																	
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BRICK																	
Unidentified	1	1	—	—	3	1	1	—	3	14	17	6	4	4	—	—	2
MORTAR																	
Unidentified	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
STONE																	
Slate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	**1**	**2**	**1**	**11**	**6**	**2**	**2**	**1**	**3**	**17**	**18**	**8**	**5**	**10**	**7**	**11**	**3**

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 38 LINE OF SHOVEL TESTS											NORTH 48 LINE OF SHOVEL TESTS (Part 1)				
	N38 E33	N38 E43	N38 E103			N38 E110			N38 E123		N38 E133	N48 E18				N48 E28
	10-20 cm	0-10 cm	0-10 cm	10-20 cm	30-40 cm	0-10 cm	10-20 cm	30-40 cm	0-10 cm	10-20 cm	30-40 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	20-30 cm
CERAMIC																
Porcelain																
Hard Paste																
Undecorated																
Cup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refined Earthenware																
Bristol (int.)/Unglazed (ext.)																
Undecorated																
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ironstone																
Molded																
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undecorated																
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Unidentified decoration																
brown																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
White Improved Earthenware																
Transfer printed																
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Refined Earthenware																
Yellowware																
Annular																
Mocha																
polychrome																
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stoneware																
Bristol Glazed																
Molded																
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undecorated																
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.																
Unidentified																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GLASS																
Molded																
Unidentified Lipping Technique																
Unidentified																
brown																
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear blue																
Beveled rectangular	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear green																
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lipping Tooled																
Post bottom molded																
clear blue																
Cylindrical	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified																
clear blue																
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.																
Unidentified mold type																
amber																
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
brown																

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 38 LINE OF SHOVEL TESTS											NORTH 48 LINE OF SHOVEL TESTS (Part 1)				
	N38 E33	N38 E43	N38 E103			N38 E110			N38 E123		N38 E133	N48 E18				N48 E28
	10-20 cm	0-10 cm	0-10 cm	10-20 cm	30-40 cm	0-10 cm	10-20 cm	30-40 cm	0-10 cm	10-20 cm	30-40 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	20-30 cm
GLASS (Cont.)																
Unidentified mold type																
brown																
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Vessel	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—
clear																
Lamp glass	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—
clear blue																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Window	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear green																
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
olive																
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
white milk																
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
METAL																
Cuprous																
Brass																
Cartridge Casing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rivet	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cuprous?																
Copper?																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferrous																
Cast-Iron																
Flange	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron																
Furniture Decoration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nail	—	—	1	—	—	1	—	—	—	—	—	—	3	—	—	—
Unidentified	—	—	2	2	1	—	1	2	4	6	2	7	2	1	1	1
Unidentified																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FAUNA																
Invertebrate																
Shell																
Unidentified	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—
Vertebrate																
Nonhuman																
Snake Vertebra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FLORA																
Seeds																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BRICK																
Unidentified	1	—	2	—	1	—	—	—	—	—	—	—	1	—	—	—
MORTAR																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
STONE																
Slate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	**1**	**2**	**9**	**2**	**2**	**1**	**1**	**2**	**4**	**7**	**2**	**8**	**7**	**2**	**2**	**1**

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 48 LINE OF SHOVEL TESTS (Part 2)																			
	N48 E88					N48 E98			N48 E108			N48 E110				N48 E118				N48 E128
	0-10 cm	10-20 cm	20-30 cm	30-40 cm	40-50 cm	10-20 cm	30-40 cm	40-50 cm	0-10 cm	10-20 cm	20-30 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	0-10 cm
CERAMIC																				
Porcelain																				
Hard Paste																				
Undecorated																				
Cup	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	—	—	—	—	—
Plate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refined Earthenware																				
Bristol (int.)/Unglazed (ext.)																				
Undecorated																				
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—
Ironstone																				
Molded																				
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undecorated																				
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	15	—	—	—	—	—	1
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified decoration																				
brown																				
Unidentified	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
White Improved Earthenware																				
Transfer printed																				
Hollowware	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Refined Earthenware																				
Yellowware																				
Annular																				
Mocha																				
polychrome																				
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stoneware																				
Bristol Glazed																				
Molded																				
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undecorated																				
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.																				
Unidentified																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GLASS																				
Molded																				
Unidentified Lipping Technique																				
Unidentified																				
brown																				
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear blue																				
Beveled rectangular	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear green																				
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lipping Tooled																				
Post bottom molded																				
clear blue																				
Cylindrical	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified																				
clear blue																				
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.																				
Unidentified mold type																				
amber																				
Vessel	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
brown																				

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 48 LINE OF SHOVEL TESTS (Part 2)																			
	N48 E88					N48 E98			N48 E108			N48 E110				N48 E118				N48 E128
	0-10 cm	10-20 cm	20-30 cm	30-40 cm	40-50 cm	10-20 cm	30-40 cm	40-50 cm	0-10 cm	10-20 cm	20-30 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	0-10 cm
GLASS (Cont.)																				
Unidentified mold type																				
brown																				
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear																				
Lamp glass	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	—	—
Unidentified	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	6	3	2	—	3	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—
clear blue																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Window	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
clear green																				
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
olive																				
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
white milk																				
Vessel	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—
METAL																				
Cuprous																				
Brass																				
Cartridge Casing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rivet	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cuprous?																				
Copper?																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferrous																				
Cast-Iron																				
Flange	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Iron																				
Furniture Decoration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—
Unidentified	—	—	4	—	—	1	1	1	1	1	2	—	—	24	—	—	—	—	—	—
Unidentified																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FAUNA																				
Invertebrate																				
Shell																				
Unidentified	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vertebrate																				
Nonhuman																				
Snake Vertebra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FLORA																				
Seeds																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BRICK																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MORTAR																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
STONE																				
Slate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	**7**	**6**	**9**	**3**	**3**	**1**	**1**	**1**	**1**	**1**	**3**	**1**	**1**	**45**	**1**	**2**	**2**	**9**	**1**	**1**

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 58 LINE OF SHOVEL TESTS															
	N58 E03			N58 E13	N58 E23	N58 E43	N58 E83		N58 E93			N58 E110		N58 E123	N58 E133	
	10-20 cm	20-30 cm	30-40 cm	10-20 cm	0-10 cm	0-10 cm	0-10 cm	10-20 cm	0-10 cm	10-20 cm	20-30 cm	0-10 cm	10-20 cm	0-10 cm	0-10 cm	10-20 cm
CERAMIC																
Porcelain																
Hard Paste																
Undecorated																
Cup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refined Earthenware																
Bristol (int.)/Unglazed (ext.)																
Undecorated																
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ironstone																
Molded																
Hollowware	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Undecorated																
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
Unidentified decoration																
brown																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
White Improved Earthenware																
Transfer printed																
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Refined Earthenware																
Yellowware																
Annular																
Mocha																
polychrome																
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stoneware																
Bristol Glazed																
Molded																
Hollowware	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Undecorated																
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.																
Unidentified																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GLASS																
Molded																
Unidentified Lipping Technique																
Unidentified																
brown																
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear blue																
Beveled rectangular	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear green																
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lipping Tooled																
Post bottom molded																
clear blue																
Cylindrical	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified																
clear blue																
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.																
Unidentified mold type																
amber																
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
brown																

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 58 LINE OF SHOVEL TESTS															
	N58 E03			N58 E13	N58 E23	N58 E43	N58 E83		N58 E93			N58 E110		N58 E123	N58 E133	
	10-20 cm	20-30 cm	30-40 cm	10-20 cm	0-10 cm	0-10 cm	0-10 cm	10-20 cm	0-10 cm	10-20 cm	20-30 cm	0-10 cm	10-20 cm	0-10 cm	0-10 cm	10-20 cm
GLASS (Cont.)																
Unidentified mold type																
brown																
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear																
Lamp glass	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—
Vessel	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
clear blue																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Window	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
clear green																
Bottle	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
olive																
Vessel	—	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—
white milk																
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
METAL																
Cuprous																
Brass																
Cartridge Casing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rivet	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Cuprous?																
Copper?																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferrous																
Cast-Iron																
Flange	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron																
Furniture Decoration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	2	2	1	2	4	1	—	—	6	
Unidentified																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FAUNA																
Invertebrate																
Shell																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vertebrate																
Nonhuman																
Snake Vertebra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
FLORA																
Seeds																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BRICK																
Unidentified	2	2	—	2	1	1	1	1	—	1	—	10	—	—	1	1
MORTAR																
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
STONE																
Slate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	**2**	**2**	**1**	**2**	**1**	**2**	**6**	**4**	**2**	**4**	**5**	**11**	**3**	**1**	**7**	**1**

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 68 LINE OF SHOVEL TESTS													
	N68 E38			N68 E48		N68 E78				N68 E107	N68 E110		N68 E118	
	0-10 cm	10-20 cm	20-30 cm	0-10 cm	10-20 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	20-30 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm
CERAMIC														
Porcelain														
Hard Paste														
Undecorated														
Cup	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plate	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refined Earthenware														
Bristol (int.)/Unglazed (ext.)														
Undecorated														
Hollowware	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Ironstone														
Molded														
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undecorated														
Hollowware	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	2	1	—	—	2	—	—	—
Unidentified decoration														
brown														
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—
White Improved Earthenware														
Transfer printed														
Hollowware	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Refined Earthenware														
Yellowware														
Annular														
Mocha														
polychrome														
Hollowware	—	—	—	—	—	2	—	—	—	—	—	—	—	—
Stoneware														
Bristol Glazed														
Molded														
Hollowware	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Undecorated														
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.														
Unidentified														
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GLASS														
Molded														
Unidentified Lipping Technique														
Unidentified														
brown														
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear blue														
Beveled rectangular	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear green														
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lipping Tooled														
Post bottom molded														
clear blue														
Cylindrical	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified														
clear blue														
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.														
Unidentified mold type														
amber														
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—
brown														

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 68 LINE OF SHOVEL TESTS													
	N68 E38			N68 E48		N68 E78				N68 E107	N68 E110		N68 E118	
	0-10 cm	10-20 cm	20-30 cm	0-10 cm	10-20 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	20-30 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm
GLASS (Cont.)														
Unidentified mold type														
brown														
Bottle	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Vessel	1	—	—	—	—	—	—	—	—	—	—	—	—	—
clear														
Lamp glass	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	2	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	1	—	—	—	—	—
clear blue														
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Window	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear green														
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	1	—	—	—	—	—	—	—	—	—	—	—	—	—
olive														
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—
white milk														
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—
METAL														
Cuprous														
Brass														
Cartridge Casing	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rivet	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cuprous?														
Copper?														
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferrous														
Cast-Iron														
Flange	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron														
Furniture Decoration	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nail	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	3	—	3	3	—	—	—	—	1	—	—	—	—
Unidentified														
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FAUNA														
Invertebrate														
Shell														
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vertebrate														
Nonhuman														
Snake Vertebra	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	1	—	—	—	—	—	—	—	—	—
FLORA														
Seeds														
Unidentified	—	—	—	—	4	—	—	—	—	—	—	—	—	—
BRICK														
Unidentified	—	23	—	1	1	—	—	—	—	—	—	1	1	1
MORTAR														
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—
STONE														
Slate	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	**2**	**27**	**1**	**6**	**9**	**3**	**4**	**1**	**1**	**1**	**2**	**2**	**1**	**1**

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 78 LINE OF SHOVEL TESTS																
	N78 E33		N78 E43			N78 E53					N78 E73				N78 E103	N78 E123	
	20-30 cm	40-50 cm	0-10 cm	20-30 cm	30-40 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	40-50 cm	0-10 cm	10-20 cm	20-30 cm	40-50 cm	0-10 cm	0-10 cm	20-30 cm
CERAMIC																	
Porcelain																	
Hard Paste																	
Undecorated																	
Cup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refined Earthenware																	
Bristol (int.)/Unglazed (ext.)																	
Undecorated																	
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ironstone																	
Molded																	
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undecorated																	
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Unidentified decoration																	
brown																	
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
White Improved Earthenware																	
Transfer printed																	
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Refined Earthenware																	
Yellowware																	
Annular																	
Mocha																	
polychrome																	
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stoneware																	
Bristol Glazed																	
Molded																	
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undecorated																	
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.																	
Unidentified																	
Unidentified	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
GLASS																	
Molded																	
Unidentified Lipping Technique																	
Unidentified																	
brown																	
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear blue																	
Beveled rectangular	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
clear green																	
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lipping Tooled																	
Post bottom molded																	
clear blue																	
Cylindrical	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified																	
clear blue																	
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.																	
Unidentified mold type																	
amber																	
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
brown																	

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 78 LINE OF SHOVEL TESTS																
	N78 E33		N78 E43			N78 E53					N78 E73				N78 E103	N78 E123	
	20-30 cm	40-50 cm	0-10 cm	20-30 cm	30-40 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	40-50 cm	0-10 cm	10-20 cm	20-30 cm	40-50 cm	0-10 cm	0-10 cm	20-30 cm
GLASS (Cont.)																	
Unidentified mold type																	
brown																	
Bottle	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Vessel	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—
clear																	
Lamp glass	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	1	—	2	—	—	1	1	—	—	—	—	—	—	—	—
clear blue																	
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Window	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—
clear green																	
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1
olive																	
Vessel	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
white milk																	
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
METAL																	
Cuprous																	
Brass																	
Cartridge Casing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rivet	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cuprous?																	
Copper?																	
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferrous																	
Cast-Iron																	
Flange	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron																	
Furniture Decoration	—	—	—	—	—	—	—	—	—	—	5	—	—	—	—	—	—
Nail	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Unidentified	1	—	—	1	—	1	2	—	—	2	—	7	1	—	—	—	—
Unidentified																	
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FAUNA																	
Invertebrate																	
Shell																	
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vertebrate																	
Nonhuman																	
Snake Vertebra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	1	1	—	—	—	2	—	2	—	—	—
FLORA																	
Seeds																	
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BRICK																	
Unidentified	3	—	—	—	—	—	1	1	2	2	3	3	—	1	—	—	1
MORTAR																	
Unidentified	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
STONE																	
Slate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	**4**	**1**	**2**	**1**	**2**	**2**	**5**	**4**	**6**	**4**	**9**	**13**	**1**	**3**	**1**	**2**	**3**

(Continued)

Table 6-2. Continued.

ARTIFACT	NORTH 88 LINE OF SHOVEL TESTS								NORTH 98 LINE OF SHOVEL TESTS				NORTH 108 LINE OF SHOVEL TESTS							
	N88 E28	N88 E68	N88 E98	N88 E108	N88 E118				N98 E33		N98 E43	N98 E73	N108 E38				N108 E68	N108 E108		N108 E110
	0-10 cm	0-10 cm	10-20 cm	10-20 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	20-30 cm	30-40 cm	20-30 cm	0-10 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	20-30 cm	0-10 cm	10-20 cm	0-10 cm
CERAMIC																				
Porcelain																				
Hard Paste																				
Undecorated																				
Cup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—
Refined Earthenware																				
Bristol (int.)/Unglazed (ext.)																				
Undecorated																				
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ironstone																				
Molded																				
Hollowware	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undecorated																				
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	1	—	—	—	—	—	4	—	3	—	—	—	—	—
Unidentified decoration																				
brown																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
White Improved Earthenware																				
Transfer printed																				
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Semi-Refined Earthenware																				
Yellowware																				
Annular																				
Mocha																				
polychrome																				
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stoneware																				
Bristol Glazed																				
Molded																				
Hollowware	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undecorated																				
Vessel	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.																				
Unidentified																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GLASS																				
Molded																				
Unidentified Lipping Technique																				
Unidentified																				
brown																				
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
clear blue																				
Beveled rectangular	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
clear green																				
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Lipping Tooled																				
Post bottom molded																				
clear blue																				
Cylindrical	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Unidentified																				
clear blue																				
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—
Unidentified Manufacturing Tech.																				
Unidentified mold type																				
amber																				
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
brown																				

(Continued)

Table 6-2. Concluded.

ARTIFACT	NORTH 88 LINE OF SHOVEL TESTS								NORTH 98 LINE OF SHOVEL TESTS				NORTH 108 LINE OF SHOVEL TESTS							
	N88 E28	N88 E68	N88 E98	N88 E108	N88 E118				N98 E33		N98 E43	N98 E73	N108 E38				N108 E68	N108 E108		N108 E110
	0-10 cm	0-10 cm	10-20 cm	10-20 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	20-30 cm	30-40 cm	20-30 cm	0-10 cm	0-10 cm	10-20 cm	20-30 cm	30-40 cm	20-30 cm	0-10 cm	10-20 cm	0-10 cm
GLASS (Cont.)																				
Unidentified mold type																				
brown																				
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—		—	—	—	—	—	—	—	—	—	—	—	2	2	—	—	—	—
clear																				
Lamp glass	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	—	—	—	—
Vessel	—	—	—	1	—	—	—	—	—	—	—	—	1	1	44	—	—	—	—	—
clear blue																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	—	1	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12	—	—	—	—	—
Window	—	—	—	—	—	1	—	—	—	—	—	—	—	5	13	—	—	—	—	1
clear green																				
Bottle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	9	6	5	—	—	—	—
olive																				
Vessel	—	—	—	—	—	—	—	1	—	—	—	—	—	—	2	2	1	—	—	—
white milk																				
Vessel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
METAL																				
Cuprous																				
Brass																				
Cartridge Casing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rivet	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cuprous?																				
Copper?																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferrous																				
Cast-Iron																				
Flange	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron																				
Furniture Decoration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	14	44	2	2	1	14	2	—	—	1	70	—	—	1	1	—
Unidentified																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FAUNA																				
Invertebrate																				
Shell																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vertebrate																				
Nonhuman																				
Snake Vertebra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FLORA																				
Seeds																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BRICK																				
Unidentified	—	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—
MORTAR																				
Unidentified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
STONE																				
Slate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	**1**	**2**	**2**	**2**	**14**	**45**	**3**	**3**	**1**	**14**	**2**	**3**	**8**	**22**	**154**	**23**	**1**	**3**	**2**	**1**

Figure 6-12. Plan view of the upper portion of ST N108E38, showing a complete bottle exposed in the excavation. This ST was thought to have penetrated either a privy or a rich sheet midden.

Cultural material, including metal, glass, brick, shell, and ceramics, was encountered in ten of the shovel tests placed down in that area. Negative shovel tests in that area generally were situated adjacent to lower terrain, indicating that use of the area did not extend into this low, relatively wetter location.

As can be seen in Table 6-2, 810 items were recovered from the 64 positive tests within the large cleared area. As to be expected, the greatest quantity of any one item consisted of 306 pieces of unidentified iron fragments (many of which are probably badly corroded nails), while the second greatest item was represented by 142 pieces of brick. Generally, these items were scattered across most of the area, although only one brick fragment came from the shovel tests along the N48 line, a line that conceivably should have produced more brick. The same distribution pattern can be seen for most of the other items collected, whether they were ceramic, glass, or metal. They generally were scattered across most of the area.

Unlike the relatively scattered nature of the various artifact categories, there were some fairly obvious discrepancies in the number of items recovered from the 64 positive tests. As can be seen in Table 6-2, most shovel tests yielded less than 20 total items. However, 10 tests (N08E38, N08E57, N28E38, N28E110, N48E88, N48E110, N68E38, N78E53, N78E73, and N88E118) yielded between 20 and 50 items, while one test (N108E38) produced over 207 items. As will be seen later, almost all of these more productive tests fall in areas around the former house location or within anomalies identified by the remote-sensing research.

As noted, the test at N108E38 was perhaps the most unique of all. In fact, the field notes for that test specifically suggest that something out of the ordinary was encountered, and that a possible privy, trash pit, or rich sheet midden had been hit. Such a possibility is supported both by the large number of recovered items and the fact that 126 of those items were pieces of glass (mostly from windows or bottles), a very common class of artifacts usually

associated with privies or trash pits. In fact, one of the glass items from the 0-to-10-cm level (see Figure 6-12) was a whole, cylindrical, clear blue bottle that had been produced in a post-bottom mold. It has a lipping-tooled neck and is embossed with the letters "J. WALKER'S/V.B." (Figures 6-13 and 6-14). According to Fike (1987:185, citing Ring 1980) Joseph Walker first patented his "California Vegetable Renovating Vinegar Bitters" in 1863 and by 1866 was producing several vinegar and ginger bitters out of his shop in Stockton, California. It was described in an advertisement as a "…strictly medicinal preparation, manufactured from the Native Roots and Herbs of California, gathered when the juices are richest in their healing properties" (Fike 1987:185). About 1870, Walker and his partner, Richard H. McDonald, moved their company to New York City. However, Walker soon died and McDonald moved the firm back to San Francisco, California, in 1879 (Fike 1987:185). The company continued to produce bitters until about 1890.

Figure 6-13. "J. Walker's" bitters bottle found in the 0-to-10-cm level of Shovel Test N108E38.

Figure 6-14. Base of "J. Walker's" bitters bottle. Note the initials "V.B." on rocker indicating vinegar bitters.

Other interesting artifacts recovered during the shovel testing included three sherds of white improved earthenware with red transfer-printed designs from STs N38E103, N48E88, and N68E48 (Figure 6-15), and two sherds of semi-refined yellowware with an annular, polychrome, banded design from ST N68E78 (Figure 6-16). The red transfer-printed sherds generally date between 1828 and 1850, while the semi-refined annular specimens generally date between 1840 and 1900 (Abernathy n.d.; Liebowitz 1985:10; Lofstrom 1976:11; Majewski and O'Brien 1987:119, 142, 145).

Perhaps the most obvious fact resulting from the shovel tests is the complete lack of positive tests within the small cleared area. Apparently, the lone piece of whiteware recovered by the MAC survey in ST H-1 was just that, an isolated piece of whiteware that has nothing to do with any outbuilding, structure, or activity area related to the White occupation. For all practical purposes, that area can be eliminated from any future work or concern.

In addition to the information provided above, detailed maps of the shovel tests in the large cleared

area are presented in Figures 6-17 and 6-18. The first figure shows only the CEI tests excavated in 2006, while the second figure shows both the CEI tests and the 2001 MAC tests. As seen, these tests are overlain on a contour map of the area. The data for this map came from elevations recorded with a total station for each of the shovel tests, all of the metal detector "hits" (to be described below), and a series of general field shots taken to fill in gaps in the map. All told, approximately 825 elevation readings were used to create the map. In addition to the well-pronounced drainage running along the western side of the area, which apparently marks the western boundary of most of the occupational debris related to the White house, the map also shows that the terrain to the east and south of the cistern/house location becomes lower and less likely to contain occupational evidence. It also is interesting to note that the high ground upon which the house once stood trends from the south-southeast to the north-northwest. As will be seen later, the house itself is aligned in almost the same manner, basically mirroring the lay of the land. Also intriguing is the presence of a narrow raised area extending to the southeast from the southeast corner of the cleared area. This may mark the remains of the old path or driveway leading to the house from the main east-west road that once was located about 0.4 km to the south (see Figures 6-17 and 6-18).

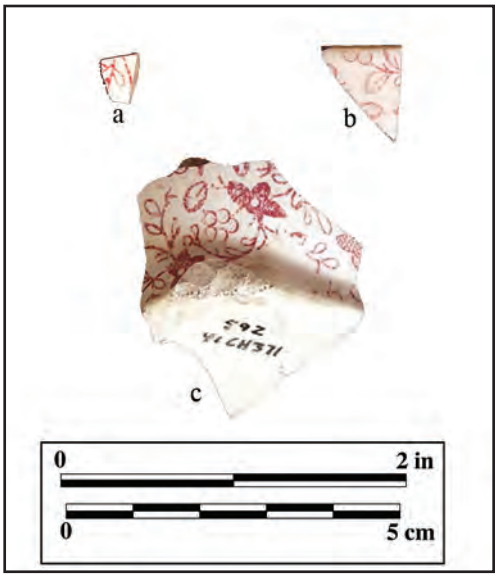


Figure 6-15. Sherds of white improved earthenware with red transfer-printed designs. a from ST N38E103, b from ST N48E88, and c from ST N68E48.

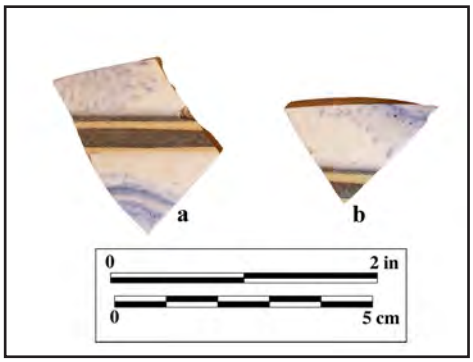


Figure 6-16. Sherds of semi-refined yellowware with an annular, polychrome, banded design from ST N68E78.

The shovel test data also would seem to confirm the notion that most of the occupational remains associated with the White house are situated atop the low ridge running roughly south-southeast to north-northwest through the center of the cleared area. No positive shovel tests were present west of the small drainage, and none fell within the low area to the east. Although the lack of additional shovel tests to the south was lamented above, it is likely that few would have been present in that relatively low area and they most likely would not have extended the occupation any great distance in that direction. In fact, five negative STs were recorded by the 2001 MAC survey along an east-west line roughly equivalent to CEI's N00 line (see Figure 6-18), further confirming the general lack of cultural material in that area.

Metal Detector Search in South Tract

The next phase of fieldwork involved a metal detector search of the large cleared area as a prelude to the magnetometer survey. As noted earlier, the main aim of this search was to locate and remove large metal items that had the potential of interfering with the magnetometer. Smaller items, such as nails, were to be ignored and left in place, as they might provide the magnetometer with information on the distribution of building remains.

Two crews of two people each, using two separate metal detectors, conducted the metal

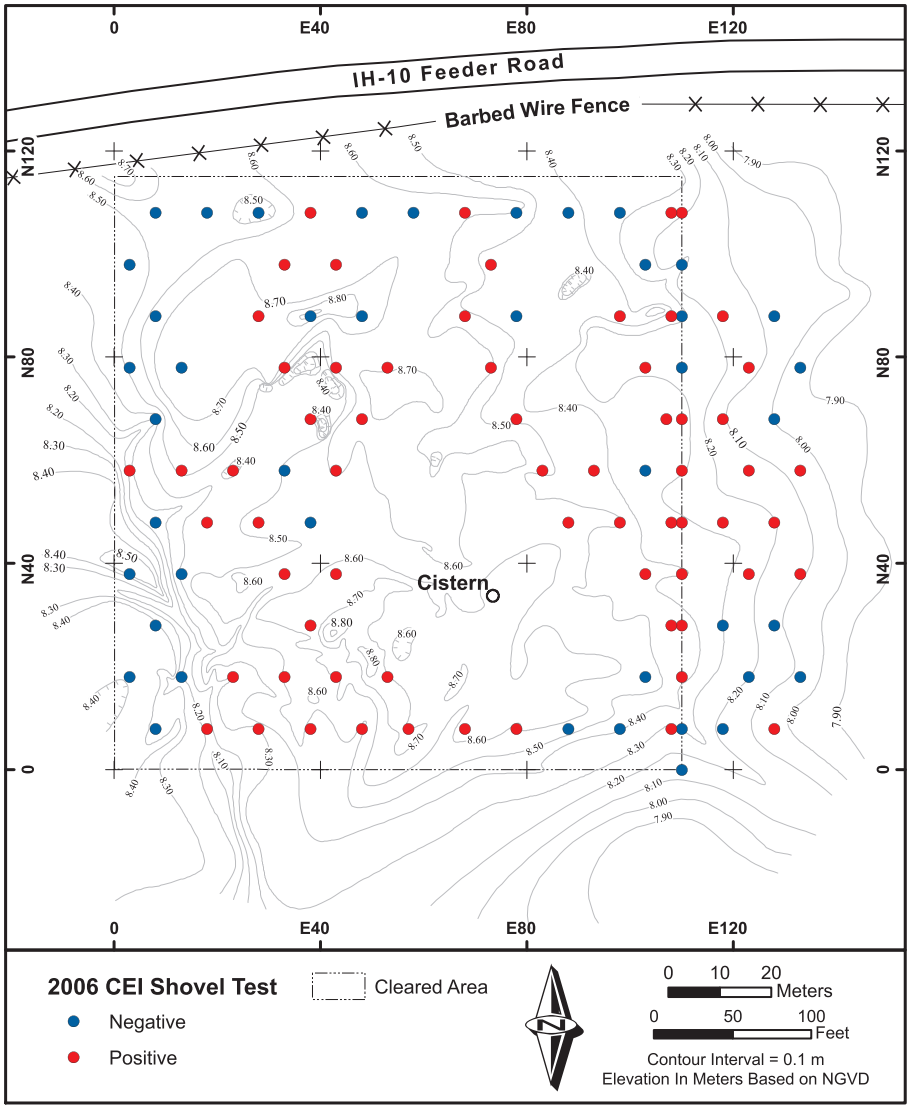


Figure 6-17. Contour map of the large cleared area in the south tract, showing the locations of the CEI shovel tests excavated during the current project. Note the raised area leading off to the southeast. This may mark the location of the path or drive that once led to the house site.

detector search. One crew used a Fisher M-Scope, Model 1225–X detector, while the other crew employed a Micronta Discovery 2. To facilitate the search, the area was divided into 10-m-wide east-west swaths, with the pin flags along the shovel test transects used to mark the north and south boundaries for each swath. Thus, the northernmost swath was situated between the N98 and N108 lines, while the southernmost occurred between the N08 and N18 lines. Initially, a short period of time was employed to allow each crew to become familiar with the types of metal "hits" picked up by the detectors and to adjust each instrument to the desired setting so they would not react to small metal items. Crews worked either from east to west or west to east within each swath, gently swinging the metal detector in shallow arcs as they proceeded (Figure 6-19). When a metal detector recorded a hit, then a pin flag (colored differently from the pin flags used to mark the shovel test locations) was placed in the ground at that point and a "Metal Detector" (MD) number was assigned to that flag. Overall, 495 hits were identified and their locations recorded with the total station. Figure 6-20 illustrates the distribution

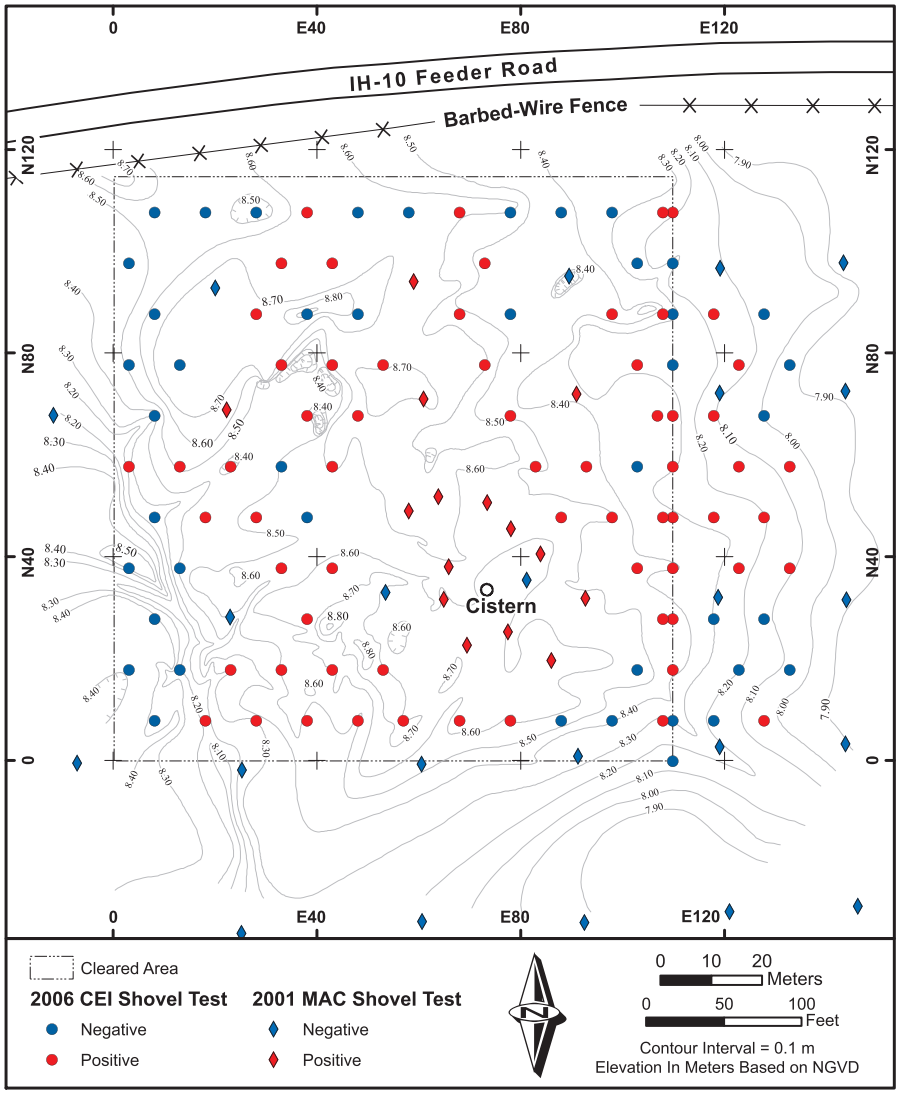


Figure 6-18. Detail contour map of the large cleared area in the south tract, showing both the current CEI shovel tests and those shovel tests excavated by MAC personnel in 2001.

of these hits on the contour map of the area.

As revealed in Figure 6-20, the distribution of the metal detector hits is extremely interesting. Although items were found across virtually the entire cleared area, at least two obvious concentrations were noted during the fieldwork and both can be seen clearly on the distribution figure. One occurs to the west-southwest of the cistern, centered roughly at grid point N20E35. This is on a slightly raised area just east of the small drainage that attains a maximum elevation of 8.90 m NGVD. The other is located almost due west of the cistern and northwest of the first concentration at about N35E20. It also is located immediately east of the small drainage and appears to coincide with a slightly raised area that has a maximum elevation of 8.60 m NGVD. It is likely that these two areas represent outbuildings (barn, shed, etc.) or special activity areas related to the White occupation. As will be seen in the following chapter, the remote-sensing data also identified these two areas as the loci of potential outbuildings.

Two other less obvious clusters of MD hits can be seen on Figure 6-20. One is situated just to the southeast of the cistern at about N25E85, while the other is located north-northeast of the

Figure 6-19. Crew personnel (Robert Baker of CEI and Kelly Schexnayder of MAC) using one of two metal detectors in the large cleared area. Slightly fewer than 500 metal detector "hits" were recorded within this area.

cistern at about N65E70. Neither is particularly well defined, nor is each associated with a slightly higher area. Nevertheless, they may represent some type of outbuilding or activity area. The remote-sensing data, discussed in the following chapter, did not pinpoint any anomaly in the area of the first cluster. Those data did, however, identify the second of these two areas as possibly part of the main house. This is unlikely, given the known size of the building (to be reviewed later), but it is possible that an outbuilding once was present in the area.

Once the search of the entire area was completed and each hit recorded with the total station, an attempt then was made to recover those items responsible for the numerous hits. A shallow hole was dug at the location of each hit, expanded slightly as needed, until the metal item was discovered. On several occasions more than one piece of metal was found to be the cause of the hit. At other times it was impossible to identify the item responsible for the hit, as it had been encapsulated within the roots of a tree, thus making it impossible to retrieve the item without spending a tremendous amount of time and effort cutting away the roots. Since TxDOT did not want large trees disturbed, this latter course of action was not followed. Often, during the course of digging for the metal item, other artifacts were unearthed, such as glass fragments, pieces of brick, or ceramic sherds. These also were removed and given the same MD number as the metal item. Appendices A through E, located on the CD within the pocket on the back cover of the report, list all MD hits for which artifacts were recovered.

A glance at the MD tables shows that most of the metal items were related to farming activities of one type or another, while a large number resulted from pieces of cast-iron stoves. At least two types of stoves appeared to be included: kitchen stoves for cooking and pot-bellied stoves for heating. Included

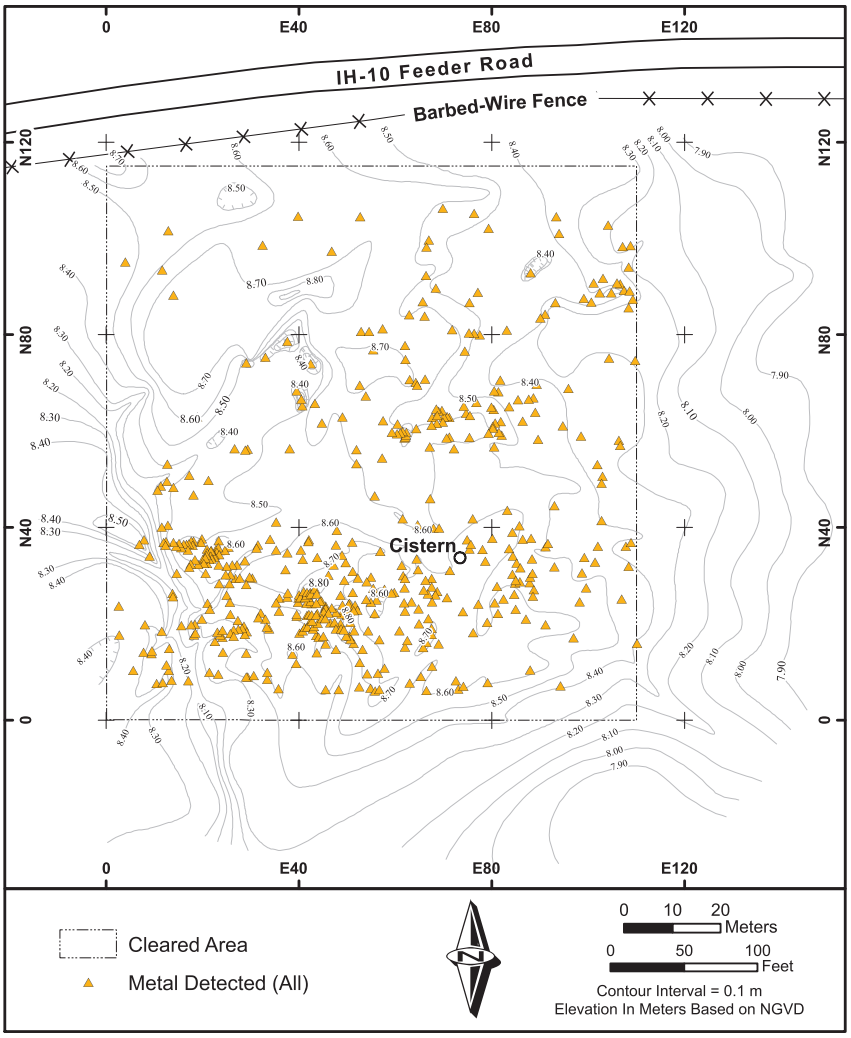


Figure 6-20. Distribution of all metal detector "hits" within the large cleared area in the south tract. Note particularly the areas of concentrated hits to the west and southwest of the cistern.

among the stove pieces was a door containing the inscription "PRAIRE CITY/BONNET & NANCE/ QUINCY, ILL." (Figure 6-21). The Bonnet & Nance Stove Company was established in 1863, with J. J. Bonnet as President, R. W. Nance as Vice-President, and L. A. Bonnet as Secretary. The main office was located in Chicago Heights, Illinois. Information regarding the company was obtained from its 1905 *Forty-Second Annual Catalogue* that now is housed at the Chicago Public Library. Unfortunately, the door found during the metal detector search was from a stove not included in the catalogue. That catalogue does, however, include a wide range of stoves and ranges, predominantly the Panama model (Figure 6-22), and it is likely that the stove from the project area was similar.

Other items of note were several wood-working and farming tools, such as an auger bit and an ax head; domestic items, such as sad (flat) irons, a brass clock mechanism, an andiron, and a key; farming implements, such as large drive chains, harrow teeth, a grub hoe, horse shoes, harness rings and buckles, and various unidentified gears, stands, and axles related to a myriad of farm equipment (Figures 6-23 through 6-24, see Appendices A through E).

As noted, items other than metal also were recovered during the metal detector search. These included pieces of porcelain with repoussé and

Figure 6-21.

Stove door from MD 55. Note the lettering: "PRAIRIE CITY/BONNET & NANCE/ QUINCY, ILL."

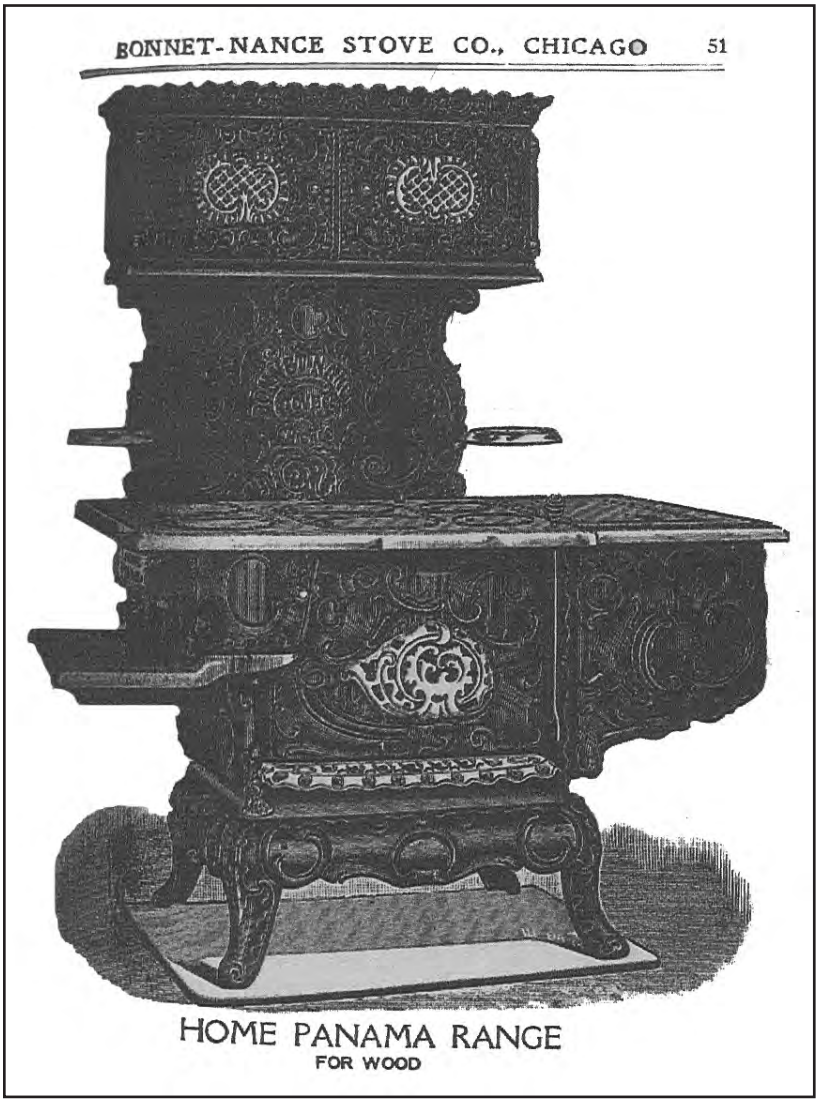


Figure 6-22.

Example of a "Home Panama Range" pictured in the 1905 Bonnet & Nance catalogue. Note "BONNET & NANCE" imprinted on the center section of stove. (Courtesy, Chicago Public Library and Librarian, Sarah Welshman.)

Figure 6-23

These clock works were found within MD 293 at the western edge of the large cleared area south of IH-10.

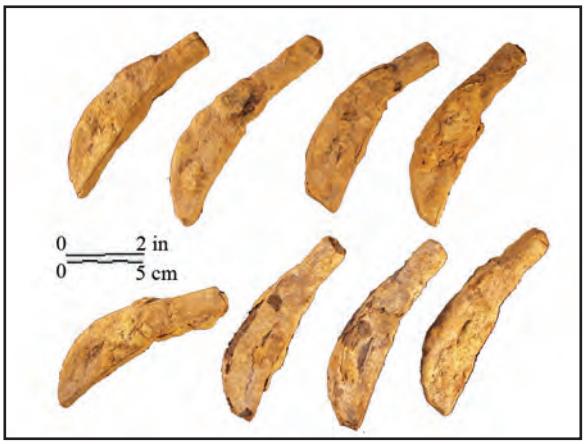


Figure 6-24. Harrow teeth from MD 341.

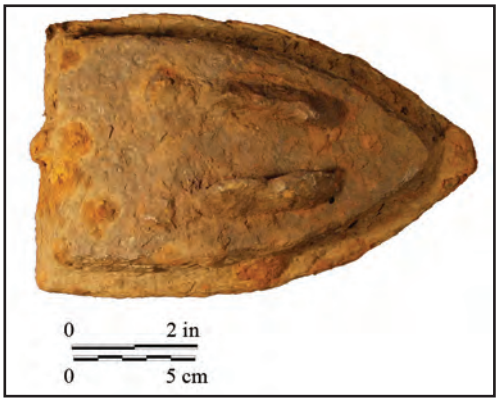


Figure 6-25.

This sad, or flat, iron was collected from MD 64.

decalcomania decorations (Figures 6-26, a-b), a sherd of ivory-tinted whiteware with a transfer-printed design (see Figure 6-26, c), a sherd of semi-refined yellowware with an annular, brown mocha design (Figure 6-26, d), and a whole bottle from the Marschner Bottling Works of Galveston, Texas (Figure 6-27).

The C. F. Marschner Building was erected in 1905-'06 (Figure 6-28). Located in Galveston, Texas, the building housed the Texas Bottling Works and the family of C. F. and Marie Marschner. Shortly after completion of the building, C. F. Marschner died and Marie inherited the bottling works and operated the business with the cooperation of her sons. The company was the first in Galveston to bottle distilled water. The Texas Bottling Works remained in this location until 1929 when Triple XXX Bottling moved there. Otto Marschner became the general manager of Triple XXX in the 1930s. The plant was used for bottling soft drinks until the 1960s when it was converted to office and storage space. It was restored in 1990 to house a car museum, but is now empty and for sale.

In an attempt to provide slightly more clarity to the distribution of the numerous items recovered during the metal detector search, four additional figures were prepared showing the locations of those metal items related to domestic activities (stove parts, clock mechanism, sad irons, etc.) (Figure 6-29), structural elements (nails, door knobs, hinges, etc.) (Figure 6-30), farming (plow fragments, drive chains, farm machinery, harrow teeth, harness rings, tools, etc.) (Figure 6-31), and fencing (pieces of barbed wire) (Figure 6-32).

Interestingly, domestic items seem to occur in four general groups: (1) a somewhat dispersed group to the east of the cistern/house location, (2) a minor group immediately west and southwest of the cistern/house in the location of one of the potential outbuildings, (3) a similar group even farther to the west adjacent to the low drainage in the location of the other possible outbuilding, and (4) to the north of the house in an area that, as will be seen, would appear to have been just beyond the kitchen. This overall pattern helps bolster the notion that the two possible outbuildings likely once were

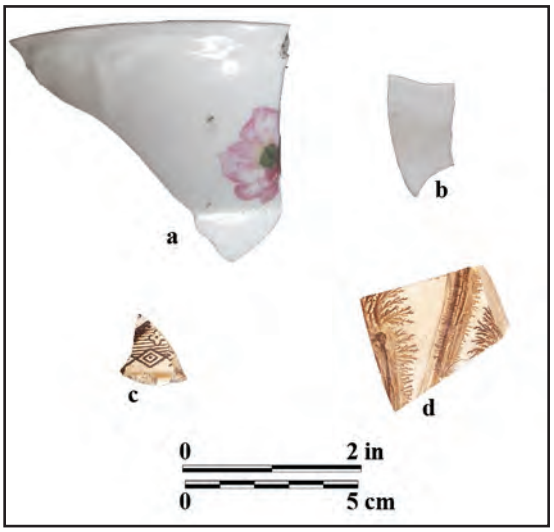


Figure 6-26. Non-metallic artifacts recovered during the metal detector search. (a) Porcelain decalcomania sherd from MD 159; (b) Repoussé porcelain from MD 63; (c) Ivory-tinted whiteware with transfer-printed design from MD 174; (d) Semi-refined yellowware with annular brown mocha design from MD 194

Figure 6-27. (Left) Marschner bottle from MD 187, produced between 1906 and 1929. The bottle most likely contained distilled water. (Right) The large "M" on the Marschner bottle base indicates that bottles used by Texas Bottling Works were obtained from an outside source.

Figure 6-28. The C. F. Marschner Building was originally a bottle works, with the family-run business located on the first floor and living space on the second. It was recorded as a Texas Historical landmark in 1996. (After Island of Galveston 2005.)

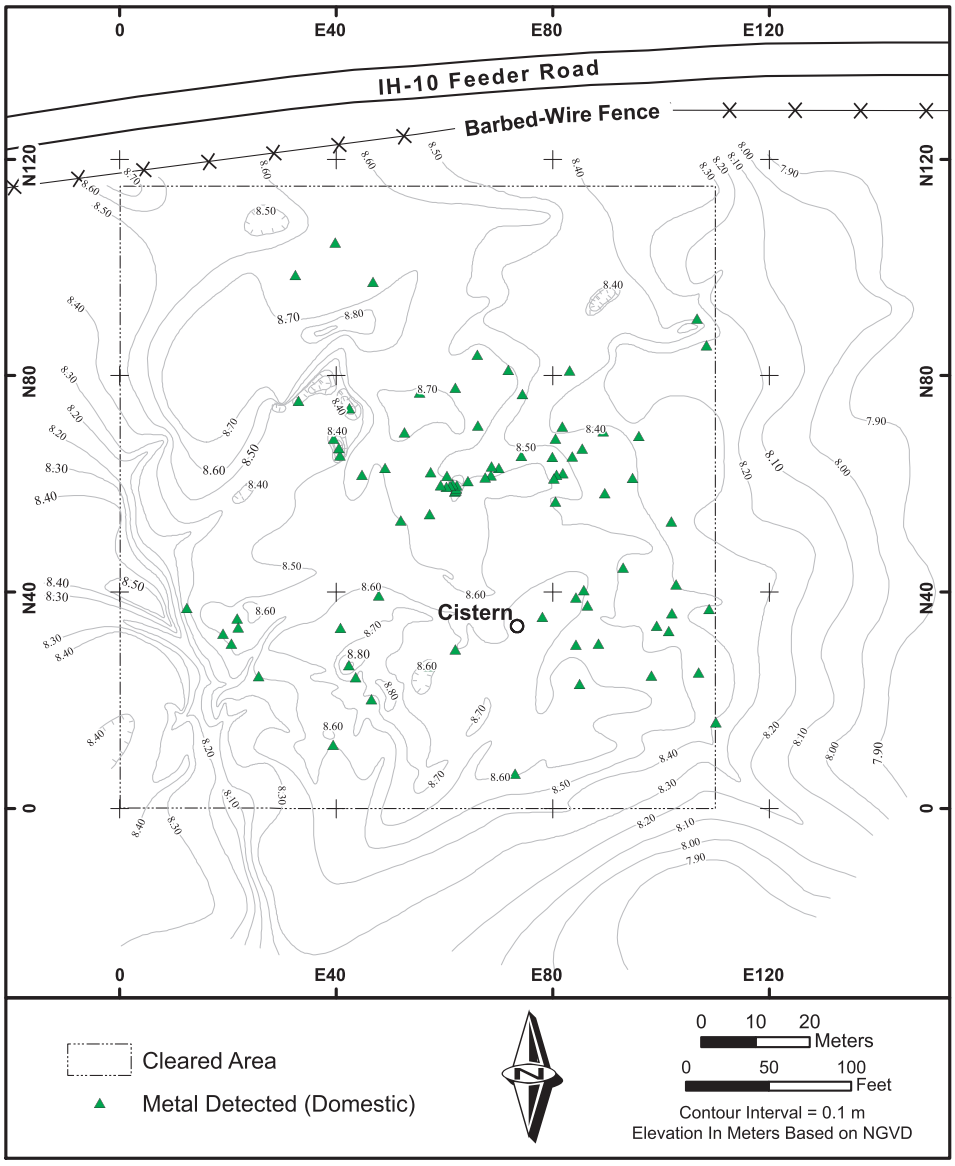


Figure 6-29. Distribution of metal items related to domestic activities within the large cleared area on the south tract.

real structures, plus it suggests that a good bit of domestic material simply was thrown out the back door of the kitchen to the north of the house.

Fewer structural items were recovered by the metal detector search (see Figure 6-30), and most appear to be somewhat scattered. However, at least one small cluster can be related to the potential outbuilding situated to the southwest of the cistern/house. Obviously, this is additional support for the presence of some type of building in that area.

As noted, farm-related items were by far the most numerous of all metal pieces recovered during the metal detector search (see Figure 6-31). Although somewhat scattered within the northern half of the search area, a significant number of items occurred to the west and southwest of the cistern/house in the general areas of the two potential outbuildings. Without going into a detailed analysis of the remains at this time, it can be suggested that these two buildings may have included a tool shed

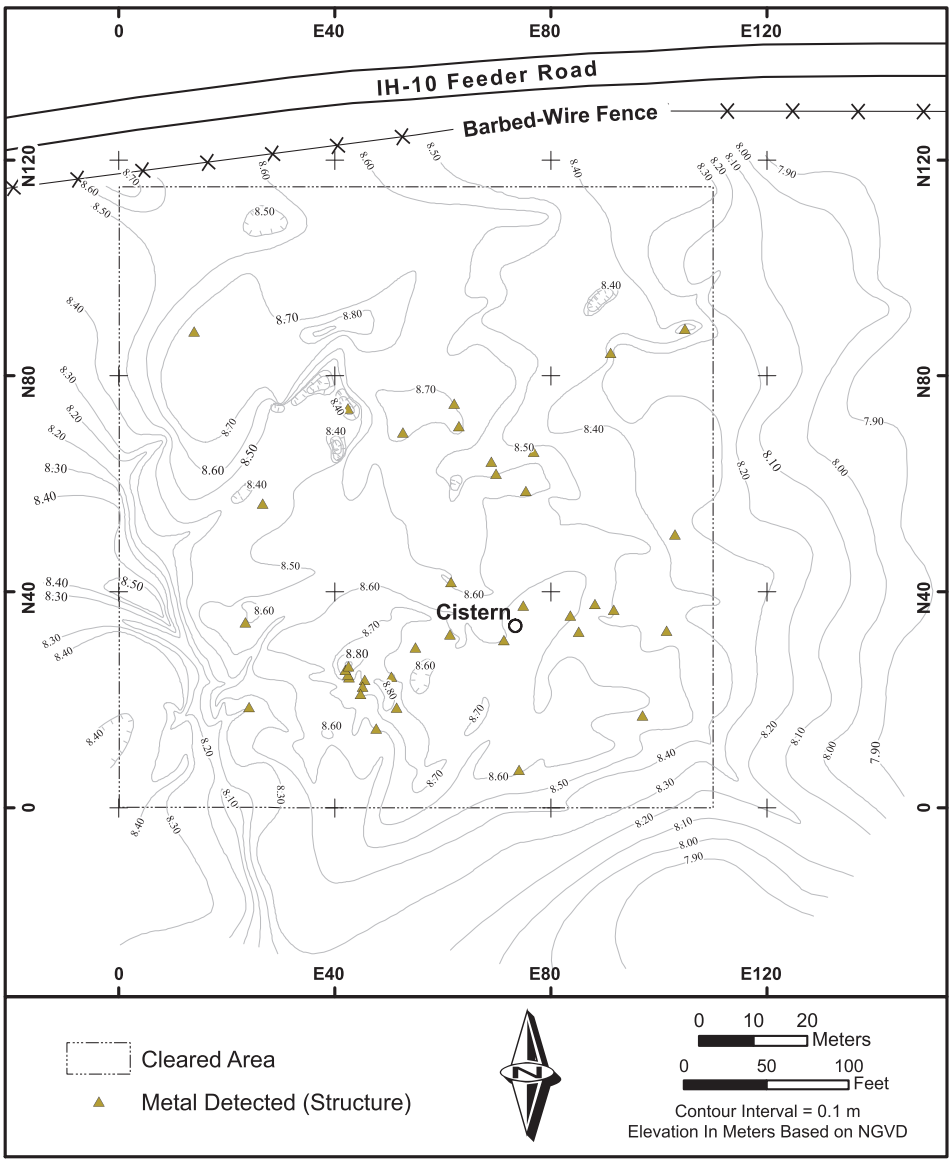


Figure 6-30. Distribution of metal items related to structural elements within the large cleared area on the south tract.

and a barn or stable. It also is likely that surplus or antiquated farming equipment was discarded in this area, resulting in the large number of items found around the two probable buildings. Of the latter category, perhaps the most striking was the discovery of a row of 29 harrow teeth, still lined up and in proper sequence despite the fact that the wooden shaft into which the teeth once fit had completely rotted away.

The final distribution map shows those MD hits where pieces of barbed-wire fencing were found (see Figure 6-32). Clearly, a barbed-wire fence (or fences) once extended across the northern part of the large cleared area, probably in an east-west line. Such fencing most likely marked the northern edge of the house compound during the latter years of occupation. As will be seen later, at least one fence post with several embedded cut nails was found near ST N108E38 during the second phase of fieldwork (see Chapter 9). This would appear to be along the same general east-west fence line (or lines) indicated by the pieces of barbed wire.

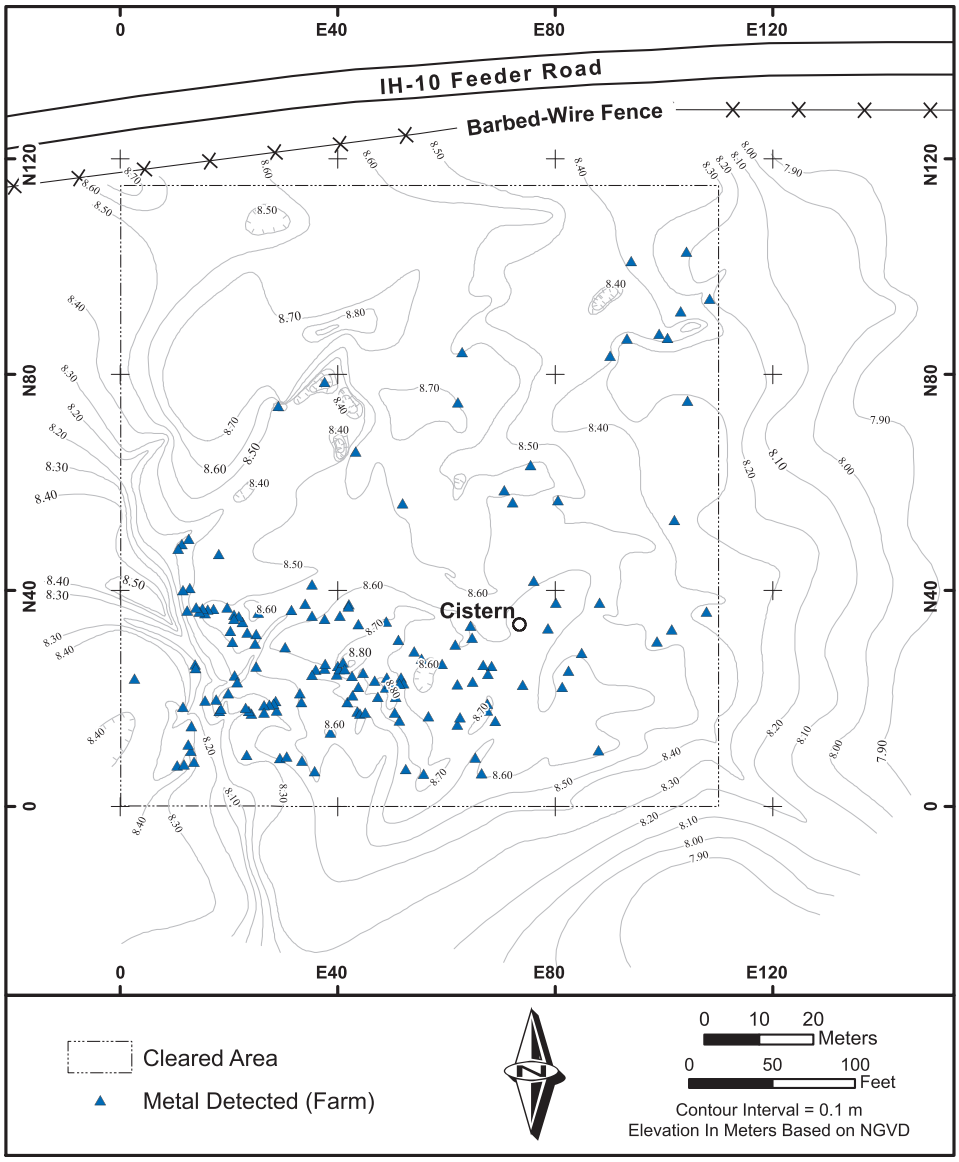


Figure 6-31. Distribution of metal items related to farming activities within the large cleared area on the south tract.

Summary of Initial Field Investigations

Although the initial field investigations in the north tract located three brick piles believed to have been discarded following construction of one or more of the tombs in the Broussard Cemetery, none is considered particularly significant and no further work is suggested. The same can be said of the small cleared area in the south tract, where shovel testing failed to find any cultural remains whatsoever.

Shovel testing and a metal detector search of the large cleared area in the south tract, within which once was located the White house and its still-extant cistern, revealed a completely different situation. Numerous positive shovel tests were present, mostly atop the low ridge running south-southeast to north-northwest through the area. No positive tests were located west of the small drainage running within the western portion of the cleared area, nor were any present in the lower area to the east of the ridge. One test in particular, at N108E38, may have penetrated

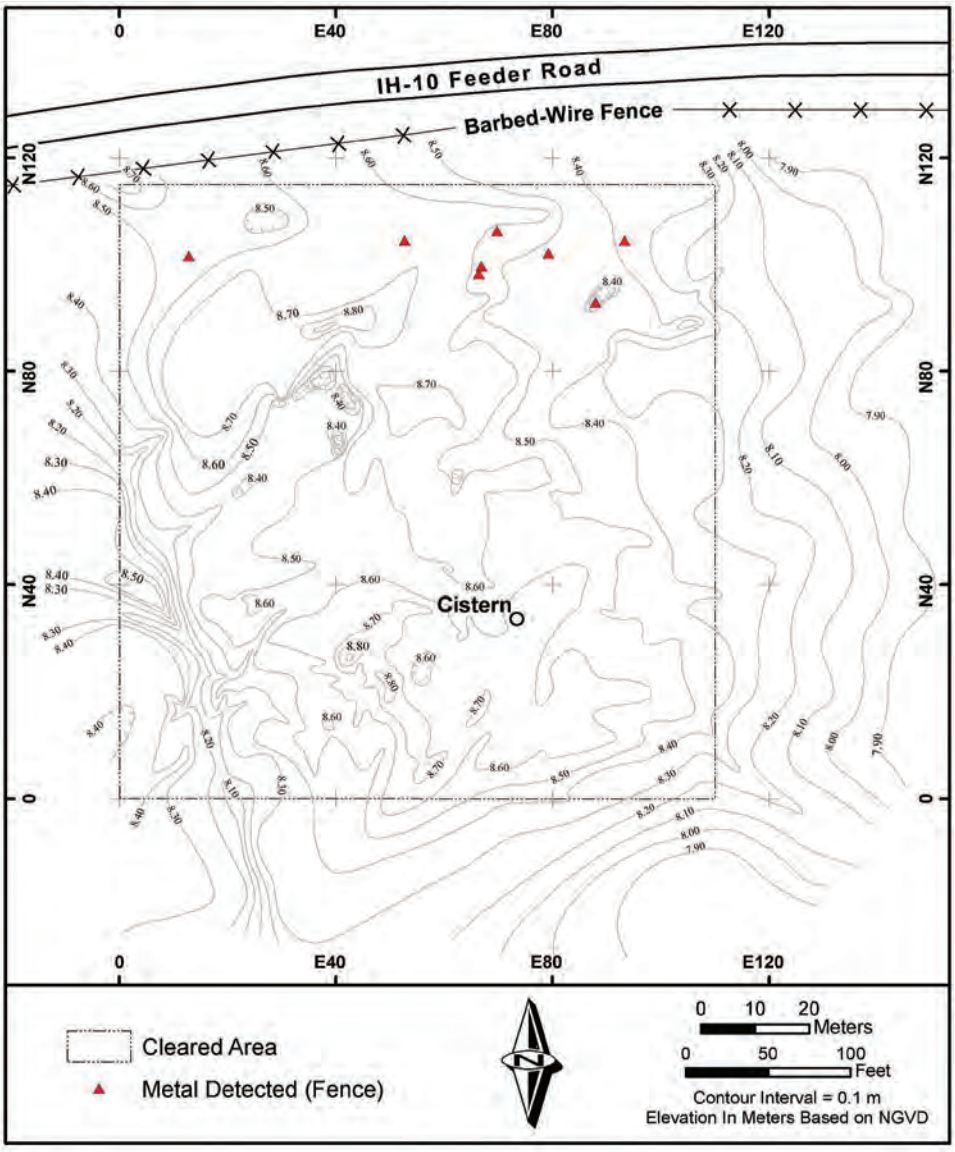


Figure 6-32. Distribution of metal items related to fencing activities within the large cleared area on the south tract.

a privy or trash pit.

Almost 500 metal detector "hits" were encountered across the large cleared area, and the distribution of the hits generally mirrored the pattern of the positive shovel tests. Several distinct clusters of hits were noted, with two of probable significance situated to the southwest and west of the cistern/house in the location of two or more probable outbuildings. Another pattern showed that a significant amount of domestic items had been discarded to the north of the main house, possibly thrown out the back door of the kitchen. When coupled together, data from both the shovel tests and the metal detector search allow for an estimate to be made on the extent of occupation associated with the White house (Figure 6-33). Once again, it is fairly obvious that most activity occurred atop the low ridge running through the center of the large cleared area.

Following completion of the metal detector search, Bryan Haley of the Anthropology Depart-

ment of the University of Mississippi arrived at the project area to conduct the various geophysical investigations discussed in the research design. That work will be the subject of the following chapter.

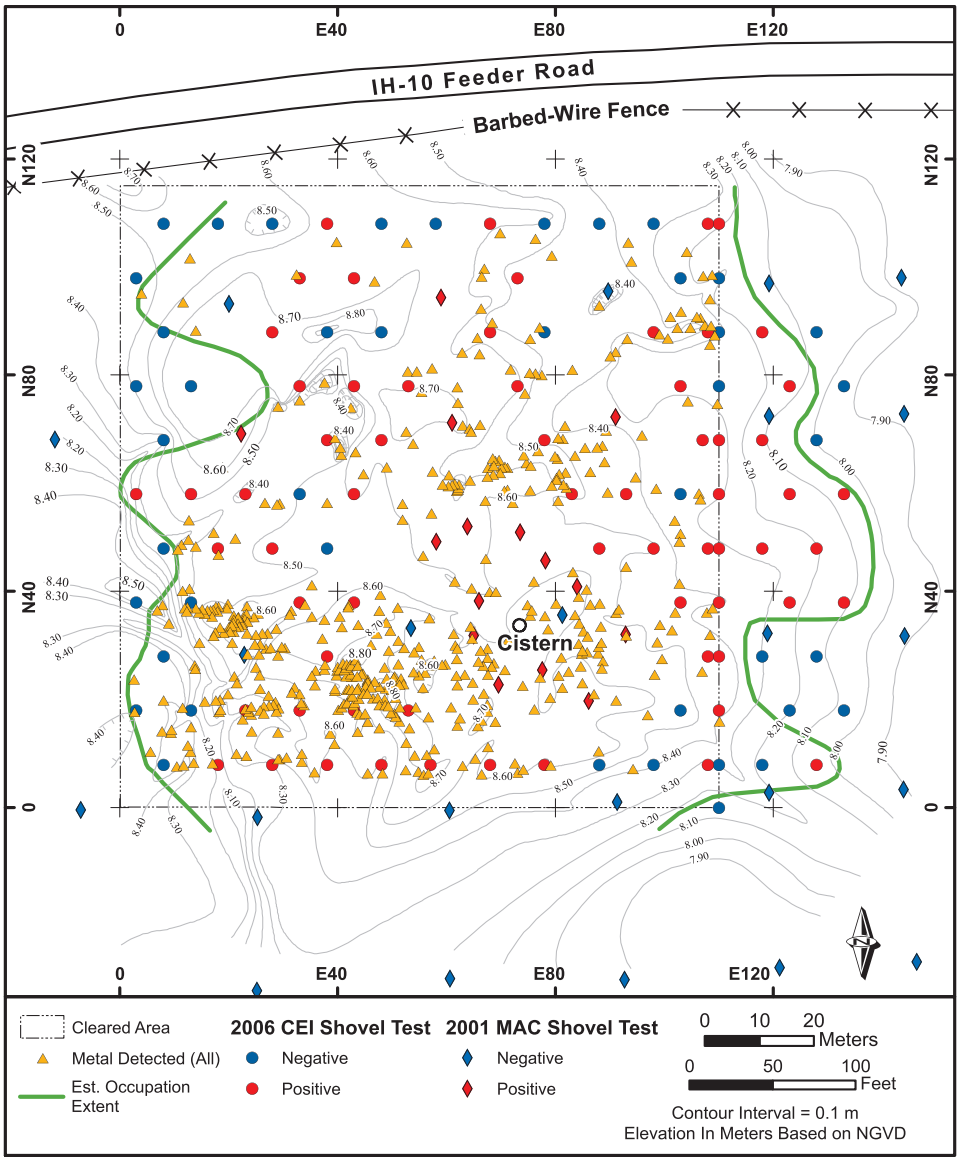


Figure 6-33. Estimated extent of the occupation area associated with the home of James Taylor White II, based on distributions of positive shovel tests and metal detector "hits."

Chapter 7: Geophysical Investigation of the Proposed Safety Rest Areas

Bryan S. Haley

Introduction

The University of Mississippi conducted a geophysical survey of selected portions of the two rest area tracts from October 17, 2006, to October 21, 2006. The area examined in the south tract measured 115 m (N-S) by 110 m (E-W) and contained the home of James Taylor White II, built around 1854 (see Chapter 4). Magnetic gradient and electromagnetic techniques were employed in this area. The possible location of the White house, as well as associated outbuildings and privies, were delineated during the survey. The area examined in the north tract was adjacent to a small family cemetery dating from the late nineteenth century to the early twentieth century (see Chapter 4). The dimensions of this survey area were 20 m (N-S) by 45 m (E-W). Electrical resistance and ground-penetrating radar (GPR) were used in the survey of this area with the purpose of locating any unmarked burials. No obvious burials were found, but several areas of caution were delineated.

Methods

Magnetic Gradient

Magnetometers are passive instruments that measure the magnetic field strength of a specific location on the surface of the Earth. The Earth's magnetic field varies depending on location relative to the earth's equator and can be visualized as a large bar magnet that is tilted 11 degrees from the axis of rotation (Heimmer and Devore 1995:12). Over a small area and in homogeneous soils, the magnetic field is expected to be uniform (Weymouth 1986:341). A subsurface target can be detected with magnetic survey as a deviation from this background field reading. The resultant anomaly often has a dipolar form aligned with the dip and direction of the Earth's magnetic field (Figure 7-1). The most common unit of measure is the nanoTesla (nT).

The magnetic signal of a target is composed of two parameters: induced and remnant magnetism

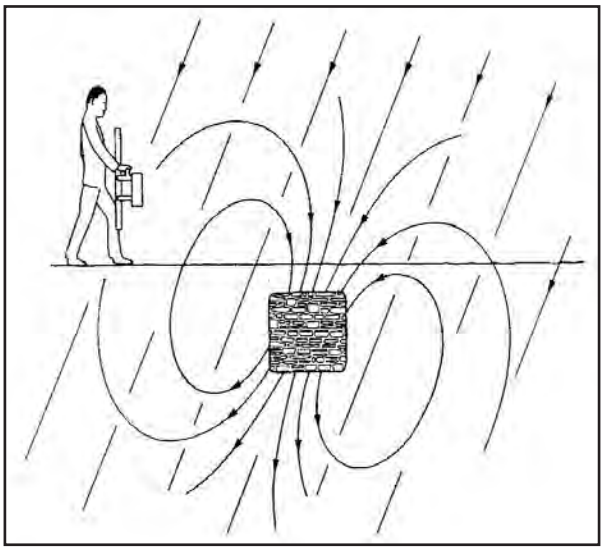


Figure 7-1. The magnetic anomaly produced by a kiln is aligned to the dip and direction of the Earth's magnetic field. (After Clark 1996.)

(Reynolds 1997:122). Magnetometers measure the remnant magnetism of a target, which is permanent and may be caused by the presence of highly magnetic rock compounds or thermal alterations to soils that have high iron content (Heimmer and Devore 1995:12). Magnetization caused by thermal alteration is called thermoremanence and it occurs at maximum expression at temperatures above about 600 degrees Celsius, but there is some effect at any elevated temperature (Aitken 1964:19). Electrons, demagnetized when temperatures are elevated, become aligned to the Earth's field as the temperature lowers (Clark 1996:64-65).

Induced magnetism is only visible in the presence of a magnetizing field. However, the Earth serves as a constant magnetizing agent and, therefore, it can be sensed by a magnetometer. The induced magnetism is generally referred to as magnetic susceptibility. Magnetic susceptibility is greater in the topsoil and soils that are organically rich, but often produces relatively subtle anomalies (Clark 1996:65-66). Therefore, excavations that

rearrange the topsoil are sometimes evident in magnetic surveys, but these are rather weak in strength. The Geonics EM38B can measure the induced magnetism of the ground.

Magnetic anomalies produced by archaeological targets are often much weaker than signals produced by other sources, usually between 1 nT and 100 nT (Aitken 1961:2). However, anomalies produced by historic period targets are usually much greater than this range. Archaeological objects that may produce magnetic anomalies include fireplaces, furnaces, burnt clay floors, hearths, kilns, daub, bricks, and walls composed of magnetically anomalous rocks such as basalt (Aitken 1964:3; Hasek 1999:7).

Another type of target visible magnetically is that of ferrous, or iron-containing materials (Aitken 1964:35). Archaeological targets such as historic nails can sometimes be mapped using magnetometers. However, more recent ferrous objects, such as power lines, cars, buried pipes, and surface trash, can easily obscure archaeological targets (Heimmer and De Vore 1995:12).

A commonly used type of magnetometer is the fluxgate magnetometer. This instrument is composed of two parallel cores made of materials with strong magnetic properties: primary coils wound in opposing directions, and opposing secondary coils (Reynolds 1997:142). The magnetic field is measured by determining the difference between the primary and secondary coils (Reynolds 1997:142). One advantage to the use of fluxgate instruments includes their relative insensitivity to steep magnetic gradients, plus their speed of acquisition is relatively quick (Reynolds 1997:142). Fluxgate instruments have become the workhorses for archaeological geophysical survey in Britain and the United States (Clark 1996:68).

The magnetic gradiometer was developed in the 1990s and uses two sensor heads. The primary advantage of a gradiometer system is that no correction for diurnal drift is necessary (Bevan 1998:19; Reynolds 1997:148). In addition, they are much less affected by nearby objects with steep magnetic gradients, such as large masses of iron (Bevan 1998:19). Also, gradiometers tend to emphasize shallow anomalies, a benefit for archaeological survey. One disadvantage is that the accuracy is dependent on a consistent orientation of the sensors (Bevan 1998:19; Hasek 1999:8).

Interpretation of magnetic imagery begins by identifying anomalies, which may have strong high- and low-amplitude values (Bevan 1998:23). Next, metal objects can be identified from the shape and amplitude. Anomalies with strong, narrowly spaced dipoles or strong monopoles are usually produced by ferrous metal objects. If targets are relatively large and the amplitude is not extreme, the shape may be approximated in the magnetic imagery (Bevan 1998:26). For example, the shape and location of pre-European houses can often be accurately ascertained (Figure 7-2).

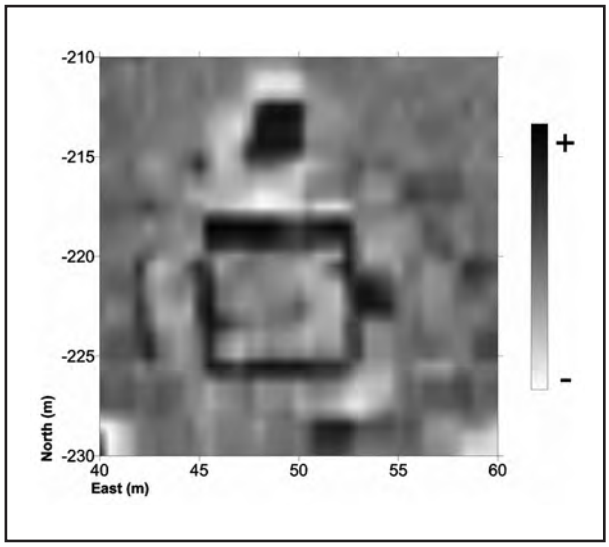


Figure 7-2. Magnetic gradient image of a Mississippian house at the Hollywood site, northwest Mississippi. With some large features such as this, an accurate shape of the target may be apparent. (After Johnson et al 2000.)

Little information about the depth of a target is obtained with magnetic survey. In some cases, the half-width rule can be used to estimate target depth. The half-width rule depends on the amplitude drop-off for readings over a target and assumes a simple and regular target shape (Bevan 1998:25). However, except for buried iron targets, this technique is often not useful for archaeological targets. There is, however, a practical limit to the depth that can be sensed with magnetic instruments because the signal falls with $1/D^3$ for a dipolar target or $1/D^2$ for a monopolar target (Breinner 1973:20).

The University of Mississippi's Center for Archaeological Research operates a model FM-36 fluxgate gradiometer manufactured by Geoscan Research (Figure 7-3). The FM-36 is a British instrument designed specifically for use in archaeological applications. Readings are typically acquired automatically with a metronome-controlled sample trigger, every 0.25 m along transects spaced 0.5 m or 1 meter apart. The instrument contains a memory of 16,000 readings that is downloaded to a computer for processing. Such processing is performed primarily with Geoscan Geoplot 3.0 software.

Figure 7-3. Bryan Haley using the Geoscan FM-36 fluxgate gradiometer in the large cleared area of the south tract.

Electrical Resistivity

Electrical resistivity instruments measure how readily current flows through the soil. The goal of a resistivity survey in archaeological research is to map the distribution of subsurface differences in resistivity by taking readings from the surface (Loke 2000:1). Most often, the resistivity distribution is closely related to the amount of moisture contained in the subsurface material (Clark 1996:27; Weymouth 1986:319). Differences in relative moisture are a function of grain size for soil and porosity for rocks. Clayey soils will usually have lower resistivity values than coarser grained soils because they retain more moisture after a rain. Rocks will usually have even higher resistivity values than sands because they are more moisture resistant than most soils, although this depends on the porosity of the rock (Clark 1996:27). Relative salinity also affects electrical current flow by lowering the resistivity of the soil or material (Loke 2000:4). The unit of measure for resistivity is the Ohm-m, which ranges from 5 for soils with high salinity to 10,000 for some sandy or gravely soils (Bevan 1998:8).

Electrical resistivity instruments operate by introducing a known quantity of current (I) into the soil through an electrode. The resultant voltage (V) is measured at potential electrodes (Loke 2000:1). Using Ohm's Law, or V = I x R, the resistance (R) can be easily calculated. From the measured resistance values (R), an estimate of the electrical resistivity (ρ_a) can be calculated if needed by ρ_a = k x R, where k is a geometric factor (Loke 2000:1). The conversion takes into consideration the geometry of the array type and removes its effect (Geoscan Research 1996b:H-1). Because the calculated value is a measurement of the resistance over a volume of soil and only an estimate of the actual resistivity at a point in the ground, this is termed apparent resistivity. The advantage of calculating apparent resistivity is that values can be compared in a standardized way (Clark 1996:27).

One characteristic of resistivity that is beneficial for geophysical survey is that the depth of the anomaly can be determined as a function of electrode configuration (Weymouth 1986:326). In simple terms, the separation of the electrodes

is directly proportional to the depth of maximum sensitivity. Therefore, two types of surveys are possible.

Electrical profiling, or constant separation traversing (CST), surveys measure the resistance value using a fixed-probe separation along the horizontal plane of the ground (Reynolds 1997:446). Therefore, a plan map is created that represents resistance anomalies at a single, fixed ground depth. Because targets can be visible as anomalies in plan view resistance imagery, it is not essential to convert the readings to apparent resistivity.

A typical resistance system is composed of electrodes, a battery, a meter, and a data logger. Although, in theory, all that is necessary to measure the ground resistance is a current and a potential electrode, a two-electrode arrangement is impossible due to the contact resistance that is found around current electrodes (Aitken 1961:61; Bevan 1998:12). Therefore, electrical resistance instruments use a minimum of four electrodes that are designed to penetrate the ground deep enough to allow the current to propagate from the current probes and be sampled by potential probes (Figure 7-4).

The four electrodes may be arranged in many different configurations in order to perform a geophysical survey. A review of possible configurations is given by Loke (2000) and is beyond the scope of this report. In general, however, certain methods are more suited to measuring vertical or horizontal changes in ground resistance.

The most commonly used setup in archaeological applications is the Twin array, which is particularly suited for revealing narrow features in a profiling-type survey, plus it has good depth penetration (Clark 1996:44). For the Twin arrangement, one set of current and potential electrodes are mobile, while another set is fixed, separated by a small distance, and is placed a considerable distance from the mobile electrodes. One drawback with the Twin array is that the geometric factors necessary for conversion to apparent resistivity are difficult to derive. Analysis is performed using the resistance values only. Since the primary application is usually horizontal mapping, this is not a problem.

Electrical resistivity surveys can be easier to perform and give acceptable results in a wider range of sites than many other geophysical survey techniques (Bevan 1998:7). Although extended periods of rain or drought may adversely affect resistivity surveys, the instrument is not subject to interference by metal debris, overhead power lines, and nearby cars, as are magnetic and electromagnetic instruments. Archaeological features that may be detectable with resistivity survey include ditches, buried walls, foundations, tombs, voids, compacted floors, humus zones, daub concentrations, mound stratigraphy, and shell deposits (Figure 7-5) (Aitken 1961:71; Weymouth 1986:321; Geoscan Research 1996b:6-8; Thompson et al. 2002).

In their most basic form, electrical resistivity instruments are simple and the least expensive of any geophysical instrument. A standard multimeter, batteries, four metal electrodes, and some cables from an electronics store are all that is necessary (Bevan 1998:8). Although the quality of the data may be nearly as good with this setup as a more expensive instrument, the speed will be much

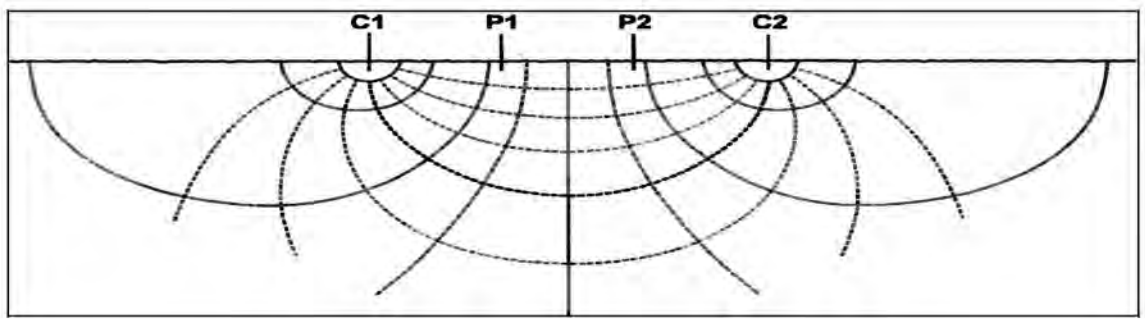


Figure 7-4. Current (solid) and lines of potential difference (dashed) for current traveling through the ground in a four-electrode resistivity system. (After Clark 1996.)

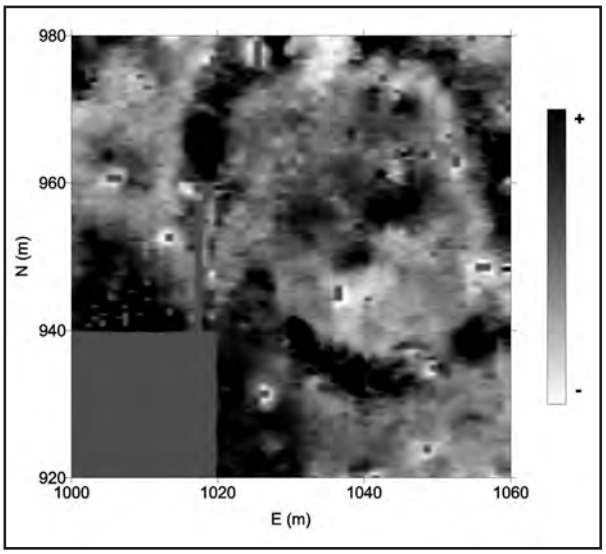


Figure 7-5. Resistance image of an Archaic shell ring at Sapelo Island, Georgia. (After Thompson et al. 2002.)

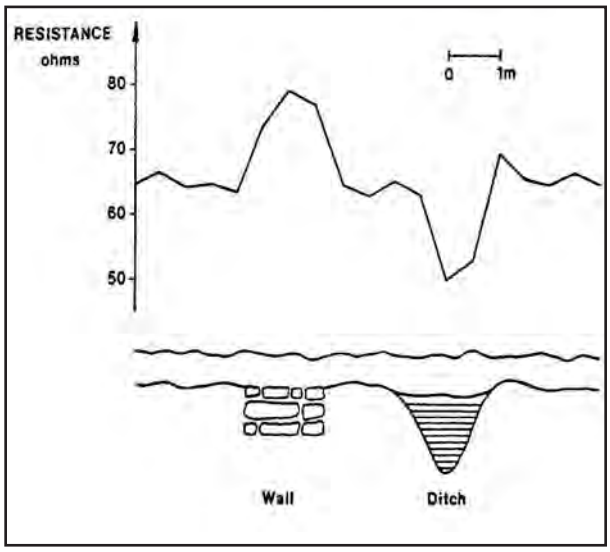


Figure 7-6. Resistance amplitude over a feature consisting of a wall and ditch. (After Geoscan Research 1996b.)

slower. More modern systems use multiple probes and elaborate switches to log many readings very quickly and store them electronically.

Interpretation of resistance imagery begins with the identification of strong-amplitude anomalies. An examination of high and low values can yield additional information. For example, a low-resistance anomaly, if the shape is appropriate, may be a pit because such features often trap moisture and create a negative anomaly. Conversely, a stone wall or foundation would usually produce a positive anomaly (Figure 7-6). As with any geophysical survey technique, archaeological targets may only be detected if they contrast with background readings. If the data are converted to apparent resistivity, additional information such as soil texture can be included. The size and shape of a feature as revealed in resistivity imagery is often somewhat broadened, at least with the Twin-array setup. An estimate of the boundaries of a feature can be derived by determining the positions at which the signal falls to half of maximum amplitude (Geoscan Research 1996b:6-4).

The Center for Archaeological Research operates an RM-15 instrument with MPX-15 multiplexor manufactured by Geoscan Research (Figure 7-7). The RM-15 is a British instrument designed specifically for archaeological research. The multiplexor is a data control unit that allows up to six readings at each station and which may be the result of differing electrode separations, differing array types, or high-density readings made with the same electrode separation.

Figure 7-7. The Geoscan RM-15 resistance meter in use in the cleared area in the north tract.

Electromagnetic Conductivity

Like resistivity instruments, electromagnetic conductivity instruments measure how readily electrical current flows through the soil; conductivity is the reciprocal of resistivity. However, the method that is used to measure conductivity is much different. Electromagnetic instruments use a transmitter and receiver that generate and read the response of an electromagnetic field induced into the soil without actual contact (Heimmer and De Vore 1995:34). The response in a material is proportional to the electrical conductivity. Readings are usually measured in milliSiemens (mS), a unit that can be converted and directly compared to the resistivity unit; 100 Ohm-meters is equivalent to .01 mS (Bevan 1998:29).

Like resistivity, the conductivity distribution is closely related to the amount of moisture contained in the subsurface material (Clark 1996:27; Weymouth 1986:319). The prevalence of moisture, which can conduct electrical current in a material, is related to grain size for soil and porosity for rocks. Therefore, clays will have high conductivity, sands will have low conductivity, and most rocks will have very low conductivity. Salinity increases electrical conductivity.

Electromagnetic instruments operate by passing an AC current through a coil (Bevan 1998:30; Reynolds 1997:564). The induced electromagnetic field penetrates the ground and produces eddy currents in conducting subsurface bodies (Reynolds 1997:565). A secondary field is generated by the eddy currents and is then read by the receiver coil (Figure 7-8). Phasing occurs with the ground field and the primary field, which travels through the air. The conductivity measurement is derived from the out-of-phase, or quadrature, signal (Reynolds 1997:566).

In a way that is similar to resistivity instruments, depth is related to the separation of the sender and receiver. The most common setup includes a coil separation of 1 meter that enables a maximum sensitivity at about 0.4 meters and some sensitivity to about 1.5 meters (Clark 1996:34). Depth may also be related to the frequency of the transmitter and some multifrequency instruments have been

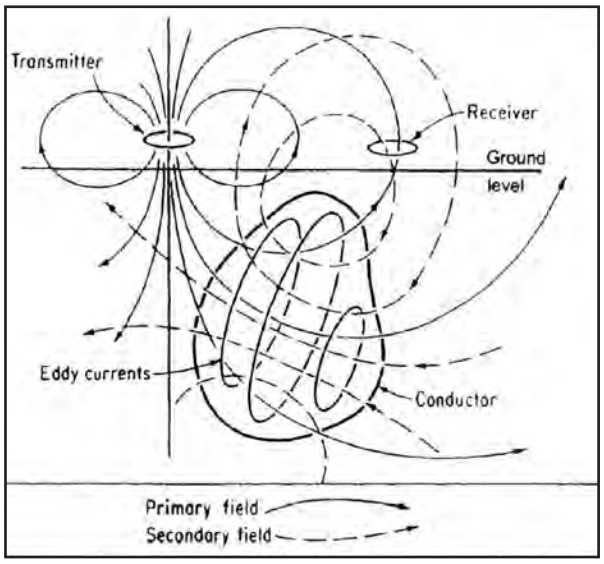


Figure 7-8. Primary and secondary fields produced by electromagnetic instruments. (After Reynolds 1997.)

produced with this in mind (Geophysical Survey Systems 1998). However, the utility of these instruments has not been proven at shallow depths (McNeill 1996).

Depth can be controlled to some degree by using the horizontal or the vertical dipole mode. Vertical dipole is the standard mode, allowing the 1.5-m maximum depth. The instrument is carried on its side, for the horizontal dipole mode. Shallower depths are recorded in horizontal mode, with a maximum depth of about 0.75 meters, while surface disturbances have a greater effect (Bevan 1998:40; Dalan 1995:22).

One advantage of electromagnetic survey over resistivity survey is that there is no need to make contact with the ground, which increases survey speed (Bevan 1998:29; Weymouth 1986:327). Moreover, the equipment is often lighter and less cumbersome, especially when compared to resistivity setups that require remote cables and electrodes.

The types of archaeological features that may be detectable with conductivity survey are similar to those found by resistivity. These include ditches, buried walls, foundations, tombs, voids, compacted floors, humus zones, daub concentrations, mound stratigraphy, and shell deposits (Aitken 1961:71,

Geoscan Research 1996b:6-8, Thompson et al. 2002; Weymouth 1986:321).

Interference sources can, however, be much different with electromagnetic instruments than electrical resistance. Because they involve an induced magnetic field, they can detect ferrous and nonferrous metallic objects. Therefore, they can be adversely affected by metal debris, nearby cars, power lines, and pipes. Also, spherics, or lightening interference, can influence readings (Bevan 1998:31). In addition, electromagnetic survey works in a more limited range of soil conditions than resistivity (Weymouth 1986:327).

Another benefit to electromagnetic survey is that another property, magnetic susceptibility, may be measured with the instruments (Dalan 1995:12). Magnetic susceptibility is the induced portion of the magnetic field and is the in-phase component of the electromagnetic signal. Some recent instruments even allow this property to be measured simultaneously.

Interpretation is similar to resistivity. Strong-amplitude anomalies are identified and high and low values are examined. For example, a low-resistance anomaly, if the shape is appropriate, may be a pit because such features often trap moisture and create a positive anomaly. Conversely, a stone wall or foundation will usually produce a negative anomaly (Figure 7-9). As with any geophysical survey technique, archaeological targets may only be detected if they contrast with background readings. The shape is usually estimated adequately with electromagnetic survey. In some cases, however, very dissimilar features can cause similar results (Bevan 1996:31).

The largest maker of electromagnetic instruments for archaeological prospecting is Geonics, which is based in Ontario, Canada. Unlike the Geoscan magnetic and resistivity instruments, Geonics electromagnetic instruments offer a wide range of applications. The two Geonics instruments most commonly used in archaeology are the EM38 and the EM31. The University of Mississippi owns an EM38 variation called the EM38B, which simultaneously measures the quadrature and in-phase components (Figure 7-10). The instrument has a 1-meter coil separation and is suitable for most archaeological applications.

Ground-Penetrating Radar

Ground-penetrating radar (GPR) operates by sending out an electromagnetic wave pulse into the

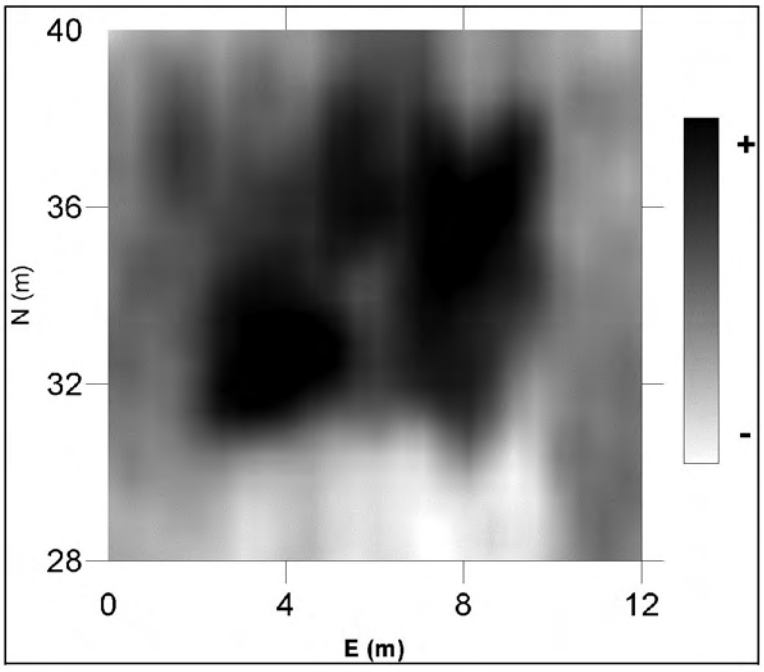


Figure 7-9. Electromagnetic conductivity image of a Mississippian house at the Parchman site, northwest Mississippi.

Figure 7-10. Bryan Haley using the Geonics EM38B electromagnetic induction meter within the large cleared area of the south tract.

ground that reflects off materials with contrasting electrical properties (Figure 7-11) (Conyers and Goodman 1997:23; Weymouth 1986:371). This is related primarily to the electrical conductivity and magnetic permeability of the materials (Conyers and Goodman 1997:32). Relative dielectric permittivity (RDP), the ability of a material to store and pass a magnetic field, is the accepted property used to describe the materials. RDP (K) ranges from 1 for air to 81 for water and is expressed by $K = c^2 / V^2$, where c is the velocity of light and V is the velocity of the wave (Conyers and Goodman 1997:33; Reynolds 1997:689). For soils, the RDP ranges from 3 for the driest sand to 40 for saturated clay. The strength of the reflection is proportional to the difference in RDP of the two materials and relies on an abrupt change between the materials (Conyers and Goodman 1997:34; Geophysical Survey Systems, Inc. 1999:36). A contrast in RDP as small as 1 can cause a reflection in some cases (Geophysical Survey Systems, Inc. 1999:31).

Furthermore, the travel time of the interaction is recorded as a matter of course in GPR surveys and this can be related to the depth of the target. When a radar wave is bounced off a subsurface reflector, the total travel time is recorded in nanoseconds (ns). This time is directly proportional to the depth of that target. Therefore, if the RDP is known for the medium, the depth can be found. RDP is difficult to determine accurately in the field, but can be estimated by several methods (Conyers and Goodman 1997:32; Geophysical Survey Systems, Inc. 1999:79). One commonly used technique is geometric scaling in which a curve is fit to the properties of hyperbolic reflections in the data generated by strong reflectors. Because of the geometry of reflectance as the antenna passes over a target, the reflection will be expressed as a hyperbola and the width of that hyperbola is determined by the dielectric permittivity of the soil (Geophysical Survey Systems, Inc. 1999:83).

An interface is visible if the electrical properties of two substances contrast enough to produce a reflection. The magnitude of the reflection depends on the amount of contrast in the dielectric properties of the materials at an interface. This characteristic

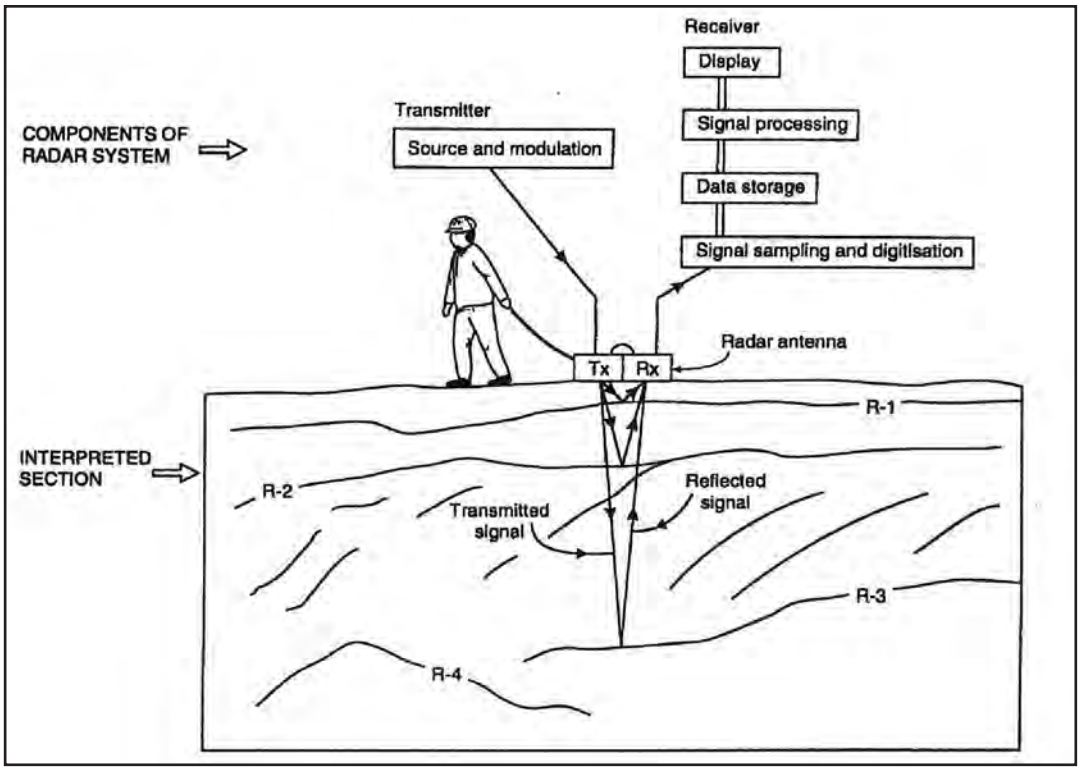


Figure 7-11. Operation of a GPR system. (After Reynolds 1997.)

of GPR can contribute substantially to the study of stratigraphy. For example, a sand layer overlying a packed clay floor, a buried stone wall, or an air-filled cavity will likely produce a measurable reflection.

GPR antennas are available in various center frequencies, usually between 100 MHz and 1500 Mhz, and are related to the optimum depth of propagation and the resolution of the signal (Geophysical Survey Systems, Inc. 1999:51). In general, lower-frequency antennas propagate energy to greater depths. However, the vertical resolution also decreases (Geophysical Survey Systems, Inc. 1999:56). For example, low-frequency antennas can penetrate as far as 50 meters in ideal circumstances. In contrast, a 1000-Mhz antenna may only penetrate to 50 centimeters, but can resolve features to a thickness of a centimeter (Geophysical Survey Systems, Inc. 1999:52). A 400-MHz antenna is often used in archaeological applications because of the intermediate depth abilities. For all frequencies of antenna, a cone of energy is sent out that is roughly 90 degrees from front to back and 60 degrees from side to side (Geophysical Survey Systems, Inc. 1999:45).

Limitations in GPR are related to the mechanics of sending electromagnetic energy through materials with high dielectric values, such as clayey soil (Reynolds 1997:688). Such soils cause the electromagnetic energy to attenuate at shallower depths as a result of the dispersion of the energy (Conyers and Goodman 1997:55). Attenuation causes the resultant data to be blurry when viewed, and returns from even strong reflectors can be obscured. Wetter soils, often including clays, and high-salinity materials are not ideal conditions for GPR survey. Dry sand, however, can often produce dramatic results.

GPR has been demonstrated to be good at detecting a number of archaeological features including pits, trenches, hearths, stone foundations, kilns, buried living surfaces, metal objects, voids, burials, tombs, tunnels, and caches (Conyers and Goodman 1997:23, 197-200). In some cases, construction stages in prehistoric mounds can be detected. Archaeological features that are unlikely to be detected using GPR include very thin stratigraphic layers, features within a rock-lined burial, small clay or stone artifacts, and any feature

below a wet clay layer (Conyers and Goodman 1997:197-200).

The data processing that is necessary for GPR data to be used to their maximum potential by archaeologists is more involved than any of the other geophysical methods. Analysis begins by locating targets in the radar profiles, estimating the average RDP, and estimating the depth to targets. In the radar profiles, the amplitude of a reflection is positive if a high-dielectric medium is encountered below a lower-dielectric medium and negative when the reverse occurs. A strong narrow reflector will often produce an anomaly alternating between signs in a hyperbolic shape. Further processing is somewhat complex and includes creating plan-view amplitude slice maps and three-dimensional data cubes. Usually, the amplitudes are squared so that strong positive or negative anomalies appear the same.

The University of Mississippi operates a Geophysical Survey Systems Incorporated SIR2000 system with 400 MHz and 300 MHz bistatic antennas (Figure 7-12). GSSI radar systems are regularly used in archaeological research in North America. The SIR2000 system includes a control unit built from a laptop computer, with 2.1 GB of storage, and a battery pack. Both are worn on a harness (Geophysical Survey Systems, Inc. 1999:5). Vertical profiles are displayed in real time on the screen. An integrated survey wheel, which is used to determine the distance along the transect line, attaches to the antenna sled.

Results in the South Tract

Magnetic Gradient

Historic structures are typically associated with numerous objects that produce strong anomalies in magnetic-gradient data. There are two types of sources primarily responsible for these anomalies: ferrous metals and fired objects such as bricks.

Ferrous metals are usually visible because they are magnetized by the constant field of the Earth and therefore, like a compass, the magnetic anomaly will point to the poles of the Earth. Specifically, the negative will be oriented north and the positive to the south in a dipolar pattern. An exception to this is the monopolar pattern produced by a long object set on end; an example commonly seen on archaeological sites is a metal pin flag. In addition, ferrous metals often become slightly magnetized, creating a pattern similar to fired objects (Weymouth 1986:196).

Figure 7-12. The GSSI SIR2000 GPR with the 400-MHz antenna operating in the small cleared area north of the Broussard Cemetery.

In contrast, bricks exhibit magnetism primarily as a result of the heating process used in their formation (Bevan 2002:1). This permanent or remnant magnetism has positive and negative poles similar to the poles of a magnet and is oriented to north during cooling (Bevan 2002:3). When a brick is moved from the area of firing, however, the magnetic poles remain fixed and therefore can point in any direction. When placed in a wall, a series of signatures is produced with poles oriented fairly randomly (Bevan 1994:94). The brick may appear as a monopole if it is situated in certain positions. Over time the poles of the brick will slowly be changed to match the field of the earth (Bevan 1994:96). In some cases, the total amount of magnetism can be greatly reduced during this process. The strength of the magnetic field of the brick is related to the temperature at which the brick was fired and the composition of the brick.

Organic-rich features, including prehistoric midden pits and perhaps historic privies, also exhibit elevated magnetic gradient readings. However, the strength of the magnetic enhancement is relatively subtle for these features. The number and strength of the ferrous and fired anomalies associated with historic structures is likely to prevent the delineation of these features in the magnetic gradient data.

In many cases, it is not possible to categorize anomalies as ferrous or fired. For this report, only anomalies with obvious dipoles oriented toward magnetic north are classified as ferrous metals. Although a brick could theoretically be oriented in this same direction, this occurrence is unlikely. Anomalies with abnormal dipole orientation are placed in an "Unknown" category. The categorization process becomes much more complex with closely spaced anomalies; it is difficult to determine the association of the dipoles in these cases. These are also placed in the Unknown category. Finally, monopole anomalies are ambiguous and therefore also placed in the Unknown category.

The location of dipole anomalies has been roughly estimated as falling between the dipoles and towards the high or low of most intensity. For monopoles, the location of the target is estimated to be at the high or low of most intensity. In cases of complex anomaly patterning, there is some margin for error in this location since the relationships of the dipoles are difficult to determine. For this project, anomalies less than +/- 8nT are ignored.

Magnetic gradient survey results are shown in Figure 7-13 with an interpretation overlay offered in Figure 7-14. A total of 383 anomalies was identified during the survey. Although various concentrations are apparent, especially east of the center of the survey area, it is difficult to make out alignments that might represent the main house structure.

Electromagnetic Conductivity

Because electromagnetic survey operates by inducing an electromagnetic field, metal objects typically produce strong anomalies. Objects that affect moisture retention, such as brick surfaces, compacted roads, or pits, may also be visible.

Conductivity results are shown in Figure 7-15 and the significant anomalies are identified in Figure 7-16. The most likely explanation for the low-conductivity anomalies is the presence of brick, although metal can sometimes produce an inverted anomaly. The anomalies of high conductivity are probably related to topographic variation throughout the survey area. Except for some loose associations with anomalies in other data sets, little useful information is contained in the conductivity data concerning the location of the main house structure.

Magnetic Susceptibility

For historic targets, magnetic susceptibility can be enhanced by the presence of organically rich soils and metals. In general, the data are easier to interpret than magnetic gradient data since they are not dipolar and are sensitive to strong magnetic gradients. However, magnetic susceptibility has been underused in historic applications.

Results for magnetic susceptibility are shown in Figure 7-17 with the interpretation shown in Figure 7-18. This data set is the most successful at identifying the probable location of the main house structure and features related to it. The most obvious pattern is the apparent outline of the structure with interior walls visible. The kitchen may be situated

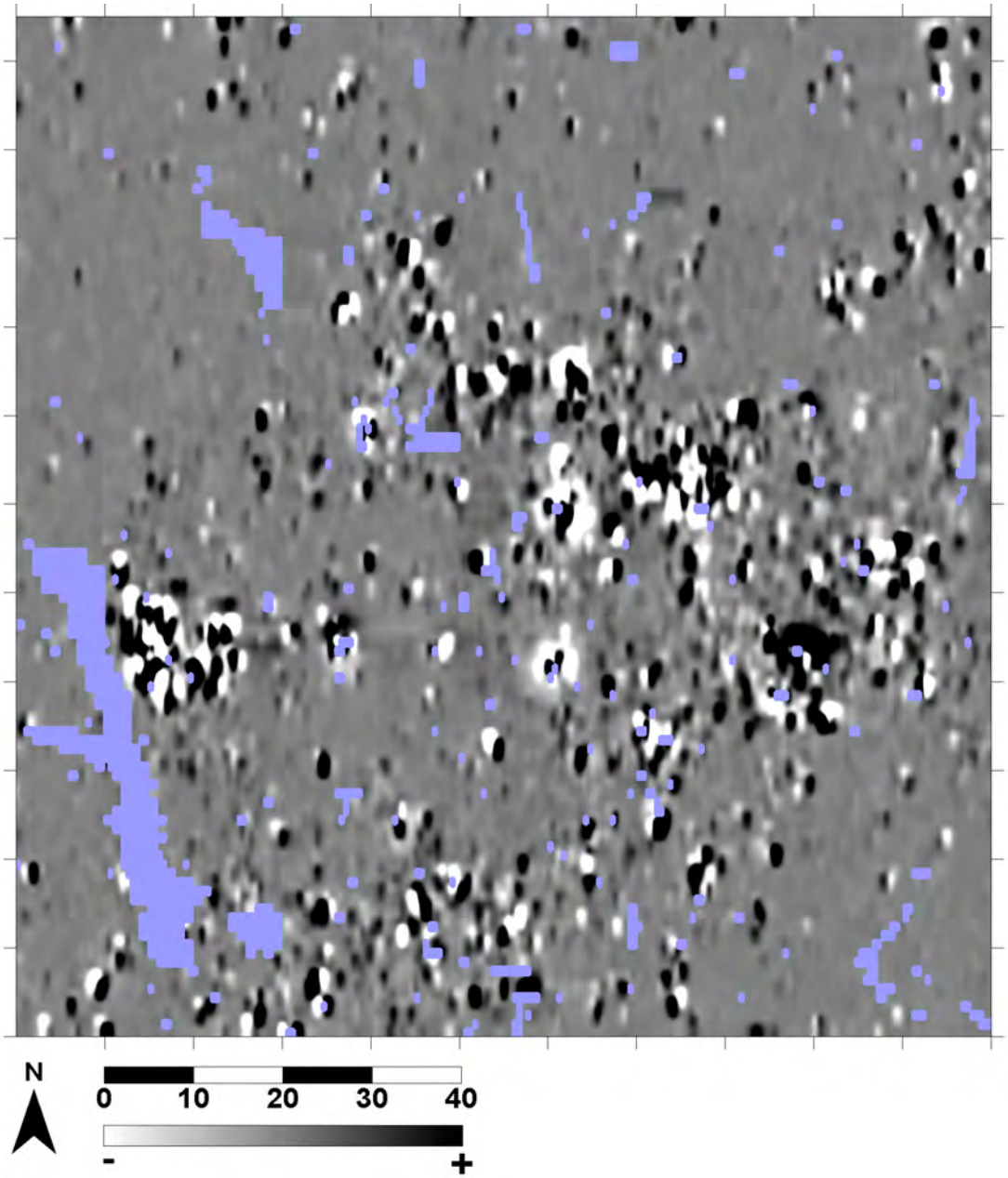


Figure 7-13. Magnetic gradient results. Blue signifies no data due to the presence of large trees or standing water.

to the east.[1] A large and more subtle pattern, which may represent a fence line, surrounds the house feature. Three other large anomalies to the west of the main structure may be related to outbuildings. Finally, several small anomalies to the north, east, and south of the main structure may be caused by the presence of privies or trash pits. The remaining anomalies are of an unknown origin.

1 This was not the case, as the kitchen fireplace base actually was found to the north of the main house in the area shown on the drawing of the building's floor plan (see Chapter 8).

Results in the North Tract

Electrical Resistance

Electrical resistance results are shown in Figure 7-19 and anomalies are highlighted in Figure 7-20. Several high-resistance anomalies are visible in the data. Burial shafts are typically visible in resistance data as resistance lows and, therefore, these probably are not caused by burials. A careful examination of the surface features in the survey area may in

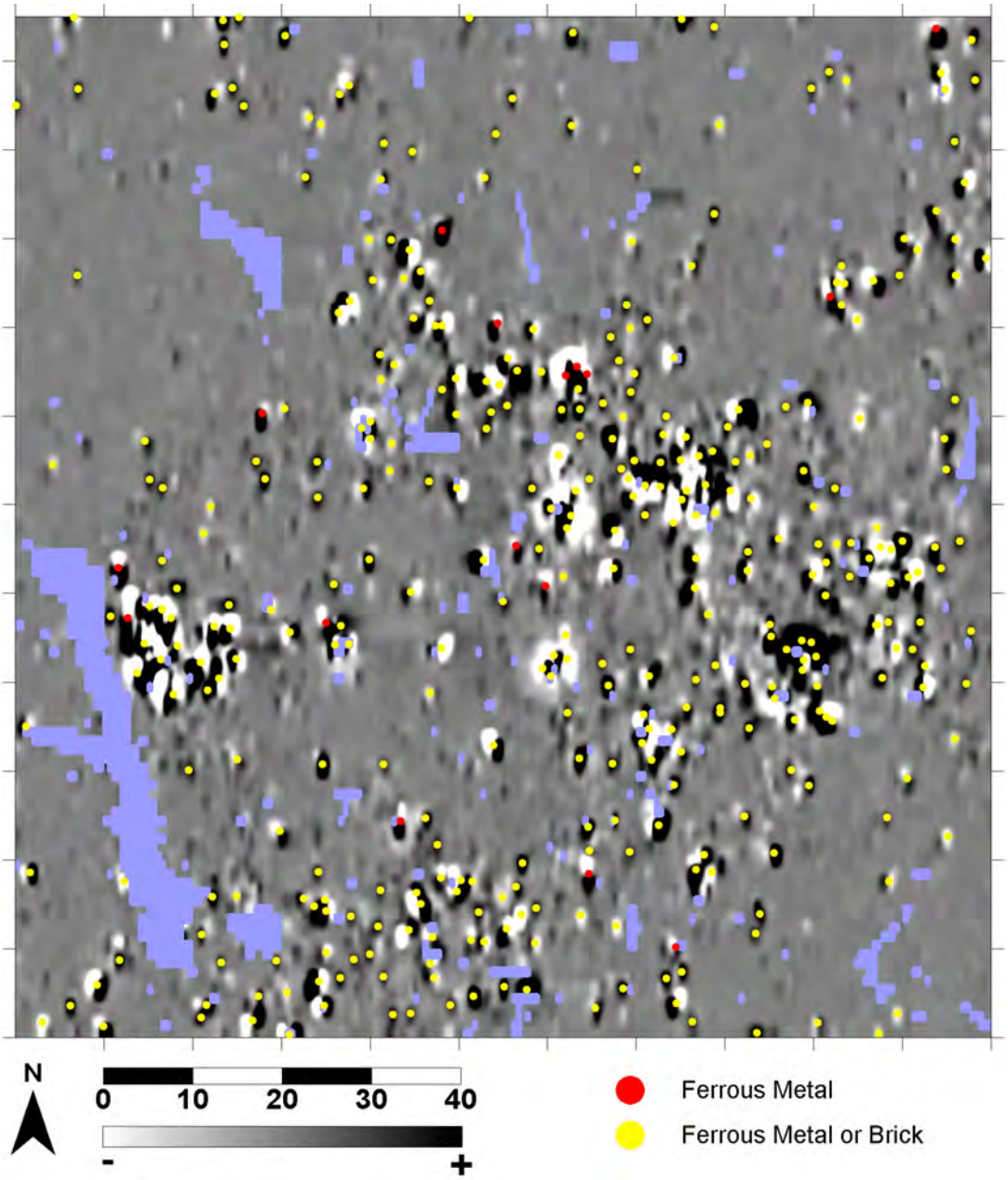


Figure 7-14. Interpretation of the magnetic gradient results.

fact eliminate some of them. For example, several concentrations of bricks on the surface may produce patterns such as this. Natural patterning could be responsible for some of them, also.

Ground-Penetrating Radar

The ground-penetrating radar data were processed using the software package GPR Slice V5.0. Fifteen plan-view time-slice maps were created (Figure 7-21), each with a thickness of approximately 22 cm and ranging from 0 cm to 218 cm in depth. The time-to-estimated-depth conversion was performed using a hyperbola-fitting operation in the software.

Numerous anomalies were identified in the various time slices. The origin of these was then investigated by using the Split Screen Time Slice - Radar module in the software. This allows time-

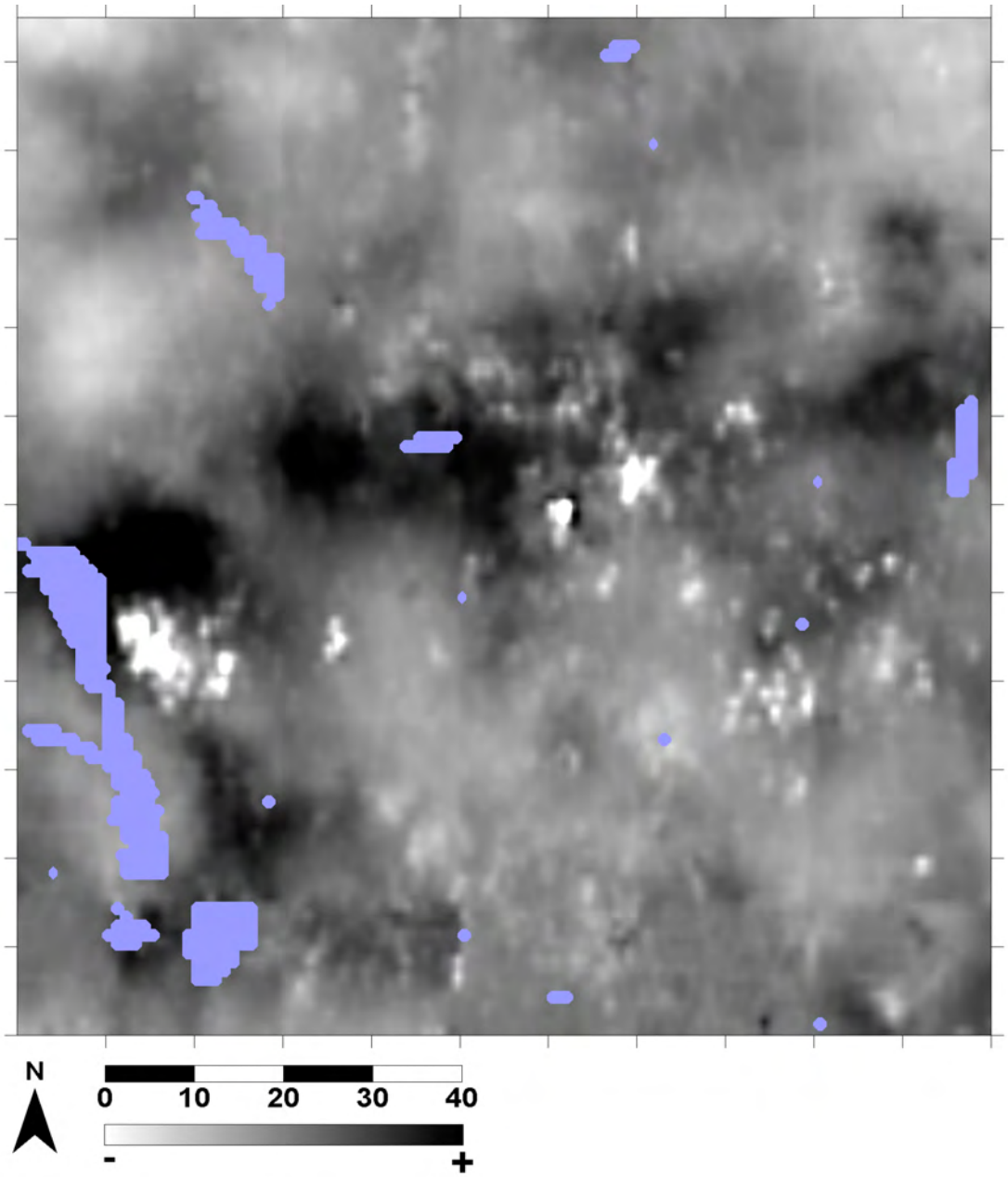


Figure 7-15. Electromagnetic conductivity results. Blue signifies no data.

slice anomalies to be automatically located in the profile GPR data, which often contains more detail but is difficult to interpret on its own. The bulk of the anomalies investigated are from natural or non-burial origins. A high-contrast layer between 56 cm and 120 cm deep is responsible for most of these. Below 154 cm, the data suffer from attenuation and probable geologic targets.

Nonetheless, five anomalies are suggestive of those produced by metal caskets as seen in other GPR data sets. These are shown in Figure 7-22, which combines the most meaningful slices (3, 4, 8, and 9). The depths of these anomalies are rather shallow (between 28 cm to 65 cm deep). Bevan (1991) has noted the possibility of false positives when using GPR to detect burials. Although it is impossible to say for certain if these anomalies are produced by burials, caution is recommended in these areas.

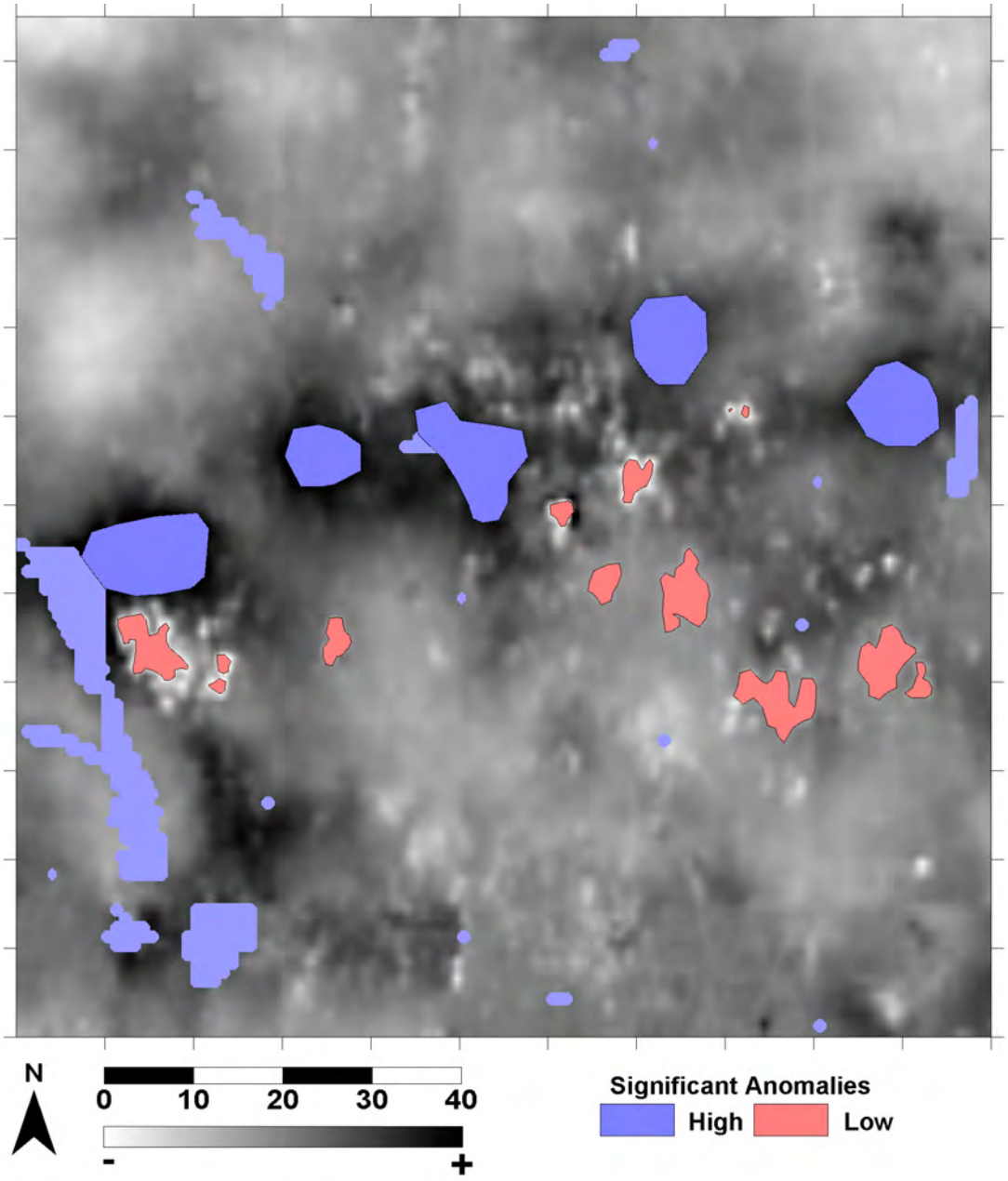


Figure 7-16. Significant anomalies in the electromagnetic conductivity results. Solid blue signifies no data

Geophysical Conclusions

The results of the data presented above are summarized in Figure 7-23 (south tract) and Figure 7-24 (north tract). For the south tract, the figure is simply a combination of the magnetic susceptibility and magnetic gradient interpretations. For the north tract, the figure is solely the GPR findings, as the electrical resistance results have been excluded. If possible, additional testing of all anomalies and interpretations is recommended to better understand their origins.

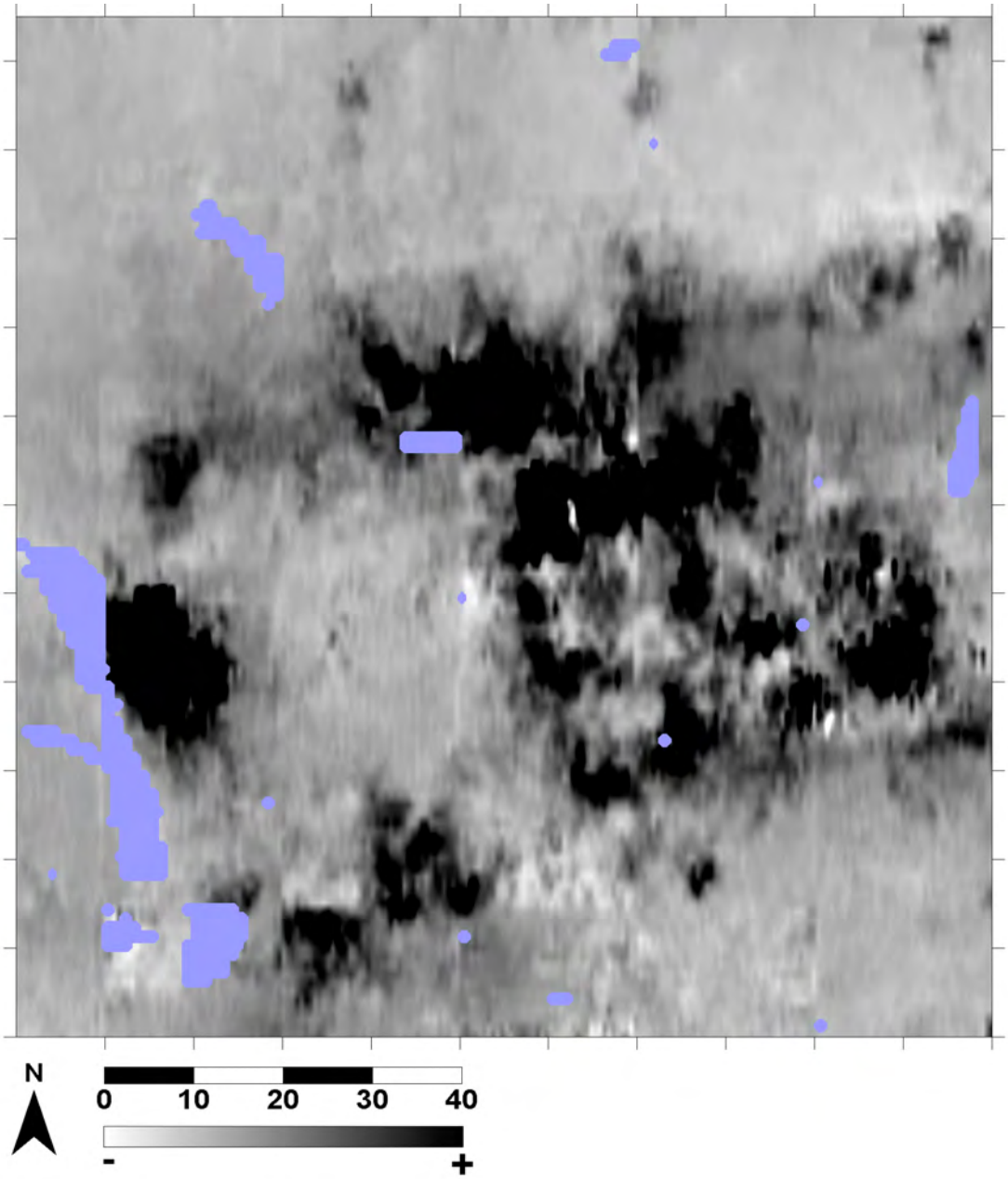


Figure 7-17. Magnetic susceptibility results. Blue signifies no data.

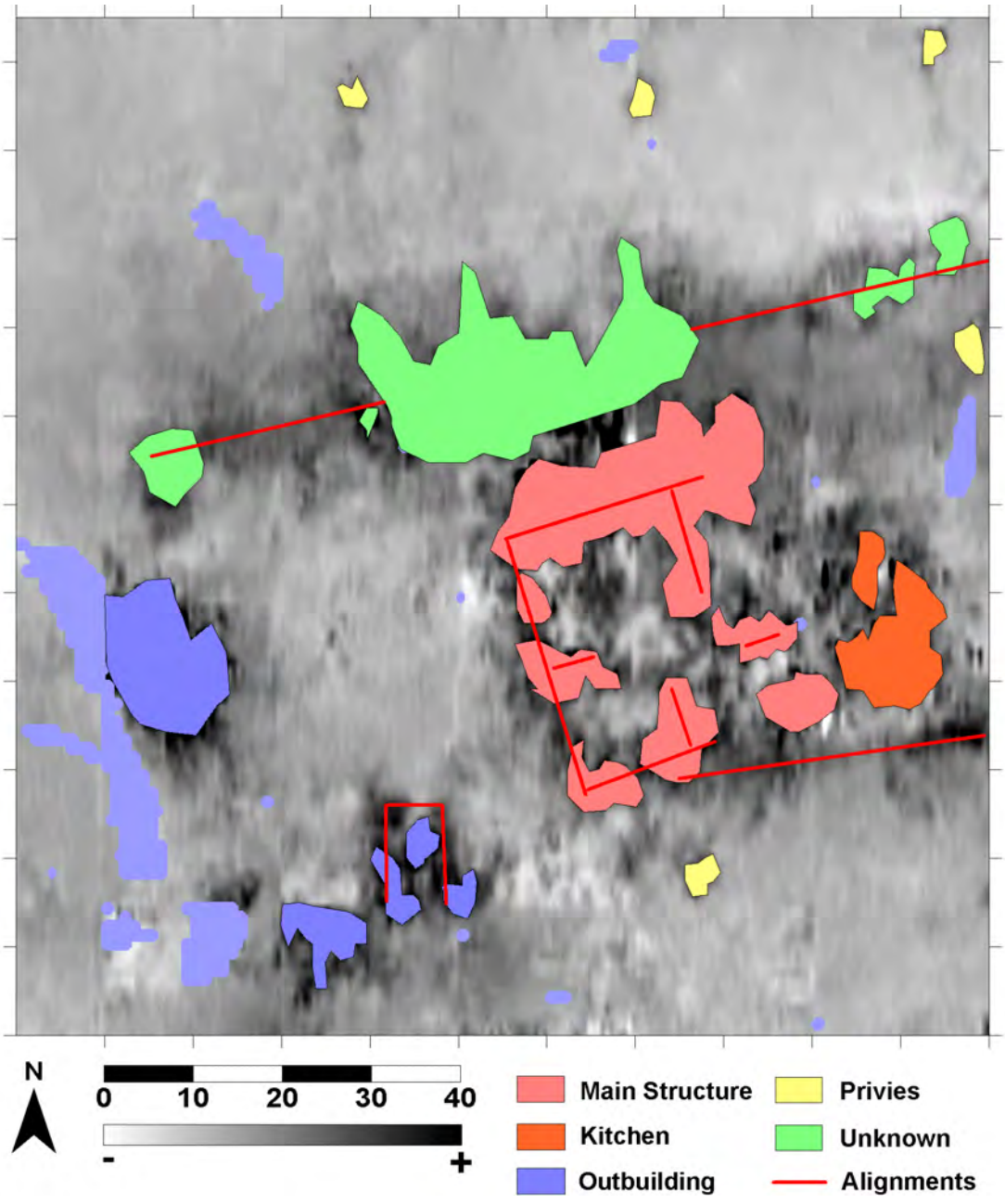


Figure 7-18. Interpretation of the magnetic susceptibility results. Solid blue signifies no data.

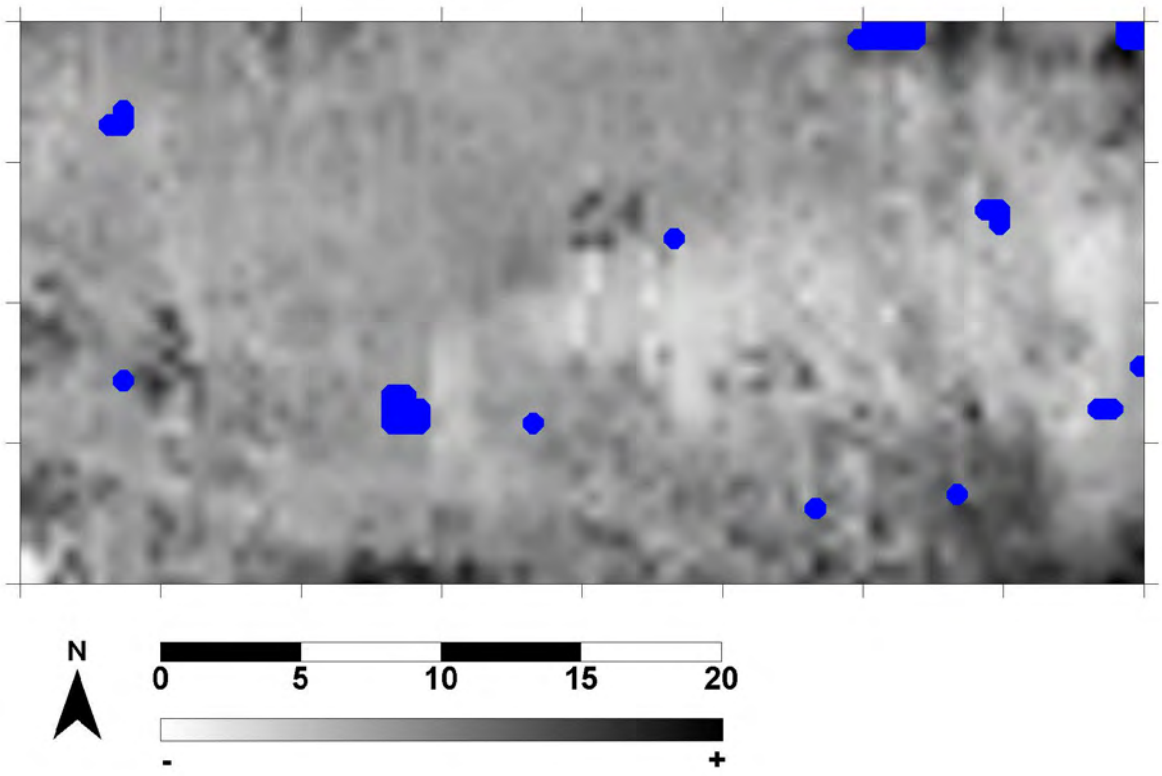


Figure 7-19. Electrical resistance results in the north tract. Blue signifies no data.

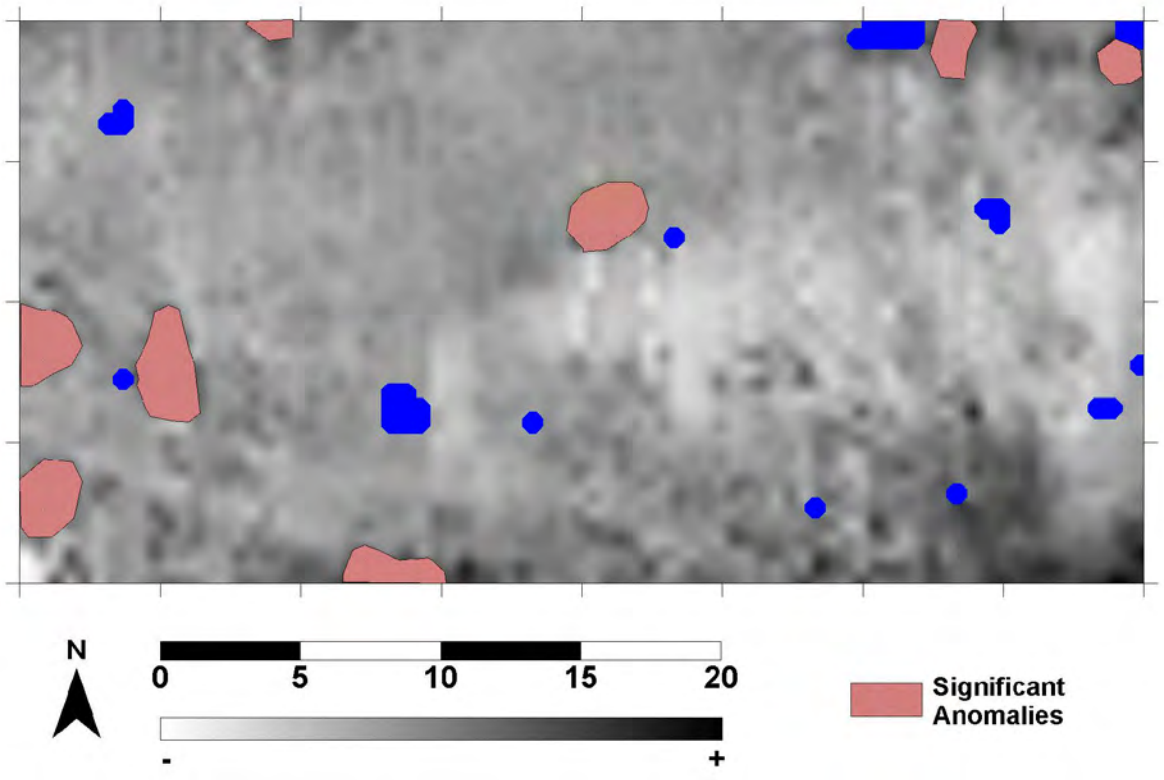


Figure 7-20. Significant anomalies in the electrical resistance results.

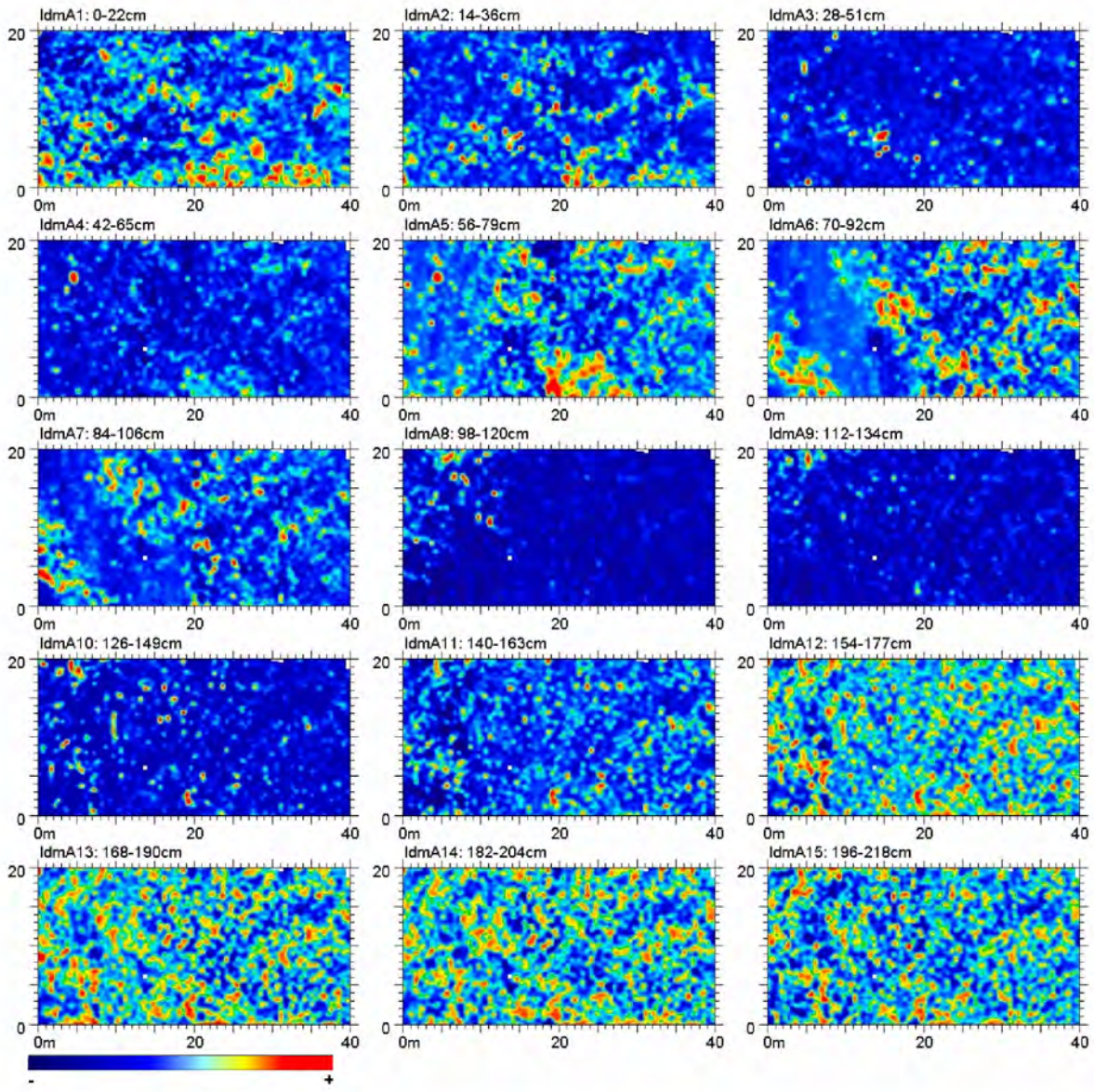


Figure 7-21. GPR time-slice data with estimated depths shown at the top of each plan view.

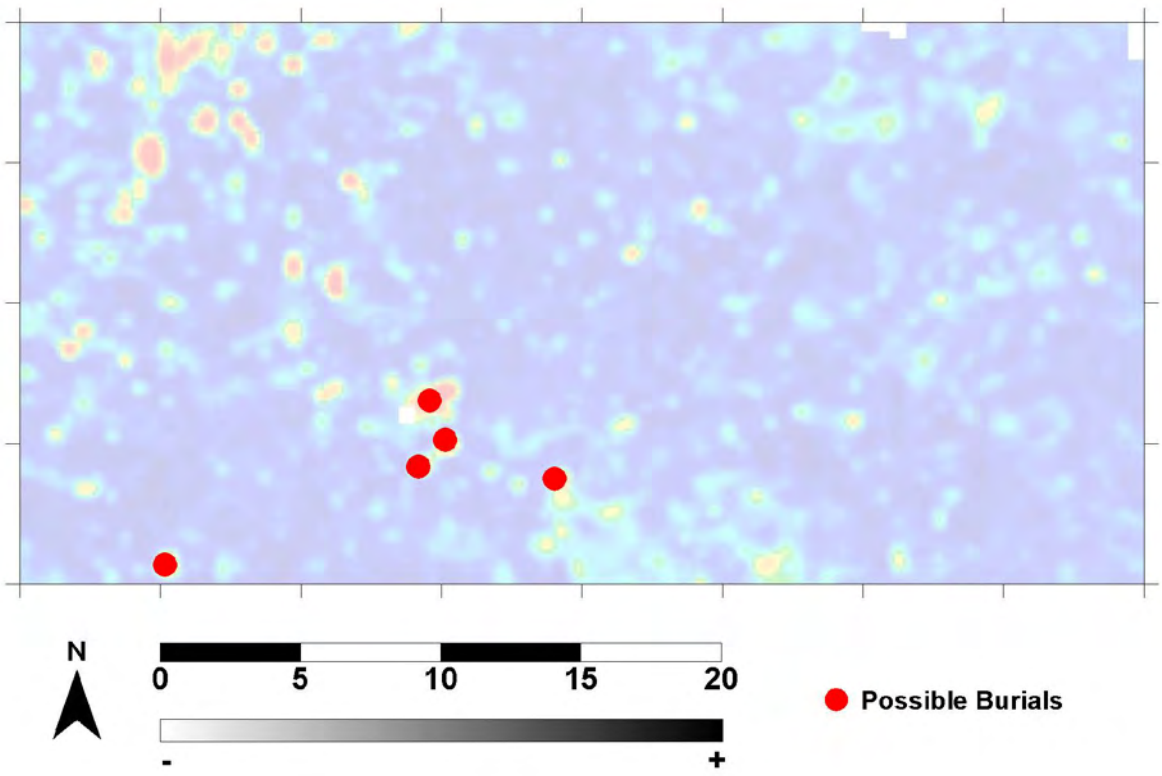


Figure 7-22. A combination of GPR slices 3, 4, 8, and 9, with anomalies that may be related to burials shown in red. The transparency has been increased on the image to make the anomalies more visible.

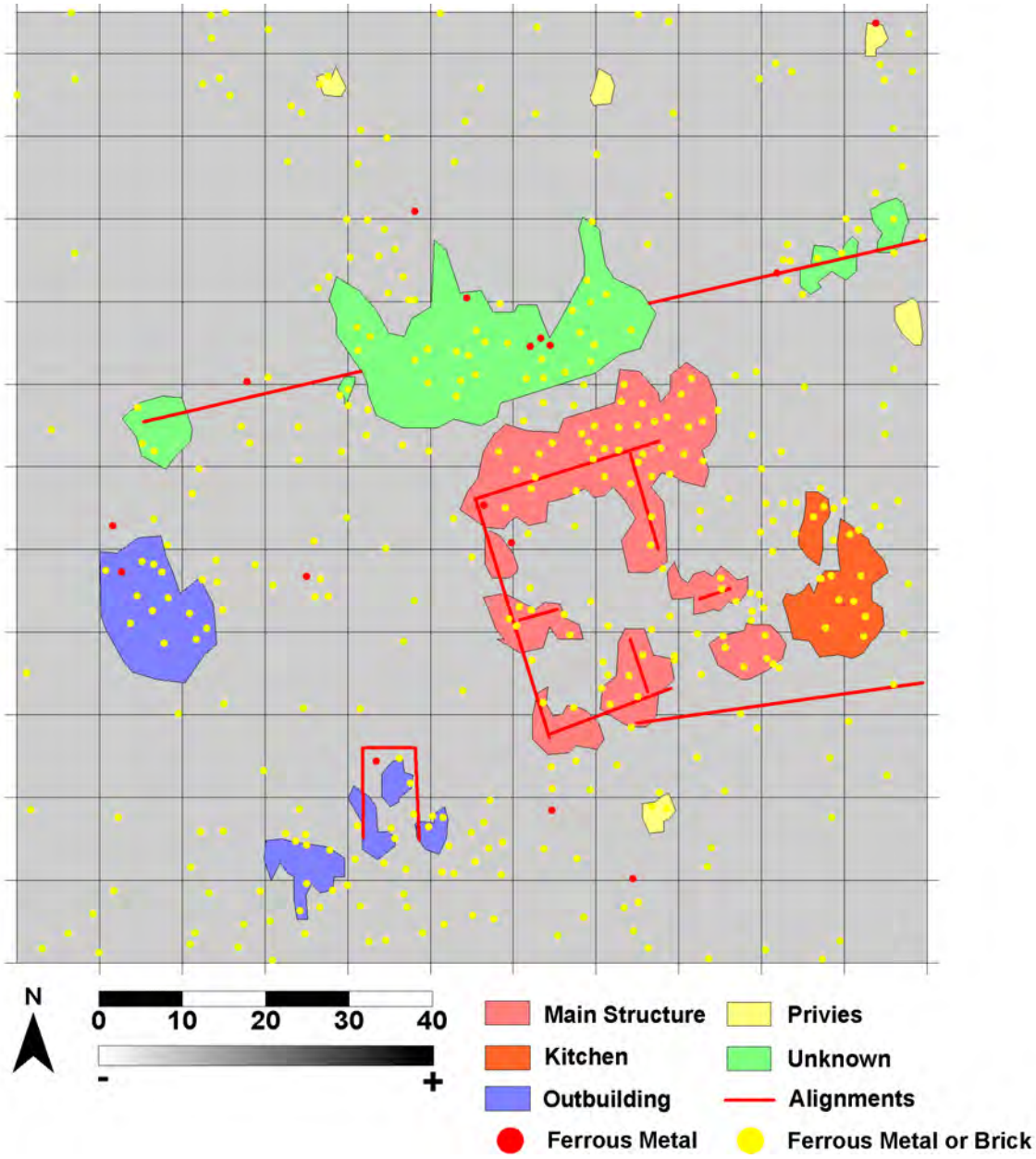


Figure 7-23. Final geophysical interpretation for the south tract of the proposed rest area.

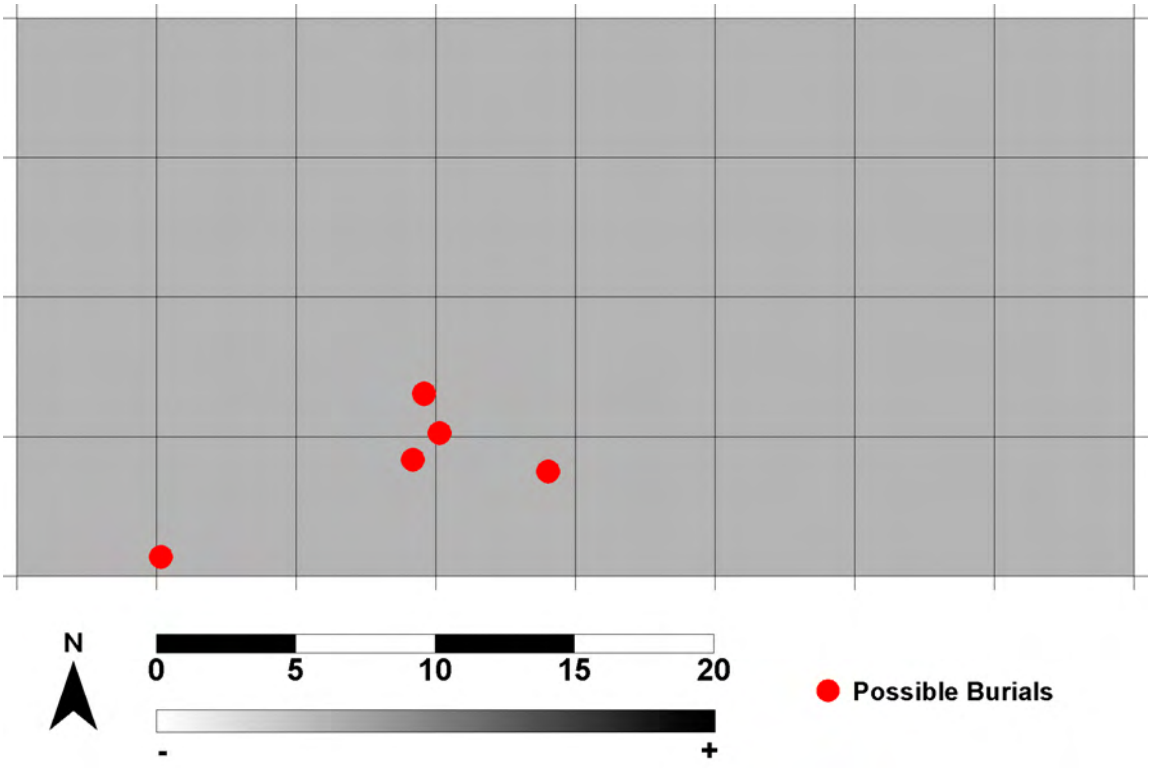


Figure 7-24. Final geophysical interpretation for the north tract of the proposed rest area.

Chapter 8: Ground-Truth Investigations (Searching for Piers, Privies, and Chimney Bases)

Richard A. Weinstein and Jennifer A. Kelly

Following completion of the geophysical investigations across the two cleared areas, additional research was conducted at many of the identified anomalies in an effort to determine their true nature. Although, as reported upon in the previous chapter, the potential function of many of these anomalies had been suggested, these assumptions still needed to be assessed through ground-truth fieldwork. Basically, this fieldwork occurred during two separate intervals. The first began immediately after the geophysical surveys had been completed and simply entailed the manual excavation of a few selected anomalies chosen on the basis the raw geophysical data available at the time. The second interval included a more detailed program of mechanical stripping at many of the anomalies after the geophysical data had been manipulated and more properly analyzed back at the Ole Miss laboratory. This second interval took place several months after the first interval had been completed.[1] This chapter will examine the first interval, while the following chapter will discuss the second.

Manual Excavations at Selected Anomalies

Several hours were spent examining the raw geophysical data following completion of the GPR and resistivity investigations, the last of the geophysical surveys to be conducted. At that time, the exact orientation of the White house was not known, nor its exact size. Thus, a series of anomalies was selected that were thought to represent possible house piers, chimney falls, privies, and the second cistern known to have been present at the house. Each was assigned an individual field designation (i.e., Possible Privy 1, Possible Privy 2, Possible Pier 1, Possible Pier 2, etc.), the grid coordinates for each determined, and then the various locations marked by pin flags for subsequent investigation. All told, 16 possible pier locations, 3 possible cistern locations, 3 possible chimney falls, and 5 possible privies were marked. However, once excavations began it quickly became apparent that many of these possible anomalies were not what they were thought to be. Some turned out to be additional pieces of metal missed by the metal detector search (Figures 8-1 and 8-2), while others failed to yield any remains at all. Nevertheless, a few did turn out to be real piers, and, perhaps most important of all, one turned out to be the main chimney foundation for the house. In order to avoid unnecessary confusion, all possible anomaly designations were changed simply to Anomaly 1, Anomaly 2, Anomaly 3, etc. Accordingly, Table 8-1 lists all anomalies examined during this phase of

Figure 8-1. Large plow part missed by the metal detector search and identified as a possible pier (Anomaly 9) during the initial ground-truth investigations.

1 The geophysical investigations were completed on October 21, 2006, and the first interval devoted to the manual excavation of selected anomalies occurred between October 23 and October 27, 2006. The second interval of mechanical stripping took place between February 12 and February 20, 2007.

Figure 8-2. Large plow part from Anomaly 9 after preliminary cleaning in the laboratory.

fieldwork. It includes the initial field interpretation, the revised anomaly number, and the results of the ground-truth investigations at each. In addition, Table 8-2 lists all artifacts recovered during the limited amount of excavations conducted at each anomaly.

As can be seen, of the 16 possible piers, two were definite piers (Anomalies 4 and 7), one was a probable pier (Anomalies 13), and one was the chimney base (Anomaly 5). One of the possible chimney falls turned out to be another probable pier (Anomaly 19), but none of the possible cisterns turned out to be the other cistern. Unfortunately, lack of time precluded examination of any of the possible privies. However, while searching for several of the possible piers, two other definite piers were encountered that had not been recognized following the geophysical work. These subsequently were examined and identified as Anomalies 17 and 18 (see Table 8-1).

Figure 8-3 shows the locations of all of the definite and probable piers noted above, along with the house chimney base. Also shown is the chimney base for the kitchen (labeled Anomaly 30). That feature was identified following recognition of the house's chimney base, which, in conjunction with the existing cistern, allowed for the proper alignment and dimensions of the house to be determined. Once those characteristics were recognized, it was possible to use the Clay floor plan of the house (see Figure 4-9) to figure the actual distance and direction between the main chimney and the kitchen chimney. After the probable location of the latter was identified, a metal probe rod was employed to punch through the soil in order to quickly determine the size and orientation of the feature. A roughly rectangular area of buried brick was identified and this potential feature then was briefly excavated to confirm its true identity. Each of the definite and probable piers and the two chimney bases are described in more detail below.

Anomaly 4 (Definite Pier)

This is a square-shaped pier located at ca. N31E63, approximately 9 m west-southwest of the cistern (Figure 8-4). It almost certainly represents one of the piers either at or near the southwestern corner of the White house. As such, it likely would have helped to support part of the front porch (see Figure 8-3).

As noted, the Anomaly 4 pier was almost a perfect square, measuring about 65 cm by 65 cm (Figure 8-5). The upper, visible portion of the feature contained several whole bricks along its western margin, although a good portion of the remainder of the pier consisted of broken and somewhat disjointed fragments. Excavation around the pier was kept to a minimum once its size and shape had been determined, so only the upper course of bricks was exposed. It is unknown how many courses are buried beneath the ground surface.

Twenty-three artifacts were collected during the course of excavation around the pier (the largest number recovered at any anomaly), despite the limited amount of digging actually conducted (see Table 8-2). Included were several ceramic sherds (a porcelain saucer fragment with a fugitive decalcomania design, a hand-painted polychrome cup fragment of white improved earthenware [Figure 8-6], undecorated pieces of stoneware, and plain whiteware), several pieces of non-window glass, and 12 pieces of metal (one of which likely is related to farming activity).

Anomaly 5 (House Chimney Base)

This key anomaly represents the base of the chimney for the main house. It is located at about grid coordinate N36E62, along what once was the

Table 8-1. List of Anomalies Selected for Ground Truthing following the Geophysical Investigations within the South Tract.

Initial Geophysical Field Interpretation	Revised Anomaly Number	Field Interpretation/ Findings FollowingGround Truthing
Possible Pier 1	Anomaly 1	Nothing found
Possible Pier 2	Anomaly 2	Nothing found
Possible Pier 3	Anomaly 3	Nothing found
Possible Pier 4	Anomaly 4	Definite Pier
Possible Pier 5	Anomaly 5	House Chimney Base
Possible Pier 6	Anomaly 6	Only Metal found
Possible Pier 7	Anomaly 7	Definite Pier
Possible Pier 8	Anomaly 8	Only Metal found
Possible Pier 9	Anomaly 9	Large Plow part found
Possible Pier 10	Anomaly 10	Only Ceramics and Metal found
Possible Pier 11	Anomaly 11	Only Ceramic and Metal found
Possible Pier 12	Anomaly 12	Only Metal found
Possible Pier 13	Anomaly 13	Probable Pier
Possible Pier 14	Anomaly 14	Only Metal, Oyster Shells, and Brick fragments found
Possible Pier 15	Anomaly 15	Only Metal found
Possible Pier 16	Anomaly 16	Probable Pier
Not Identified	Anomaly 17	Definite Pier
Not Identified	Anomaly 18	Definite Pier
Possible Chimney Fall 1	Anomaly 19	Probable Pier
Possible Chimney Fall 2	Anomaly 20	Nothing found
Possible Chimney Fall 3	Anomaly 21	Only Glass and Metal found
Possible Cistern 1	Anomaly 22	Only Metal found
Possible Cistern 2	Anomaly 23	Nothing found
Possible Cistern 3	Anomaly 24	Only Metal and a Brick fragment found
Possible Privy 1	Anomaly 25	Not Examined
Possible Privy 2	Anomaly 26	Not Examined
Possible Privy 3	Anomaly 27	Not Examined
Possible Privy 4	Anomaly 28	Not Examined
Possible Privy 5	Anomaly 29	Not Examined
Kitchen Chimney Base	Anomaly 30	Kitchen Chimney Base

Table 8-2. Material Recovered During Limited Ground-Truth Excavations at Selected Anomalies.

ARTIFACT	SURFACE	ANOMALY 4	ANOMALY 6	ANOMALY 7	ANOMALY 8	ANOMALY 9	ANOMALY 10	ANOMALY 11	ANOMALY 12	ANOMALY 13	ANOMALY 14	ANOMALY 15
CERAMIC												
Porcelain												
Hard Paste												
Decalcomania												
fugitive												
Saucer	—	1	—	—	—	—	—	—	—	—	—	—
Refined Earthenware												
Early Whiteware												
Transfer printed												
blue												
Flatware	—	—	—	—	—	—	—	—	—	—	—	—
Ironstone												
Molded												
Plate	—	1	—	—	—	—	—	—	—	—	—	—
Undecorated												
Hollowware	—	—	—	—	—	—	—	—	—	1	—	—
Unidentified	—	—	—	—	—	—	—	1	—	—	—	—
Refined Earthenware												
Undecorated												
Unidentified	—	1	—	—	—	—	—	—	—	—	—	—
White Improved Earthenware												
Handpainted												
polychrome												
Cup	—	1	—	—	—	—	—	—	—	—	—	—
Undecorated												
Plate	—	1	—	—	—	—	—	—	—	—	—	—
Saucer	—	—	—	—	—	—	1	—	—	—	—	—
Stoneware												
Bristol Glazed												
Undecorated												
Hollowware	—	—	—	—	—	—	1	—	—	2	—	—
Unidentified Manufacturing Tech.												
Unidentified												
Unidentified	1	—	—	—	—	—	—	—	—	—	—	—
GLASS												
Machine Made												
Owens Machine												
Undecorated												
Cup bottom molded												
clear												
Beveled rectangular	—	—	—	—	—	—	—	—	—	1	—	—
Molded												
Lipping Tooled												
Unidentified mold type												
brown												
Bottle	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Lipping Technique												
Cup bottom molded												
clear blue												
Bottle	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified mold type												
brown												
Bottle	—	—	—	—	—	—	—	—	—	—	—	—

(Continued)

Table 8-2. Continued.

ARTIFACT	SURFACE	ANOMALY 4	ANOMALY 6	ANOMALY 7	ANOMALY 8	ANOMALY 9	ANOMALY 10	ANOMALY 11	ANOMALY 12	ANOMALY 13	ANOMALY 14	ANOMALY 15
GLASS (Cont.)												
clear blue												
Beveled rectangular	—	—	—	—	—	—	—	—	—	—	—	—
Unidentified Manufacturing Tech.												
Unidentified mold type												
brown												
Bottle	—	—	—	1	—	—	—	—	—	—	—	—
clear												
Bottle	—	—	—	—	—	—	—	—	—	—	—	—
Vessel	—	—	—	1	—	—	—	—	—	3	—	—
clear blue												
Vessel	—	2	—	—	—	—	—	—	—	—	—	—
clear green												
Window	—	—	—	11	—	—	—	—	—	—	—	—
olive												
Vessel	—	1	—	—	—	—	—	—	—	—	—	—
METAL												
Ferrous												
Cast-Iron												
Plow	—	—	—	—	—	1	1	—	—	—	—	—
Stove Part	—	—	—	—	—	—	—	—	—	—	2	—
Stove Part (?)	—	—	—	—	—	—	—	1	—	—	—	—
Unidentified	—	—	—	1	—	—	—	—	—	—	—	—
Iron												
Barrell Hoop	—	—	—	—	—	—	—	—	—	—	—	—
Bracket	—	—	—	—	—	1	—	—	—	—	—	—
Farm Implement	—	1	—	—	—	—	—	—	—	—	—	—
File	—	—	—	—	—	—	—	—	—	—	—	1
File/Rasp	—	—	—	—	—	—	—	—	—	—	—	1
Machine Turn Key	—	—	—	—	—	—	—	—	—	—	—	—
Nail	—	—	—	—	—	—	1	—	3	6	—	—
Plow (?)	—	—	1	—	—	—	—	—	—	—	—	—
Unidentified	—	11	1	1	2	1	—	1	6	—	2	—
Unidentified												
Disc with Holes	—	—	—	—	—	—	1	—	—	—	—	—
Zinc												
Sheeting	—	—	—	—	—	—	—	—	—	—	—	—
FAUNA												
Invertebrate												
Shell												
Oyster	—	—	—	—	—	—	—	—	—	1	3	—
BRICK												
Unidentified	—	3	—	1	—	—	—	2	—	4	2	—
TOTAL	**1**	**23**	**2**	**16**	**2**	**3**	**5**	**5**	**9**	**18**	**9**	**2**

(Continued)

Table 8-2. Continued.

ARTIFACT	ANOMALY 16	ANOMALY 17	ANOMALY 18	ANOMALY 21	ANOMALY 22	ANOMALY 24	ANOMALY 30	TOTAL
CERAMIC								
Porcelain								
Hard Paste								
Decalcomania								
fugitive								
Saucer	—	—	—	—	—	—	—	**1**
Refined Earthenware								
Early Whiteware								
Transfer printed								
blue								
Flatware	—	1	—	—	—	—	—	**1**
Ironstone								
Molded								
Plate	—	—	—	—	—	—	—	**1**
Undecorated								
Hollowware	—	—	—	—	—	—	—	**1**
Unidentified	—	—	—	—	—	—	—	**1**
Refined Earthenware								
Undecorated								
Unidentified	—	—	—	—	—	—	—	**1**
White Improved Earthenware								
Handpainted								
polychrome								
Cup	—	—	—	—	—	—	—	**1**
Undecorated								
Plate	—	—	—	—	—	—	1	**2**
Saucer	—	—	—	—	—	—	—	**1**
Stoneware								
Bristol Glazed								
Undecorated								
Hollowware	—	—	1	—	—	—	—	**4**
Unidentified Manufacturing Tech.								
Unidentified								
Unidentified	—	—	—	—	—	—	—	**1**
GLASS								
Machine Made								
Owens Machine								
Undecorated								
Cup bottom molded								
clear								
Beveled rectangular	—	—	—	—	—	—	—	**1**
Molded								
Lipping Tooled								
Unidentified mold type								
brown								
Bottle	—	—	—	7	—	—	—	**7**
Unidentified Lipping Technique								
Cup bottom molded								
clear blue								
Bottle	—	—	—	1	—	—	—	**1**
Unidentified mold type								
brown								
Bottle	—	—	—	—	—	—	1	**1**

(Continued)

Table 8-2. Concluded.

ARTIFACT	ANOMALY 16	ANOMALY 17	ANOMALY 18	ANOMALY 21	ANOMALY 22	ANOMALY 24	ANOMALY 30	TOTAL
GLASS (Cont.)								
clear blue								
Beveled rectangular	—	—	—	—	—	—	3	**3**
Unidentified Manufacturing Tech.								
Unidentified mold type								
brown								
Bottle	—	—	—	—	—	—	3	**4**
clear								
Bottle	—	—	—	1	—	—	—	**1**
Vessel	—	1	—	—	—	—	—	**5**
clear blue								
Vessel	—	—	—	—	—	—	—	**2**
clear green								
Window	—	1	—	—	—	—	—	**12**
olive								
Vessel	—	—	—	—	—	—	—	**1**
METAL								
Ferrous								
Cast-Iron								
Plow	—	—	—	—	—	—	—	**2**
Stove Part	—	—	—	—	—	—	—	**2**
Stove Part (?)	—	—	—	—	—	—	—	**1**
Unidentified	—	—	—	—	1	—	—	**2**
Iron								
Barrell Hoop	—	—	—	1	—	—	—	**1**
Bracket	—	—	—	—	—	—	—	**1**
Farm Implement	—	—	—	—	—	—	—	**1**
File	—	—	—	—	—	—	—	**1**
File/Rasp	—	—	—	—	—	—	—	**1**
Machine Turn Key	—	—	—	—	—	1	—	**1**
Nail	—	—	—	—	1	4	1	**16**
Plow (?)	—	—	—	—	—	—	—	**1**
Unidentified	—	—	—	8	3	17	—	**53**
Unidentified								
Disc with Holes	—	—	—	—	—	—	—	**1**
Zinc								
Sheeting	—	—	—	1	—	—	—	**1**
FAUNA								
Invertebrate								
Shell								
Oyster	—	—	1	—	—	—	—	**5**
BRICK								
Unidentified	1	—	—	—	—	1	—	**14**
TOTAL	**1**	**3**	**2**	**19**	**5**	**23**	**9**	**157**

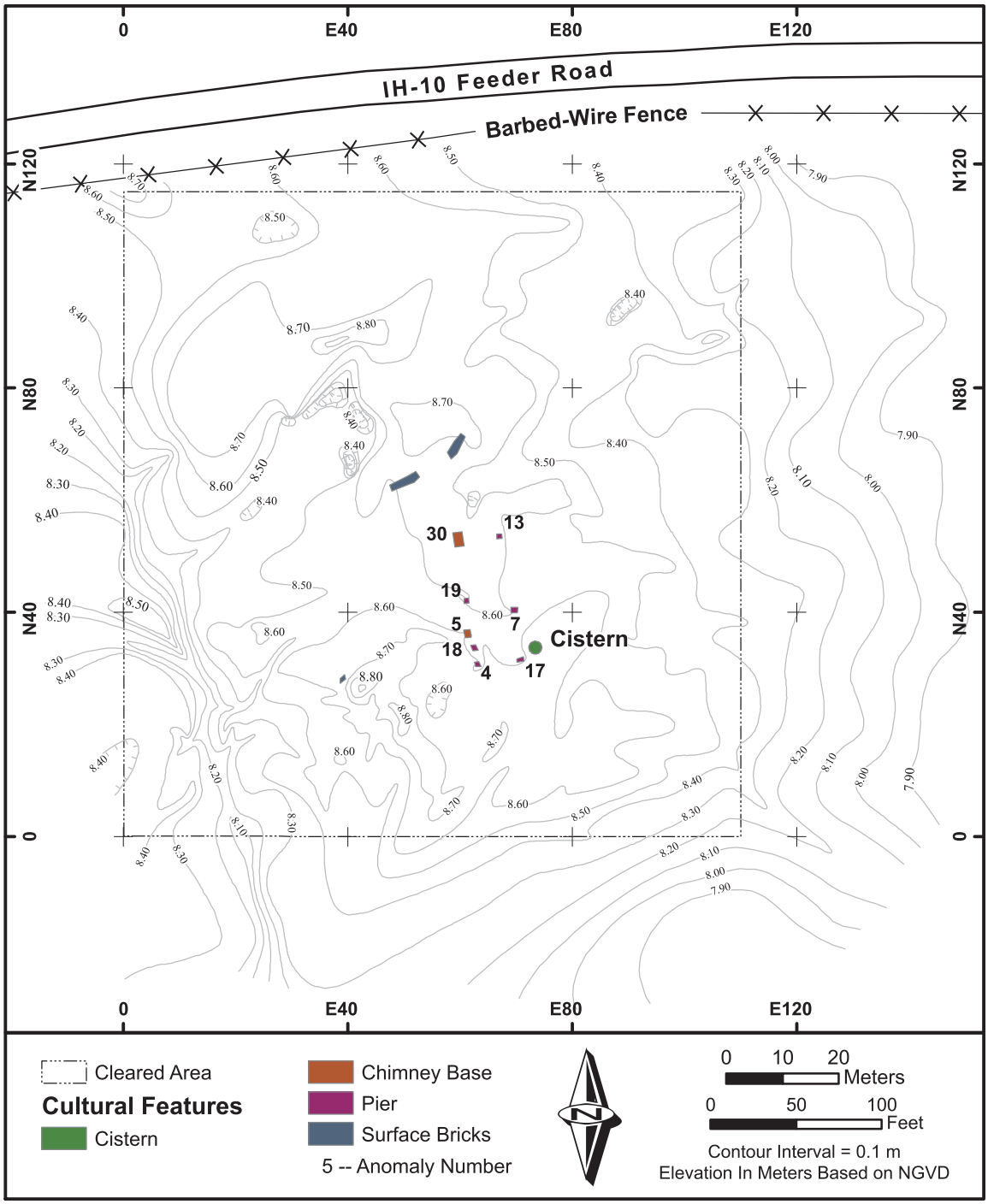


Figure 8-3. Locations of definite and probable piers, plus the two chimney bases, identified during the initial phase of ground-truth investigations. Also shown are several surface brick scatters.

Figure 8-4. Exposed Anomaly (Pier) 4 located at ca. N31E63. Cultural items, including glass, metal, and ceramics, were excavated from this area. View to the east-northeast with the cistern in the background.

Figure 8-5. Close-up view of the top of exposed Anomaly (Pier) 4.

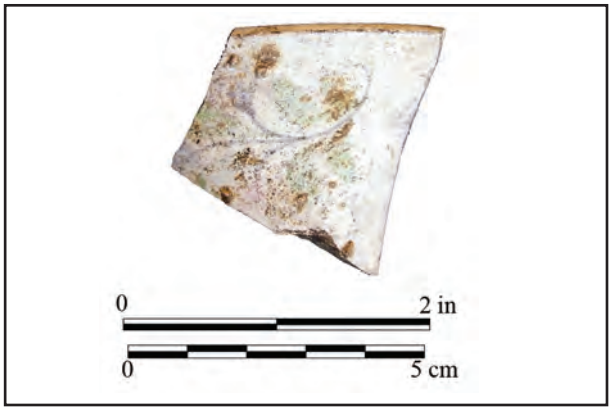


Figure 8-6. Fragment of a hand-painted polychrome cup recovered during the excavations to expose Anomaly (Pier) 4.

western side of the White house (see Figure 8-3). According to the floor plan of the house (see Figure 4-9), this chimney base was the foundation for a fireplace located about midway along the west wall of the front-west room. Given the fact that both the fireplace and stairs leading to the second story were within this room, it is highly likely that the room served as a parlor or main living room for the house.

The feature itself consisted of a rectangular-shaped array of bricks that measured approximately 1 m by 1.45 m (Figure 8-7). Interestingly, the base consisted of outer rows of whole bricks placed along each side. These acted as support walls for the broken bricks and mortar that were used to fill the interior of the feature. These outer rows also

Figure 8-7. Base of the house's main chimney encountered at ca. N36E62, identified originally as Anomaly 5. Note the outer rows of whole bricks and the rubble-filled interior.

alternated direction with each successive course. For instance, as can be seen in Figure 8-7, the bricks in the uppermost western row were laid lengthwise to one another, while bricks in the outer row of the course below were was laid edgewise to each other and perpendicular to the bricks in the row above it.

During examination of the feature, a small area along its western side was excavated to a depth of 65 cm in an effort to determine the extent of the chimney remains beneath the ground surface. Unfortunately, this excavation did not reach the bottom of the chimney base, although it did reveal at least nine courses of bricks (Figure 8-8). Somewhat surprisingly, no artifacts were recovered from this excavation, or from the overlying soil removed to expose the feature initially.

As mentioned previously, the identification of this anomaly as the chimney base for the main house was critical in deciphering the true dimensions and orientation of the house and its associated kitchen. Using both the location of this anomaly and the existing cistern, it was possible to modify the scale shown on the Clay floorplan drawing and to then

Figure 8-8. At least nine courses of bricks were used in the construction of the chimney base associated with Anomaly 5.

measure the distance to the kitchen's chimney base along what once was the western wall of those two buildings and the room on the intervening breezeway. Probing in the area of the kitchen chimney base revealed its actual presence, and subsequent excavation confirmed its size and orientation (see below).

Anomaly 7 (Definite Pier)

This anomaly represents a fairly large pier, the remains of which measured about 130 by 180 cm, with the long dimension oriented roughly east-west (Figure 8-9). Although the bricks associated with the pier were somewhat scattered and possibly spread slightly, this still is a fairly large feature that could have been a major pier located under the eastern half of the main house. Its location suggests that it may have supported the east-west wall that separated the two easternmost rooms in the house (see Figure 8-3). Again, excavation around the feature only extended to a depth of about 15 cm, so it is unknown how deeply buried is the remainder of the pier.

Figure 8-9. Anomaly (Pier) 7 exposed during manual excavations.

Artifacts retrieved during the excavation included 13 glass items and two pieces of unidentified iron (see Table 8-2). One of the glass pieces was from a bottle, while 11 came from clear-green windowpanes.

Anomaly 13 (Probable Pier)

This poorly preserved feature probably represents the remains of one of the piers used to support the kitchen building situated just north of the main house, possibly under the eastern outer wall of the structure (see Figure 8-3). It had been badly spread and bricks once associated with it were scattered over an area of about 1.7 by 1.2 m, with the longest dimension oriented roughly east-west (Figure 8-10). Excavation around the feature went to depths of only 15 to 20 cm, so once again it was not possible to determine how much of the pier still existed beneath the ground surface.

Four ceramic sherds, three glass items, six nails, and an oyster shell were recovered during the excavations (see Table 8-2). Of these, the most interesting item was a complete clear-glass, machine-made, rectangular-shaped bottle with beveled edges that had been manufactured in a cup-bottom mold (Figure 8-11). It appears to have been produced by an Owens automatic bottle-making machine, most likely by the Illinois Glass Company of Alton, Illinois. That company was in existence from 1873 to 1929 and, between ca. 1900 and 1929, marked the bases of their bottles with a diamond within which were either letters or numbers (Toulouse 1972:264). As can be seen in Figure 8-12, the base of the bottle from Anomaly 13 is embossed with a diamond enclosing the number 885. Given the fact that Owens automatic bottle-making machines did not come into use until after 1904,

Figure 8-10. View of the badly preserved remains of Anomaly (Probable Pier) 13. Glass, whiteware, and metal items were recovered during the brief excavation that uncovered the feature.

plus the likelihood that the White house was abandoned and dismantled sometime during the first two decades of the twentieth century, it can be estimated that this bottle was discarded at the house site sometime between 1904 and 1920.[2]

Anomaly 17 (Definite Pier)

Although this was not one of the original anomalies selected after the geophysical work had been completed (see Table 8-1), probing in an area about 1.5 m southwest of the existing cistern encountered what appeared to be a pier feature. Accordingly, a small amount of effort was expended in an attempt to uncover the possible pier and to determine its true nature. This proved to be very successful and a definite brick pier, measuring approximately 0.7 by 1.2 m, was unearthed. Given the pier's location along what would have been the very front of the house, it likely acted as a support for the south side of the porch (see Figure 8-3).

Only a very limited amount of excavation occurred at this anomaly. Basically, enough soil was removed to allow for the pier to be identified. Thus,

2 Although much less likely, it is possible that the Diamond Glass Company of Royersford, Pennsylvania, produced the bottle from Anomaly 13. That company has been in existence since 1888 (Toulouse 1972:550). However, it did not start using a diamond symbol on its bottles until after 1924, presumably a decade or more after the White house was abandoned.

Figure 8-11. Owens machine-made bottle recovered from Anomaly (Probable Pier) 13.

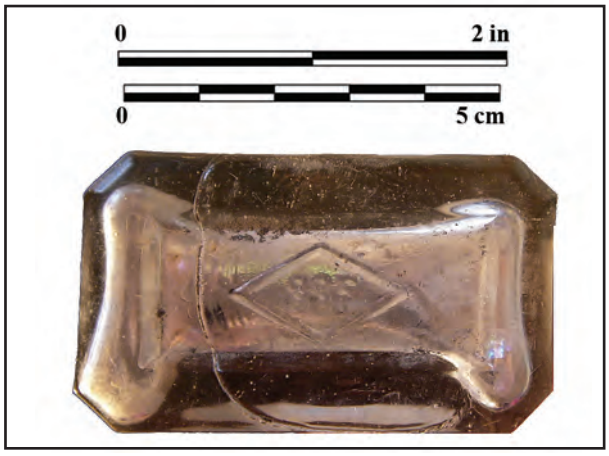


Figure 8-12. Base of Owens bottle from Anomaly 13 with "885" embossed inside diamond.

only three artifacts were found in association with the feature (see Table 8-2). Two were simply pieces of broken glass, one from some form of vessel and the other from a pane of window glass. The third artifact, however, was a sherd of early whiteware with a blue transfer-printed design (Figure 8-13). Such ceramics were commonly manufactured between ca. 1820 and 1840, although significant quantities were produced in the 1850s and early 1860s (Miller 1980; Moir 1987:102; Price 1982:14).

Figure 8-13. Fragment of early whiteware with blue transfer-printed design, from Anomaly (Pier) 17.

Anomaly 18 (Definite Pier)

This was another pier located by probing rather than the preliminary geophysical data (see Table 8-1). It was located at approximate grid coordinate N33E62, about 9 m west of the cistern (see Figure 8-3). As with Anomaly 17, only a small amount of effort was expended to determine the nature and size of the feature. Overall, it measured about 0.9 by 1.1 m. Its position along what once was the western wall of the house, suggests that it served as a major support for the outer wall of the building.

Again, only a few items were recovered during the limited amount of excavation conducted at the anomaly. These included a single sherd of undecorated stoneware and a lone piece of oyster shell (see Table 8-2).

Anomaly 19 (Probable Pier)

This probable pier initially was thought to represent a possible chimney fall (see Table 8-1). Following the limited amount of excavation around the anomaly, however, it was determined that a probable pier had been encountered and not the remains of a chimney. It was located at approximate grid coordinate N35E70, in what would have been the

northwestern corner of the main house (see Figure 8-3). Given its location, it can be surmised that the pier provided support to the western outer wall of the building, possibly as a corner support. Unfortunately, time did not allow for complete excavation of the feature, so its full dimensions were not determined. No artifacts were recovered during its brief examination.

Anomaly 30 (Kitchen Chimney Base)

This rather large anomaly almost certainly represents the base for the kitchen chimney that once was located along the western side of the kitchen (see Figures 4-9 and 8-3). As noted previously, it was discovered initially by probing after its likely location had been determined by measuring northward from the chimney base for the house (Anomaly 5). No excavation was conducted initially at Anomaly 30, but probing identified a fairly extensive and solid layer of bricks at between 5 and 10 cm below the ground surface. This brick concentration measured about 2.4 m in length by 1.8 m in width. Subsequently, it was decided to conduct a quick excavation of the feature to determine if these dimensions were accurate.

Accordingly, a few hours were spent clearing the upper 10 to 15 cm of soil from the surface of the feature. This revealed a chimney base that measured 2.6 m in length by 1.7 m in width (Figures 8-14 and 8-15), with the long axis at an angle of roughly 350 degrees and a tree growing out of the center of the feature. These measurements conform quite closely with those noted by the probing. In addition to the intact portion of the base, a marginal area of brick rubble was present along the north, east, and south sides. Imbedded within this rubble was a large fragment of a blue-edged whiteware plate and a pressed brick with the letters "…RNO…" or "…RNC…" molded into it (Figure 8-16). This latter item may represent a repair brick used to mend the chimney sometime during the late nineteenth or early twentieth century. Due to a lack of time, both the plate and brick were left in place when the chimney base was reburied.

Other artifacts recovered during the limited excavations at the chimney base included one undecorated whiteware plate fragment, a nail, and several pieces of glass (see Table 8-2). Of the latter category, three fragments of clear-blue glass came from a rectangular panel bottle with the inscription "DR. S. PITCHER'S" on one panel and "CASTORIA" on the opposite panel. According to Fike (1987:177), Samuel Pitcher of Barnstable, Massachusetts, produced his castoria mixture as an

Figure 8-14. Kitchen chimney base (Anomaly 30) after removal of thin layer of overlying soil. Note the tree growing out of the center of the base.

Figure 8-15. Another view of exposed base for the kitchen chimney.

Figure 8-16. Brick marked with either the letters "...RNO..." or "...RNC...," exposed within the rubble at the edge of the kitchen chimney base.

aid to constipation as early as 1868. It was still produced under different owners, but with Pitcher's label, up to 1948. Given the fact that the bottle from the chimney is molded, it likely was manufactured sometime prior to World War I. Thus, an age range of between 1868 and 1914 is suggested.

As with the chimney base for the main house, the base for the kitchen chimney consisted of outer rows of whole bricks that served as wall supports for the brick rubble that filled the interior of the feature (Figure 8-17). In this case, however, because of the size of the base, two rows of whole bricks were used for each outer wall, with one row laid lengthwise and the other row laid edgewise. Although not exposed due to the shallow nature of the excavations, it is likely that underlying courses

Figure 8-17. Eastern edge of kitchen chimney base, showing two rows of bricks that formed the outer support wall along that side of the feature.

have alternating alignments of bricks similar to those exposed for the house chimney base.

Anomaly Summary

Excavation and probing related to the ground-truth investigations of 27 selected anomalies identified six piers or probable piers and two chimney bases related to the ca. 1854 White house. While this may not seem like a large number of recognized features, it is sufficient enough to allow the Clay floor plan of the house (see Figure 4-9) to be oriented correctly and scaled to its proper dimensions. Thus, Figures 8-18 and 8-19 show the floor plan overlain on the piers and chimney bases discussed above, with Figure 8-18 showing the house within the large cleared area and Figure 8-19 showing a more detailed image of the former. Together, these figures provide a very clear and fairly precise picture of how the actual house was aligned, its true size, and where the identified piers and chimney bases once were situated in relation to the structure.

By using this new information it should be quite simple to pinpoint other potential pier locations and the base for the second cistern once situated off the northeast corner of the house. After these are identified, then they can be uncovered through a limited amount of additional archaeological excavation. Once uncovered, these features, along with those already identified during the present work, would provide visitors to the rest area with an easily recognizable, on-the-ground display that shows the location, size, and layout of the original house and its associated kitchen.

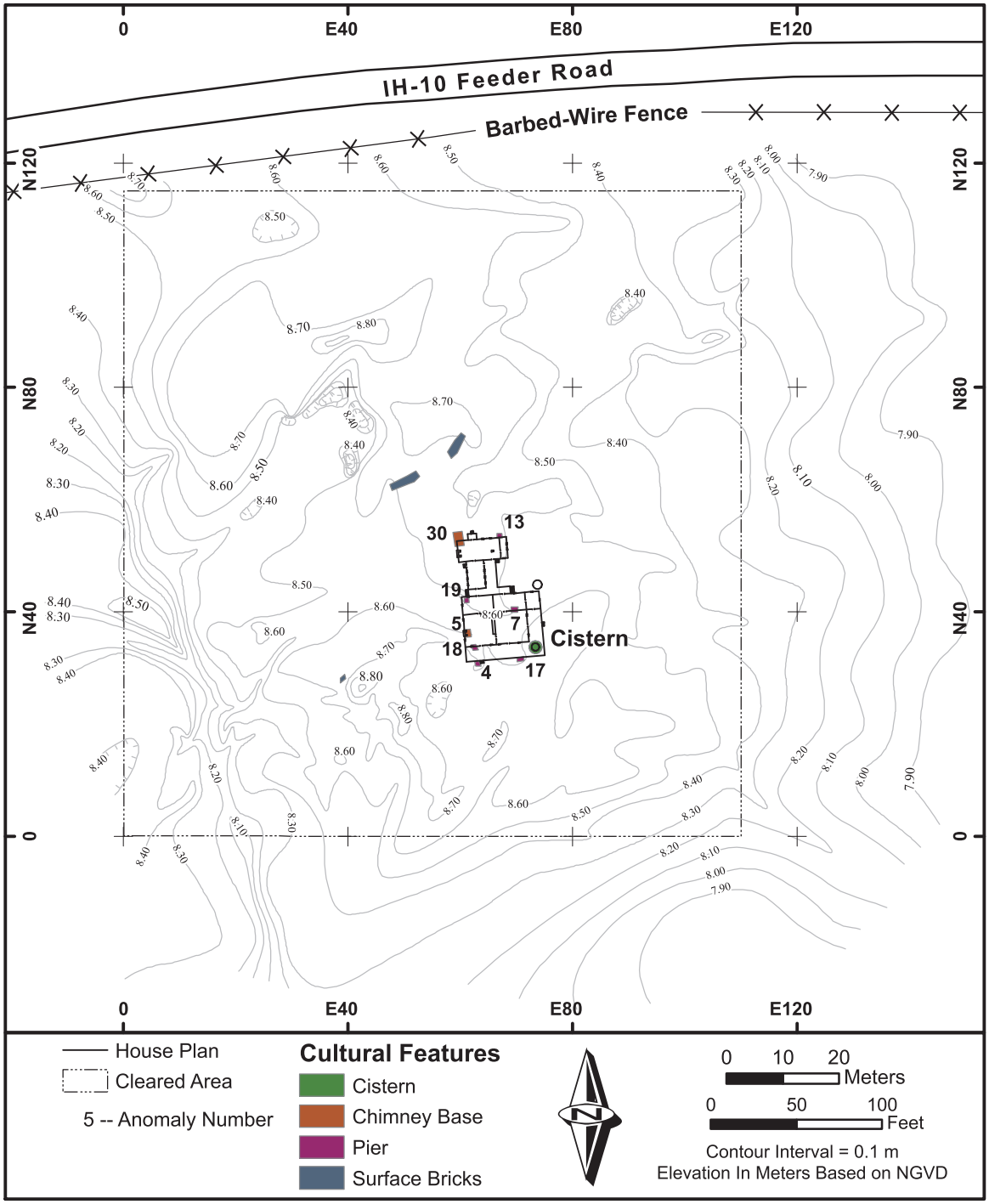


Figure 8-18. Floor plan of the White house, oriented and scaled to fit the various piers and chimney bases uncovered during the ground-truth investigations.

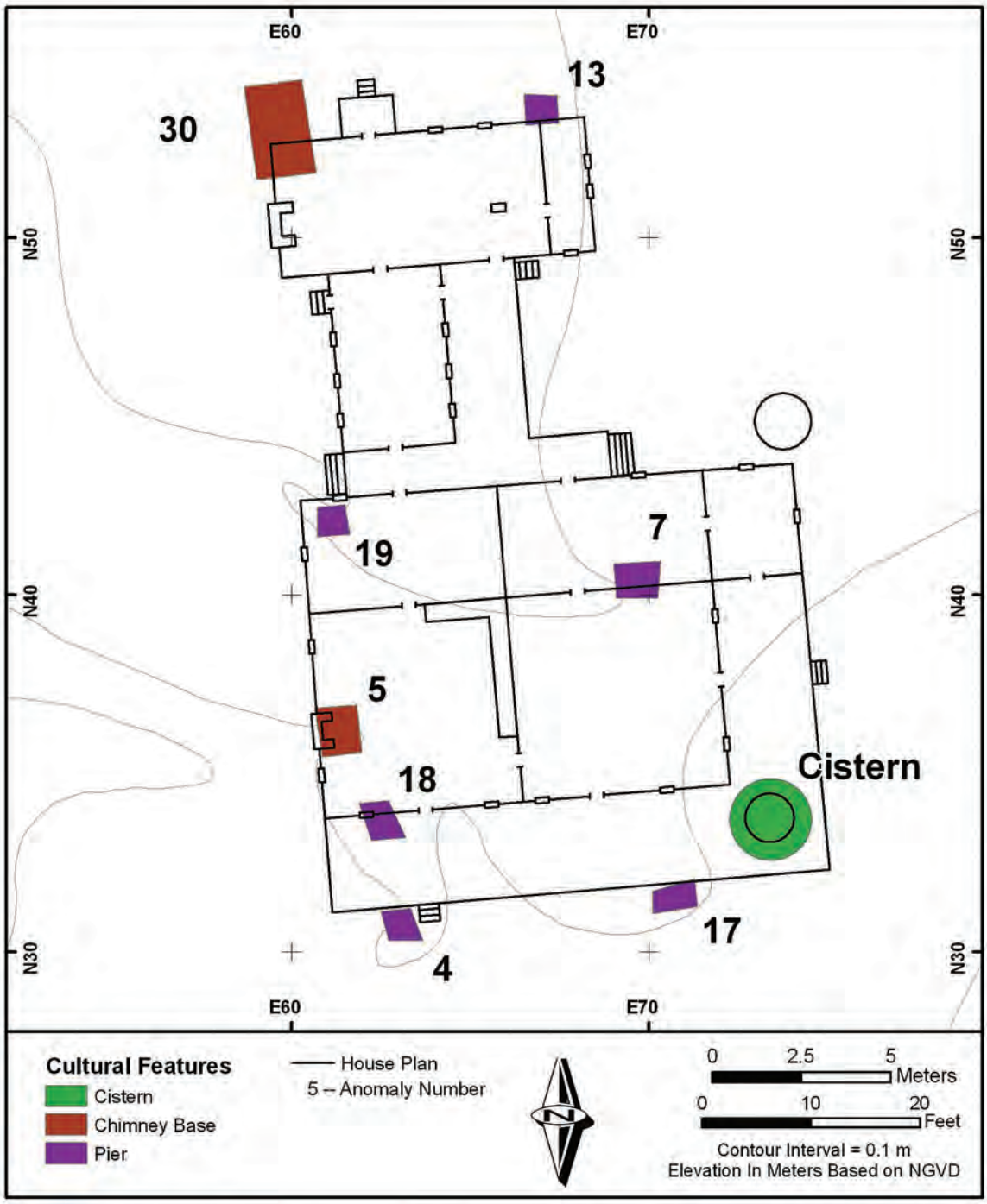


Figure 8-19. Enlarged version of Figure 8-18, showing the floor plan of the White house overlain on the actual locations of the various features uncovered during the ground-truth investigations.

Chapter 9: Investigation of Anomalies at Sites 41CH370 and 41CH371 via Mechanical Stripping and Hand-Excavated Units

Joanne Ryan

As mentioned previously, CEI produced two scopes of work for the fieldwork discussed in this report. The first was presented in Chapter 5. The second scope of work was prepared when it was discovered that numerous cultural remains and potential remains existed in the two survey tracts. The primary aim of the second scope of work was to assess the anomalies identified during the remote-sensing investigations conducted near site 41CH370 and at site 41CH371 and discussed in Chapter 7. These anomalies were investigated to determine if they would require additional significance testing at a later date.

Near the Broussard Cemetery (41CH370) in the north tract, five anomalies possibly representing burials were identified through GPR and resistivity surveys (Figure 9-1). Eighteen anomalies were identified at the White Family Cistern site (41CH371) in the south tract through magnetometer and EM surveys. Five of these 18 anomalies possibly represented privies, and five others the possible remains of outbuildings. The nature of six anomalies could not be defined, while the remaining two anomalies possibly represented portions of the main house that lie to the southeast of the known house location (Figure 9-2).

Field Methods

These additional field investigations were conducted in two steps. Step 1 consisted of systematic mechanical stripping. The methodology approved by TxDOT was to use a small trackhoe and mechanically strip linear areas (Stripped Areas [SAs]) across each anomaly.

Step 2 involved the hand excavation of units, ranging in size from 50-by-50-cm to 1-by-1-m, in those features that required additional investigation to determine their nature and possible significance. The fieldwork was conducted by a three-person field crew. The permanent datum points established at both sites during the previous phases of work were used to reestablished the site grids at both sites. The beginning and ending points of each linear area to be stripped were marked with pin flags as a guide for the machine operator.

The mechanical stripping was conducted by a skilled operator using a small track hoe with a two-foot-wide, toothless bucket (Figure 9-3). Crewmembers monitored all machine work and identified cultural deposits as they were encountered. Eight linear areas encompassing 49.04 m^2 were excavated in the rectangular-shaped cleared area near site 41CH370 (Figure 9-4). These stripped areas were excavated down to approximately 40 cm below surface (cmbs) where a well-defined stratum of brown (10YR 4/3-5/3) sandy loam was encountered. Any burial pits cut down into this stratum would have contrasted sharply with these light-colored soils. Nevertheless, to ensure that no burials were present, the excavations were continued to from 80 to 100 cmbs where the sterile Beaumont Terrace, consisting of a brown (10YR 4/3-5/3) silty clay riddled with brick-red oxidation, was encountered.

At site 41CH371, 26 linear areas encompassing approximately 186.66 m^2 were excavated (Figure 9-5). All stripped areas were excavated down to sterile subsoil or to the top of potential cultural deposits. Most extended down to between 45 and 60 cmbs. Two were continued to a depth of 90 to 95 cmbs where the Beaumont Terrace was encountered. Upon the completion of these investigations, all stripped areas at both sites were mechanically backfilled.

Three hand-excavated units were positioned within three of the stripped areas (SAs 1, 6, and 8) at site 41CH371 in order to examine the possible cultural deposits they contained (Figure 9-6). Two features identified in two additional trenches (SAs 9 and 19) were examined in cross section. Each of the hand-excavated units was dug in natural stratigraphic levels, with strata thicker than 10 cm subdivided into 10-cm-thick

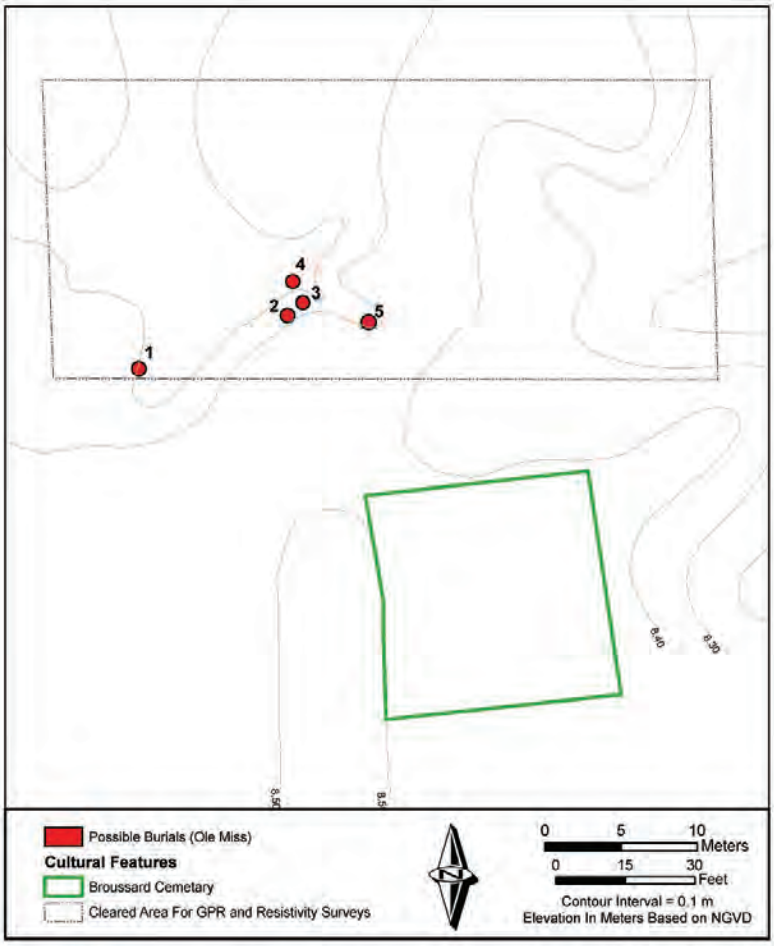


Figure 9-1. Contour map of the cleared area near site 41CH370 (within the north tract), showing the locations of the five possible burials identified by the GPR and resistivity surveys north of the Broussard Cemetery.

levels. Floor plans of each level were made, and profiles were drawn of completed excavations. All excavated material was screened through 1/4-in wire mesh screen. Samples of the matrix from selected deposits were also collected for flotation. The latter process is designed to recover floral remains, but also captures artifacts greater than 1/16-in in size. All artifacts recovered were then used to determine cultural and/or temporal affiliation.

Near Site 41CH370

Eight linear stripped areas were mechanically excavated near site 41CH370 (see Figure 9-4). Stripped Areas (SAs) 1 through 4 were intended to examine the five anomalies identified in the western half of the cleared area during the remote-sensing investigations.

SA 1 was centered over Anomaly 1 and was oriented roughly east-west (i.e., at an angle of 81°). It was 5 m long, 1.2 m wide, and was excavated down to 100 cmbs (see Figure 9-4). The stratigraphy revealed in SA 1 consisted of 40 cm of very dark grayish brown to dark yellowish brown (10YR 3/2-3/4) sandy loam overlying 40 cm of brown (10YR 4/3-5/3) sandy loam. The Beaumont Terrace, a brown (10YR 4/3-5/3) silty clay riddled with brick-red oxidation, was encountered from 80 to 100 cmbs.

SA 2 was centered over Anomalies 2 and 3 and oriented at the same angle as SA 1 (see Figure 9-4).

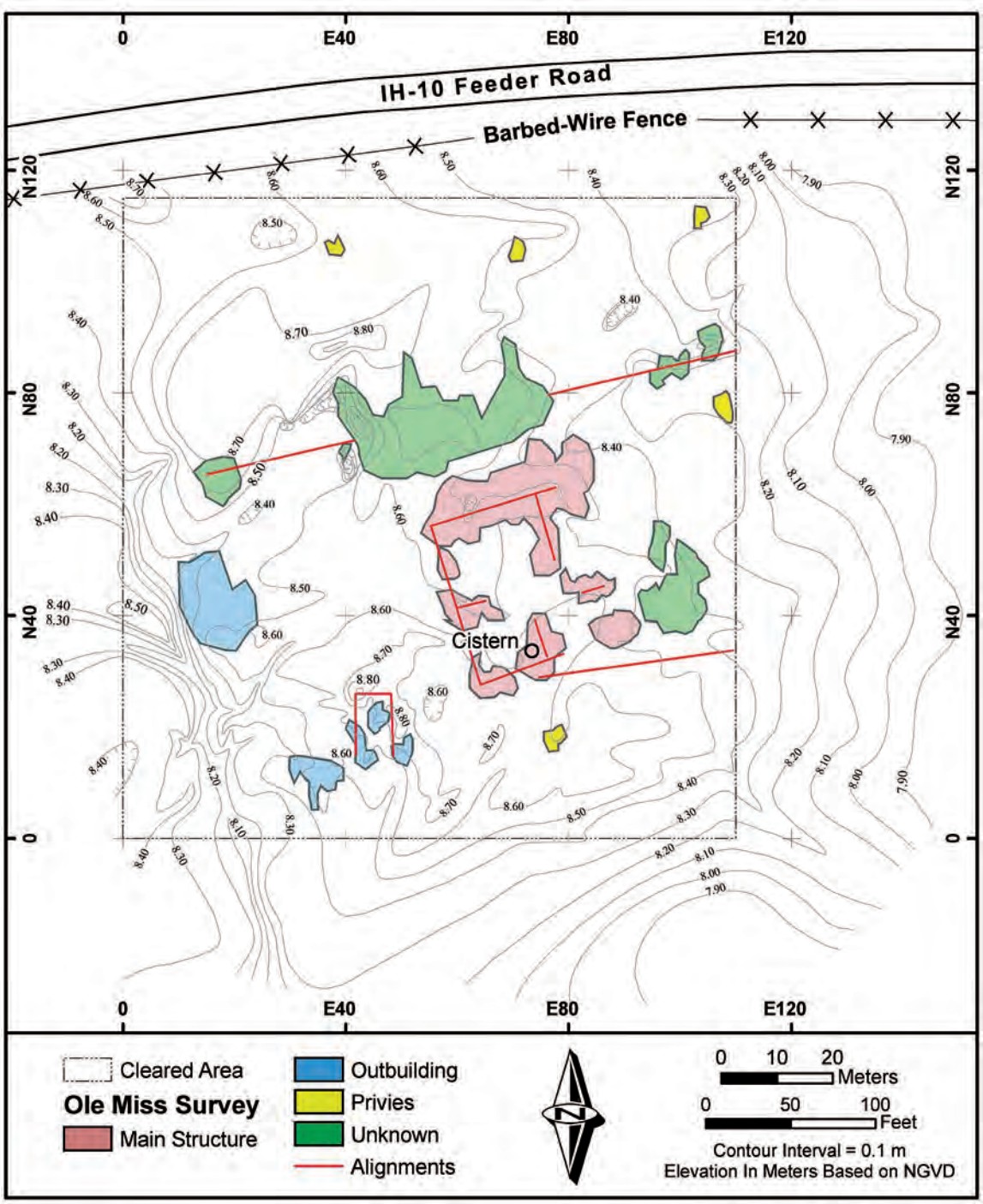


Figure 9-2. Contour map of the cleared area at site 41CH371 (within the south tract), showing the various anomalies identified by the magnetometer and EM surveys. In this instance, the anomaly thought originally to represent the kitchen (see Figures 7-18 and 7-23) has been changed to "unknown" to reflect the fact that it cannot be the kitchen.

SA 2 was 4 m long, 1.5 m wide and extended to 80 cmbs. It exhibited the same stratigraphy as SA 1. Anomaly 4 was examined via SA 3, an area 4 m long, 1.8 m wide and 90 cm deep (see Figure 9-4). SA 3 was also oriented at the same angle as SAs 1 and 2 and shared the same stratigraphy. Finally, SA 4 was centered over Anomaly 5 (see Figure 9-4). This stripped area was 4 m long, 1.6 m wide, and

Figure 9-3. Monitoring of mechanical stripping at site 41CH371. View is to the west. Date: 3/2/07.

80 cm deep. Unlike the previous stripped areas, SA 4 was oriented roughly north-south (i.e., at an angle of 8°).

No evidence of burial pits was detected in these four stripped areas. In fact, SAs 1 through 4 yielded no cultural material or deposits of any kind. However, large bulbous roots were encountered in the upper strata of SAs 1 and 2 that might account for the anomalous readings detected during the geophysical survey.

Although no anomalies were detected in the eastern portion of the cleared area near site 41CH370 during the remote-sensing investigations, four additional areas were stripped there to ensure that no burials were present. SAs 5 through 7 were oriented east-west, while SA 8 was oriented north-south (see Figure 9-4). All four stripped areas shared the same stratigraphy. SA 5 was 12 m long, ranged in width from 61 cm to 1.2 m, and was 60 cm deep (see Figure 9-4). The stratigraphy revealed in SA 5 consisted of 30 cm of dark yellowish brown (10YR 3/4) sandy loam overlying 30 cm of brown (10YR 5/3) sandy loam. The Beaumont Terrace was encountered at 60 cmbs. SA 6 was 7.5 m long, 61 cm wide and ranged in depth from 50 to 60 cmbs (see Figure 9-4). SA 7 was 7.7 m long, 61 cm wide, and 50 cm deep (see Figure 9-4). A small lens of white gravel, roughly

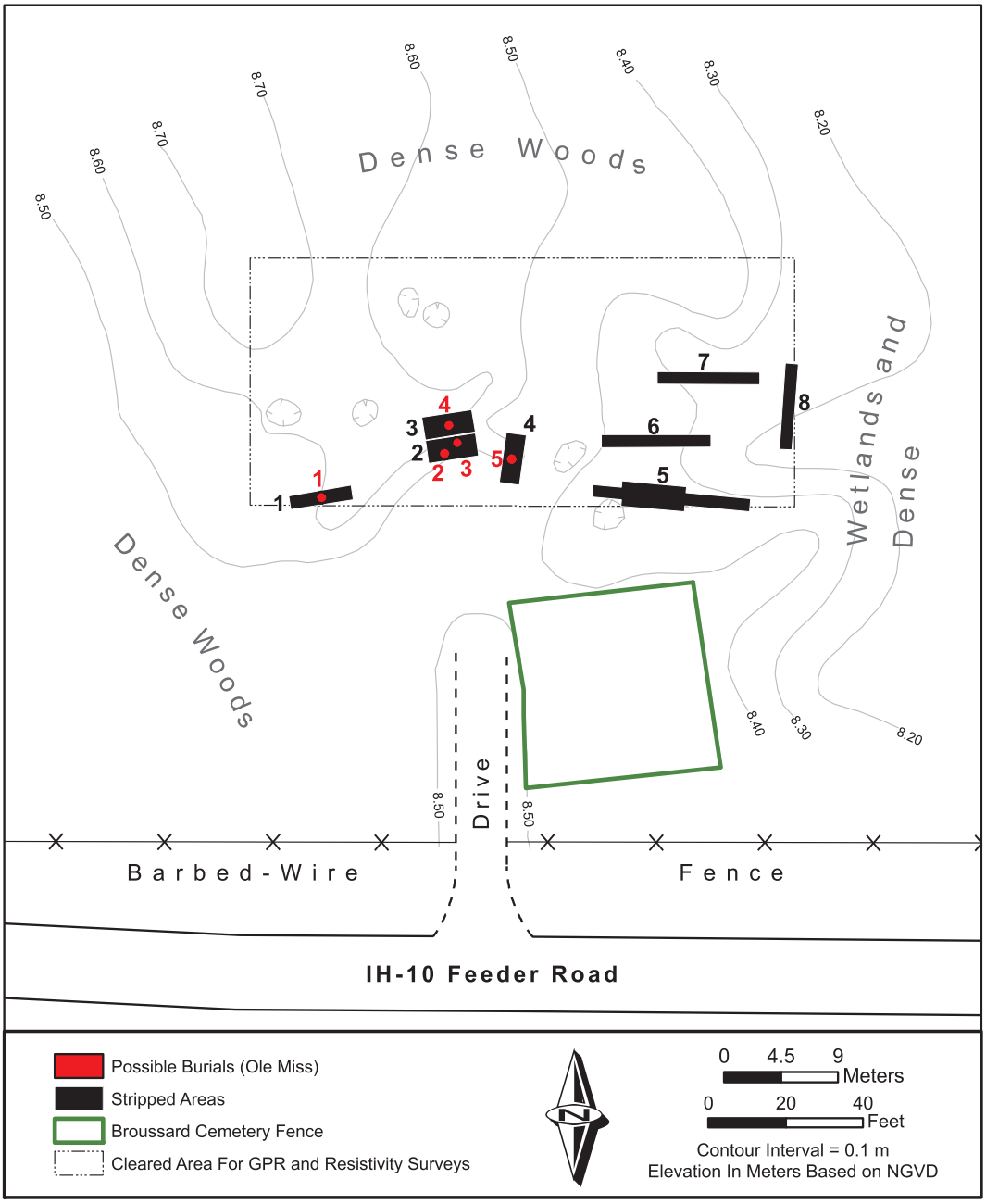


Figure 9-4. Contour map of the cleared area near site 41CH370 showing the locations of the five anomalies and eight stripped areas (SAs 1-8).

50-cm wide and 50 cmbs, was noted in the eastern end of this stripped area. Finally, SA 8 was 6.3 m long, 61 cm wide, and 50 cm deep (see Figure 9-4). None of these additional stripped areas encountered burials or cultural deposits of any kind.

Site 41CH371

Mechanical Stripping

Twenty-six linear stripped areas were mechanically excavated to examine the 18 anomalies identified through magnetometer and EM survey at site 41CH371 (see Figure 9-5). SAs 1 through 3, 14, and 26 were intended to examine the five anomalies possibly representing privies. SAs 15 through 17 and 22 through 25 targeted the five anomalies thought to represent the locations of outbuildings. The six anomalies of unknown type were investigated via SAs 4 through 13 and 20 to 21, while the

two anomalies thought to be associated with the main house were examined with SAs 18 and 19. All the stripped areas except for SAs 12, 18, 19, and 22 were oriented north-south, while the latter were oriented east-west (see Figure 9-5).

Stripped Areas 1-3, 14 & 26 (Possible Privies)

These five stripped areas were located along the north, east, and southern boundaries of the large

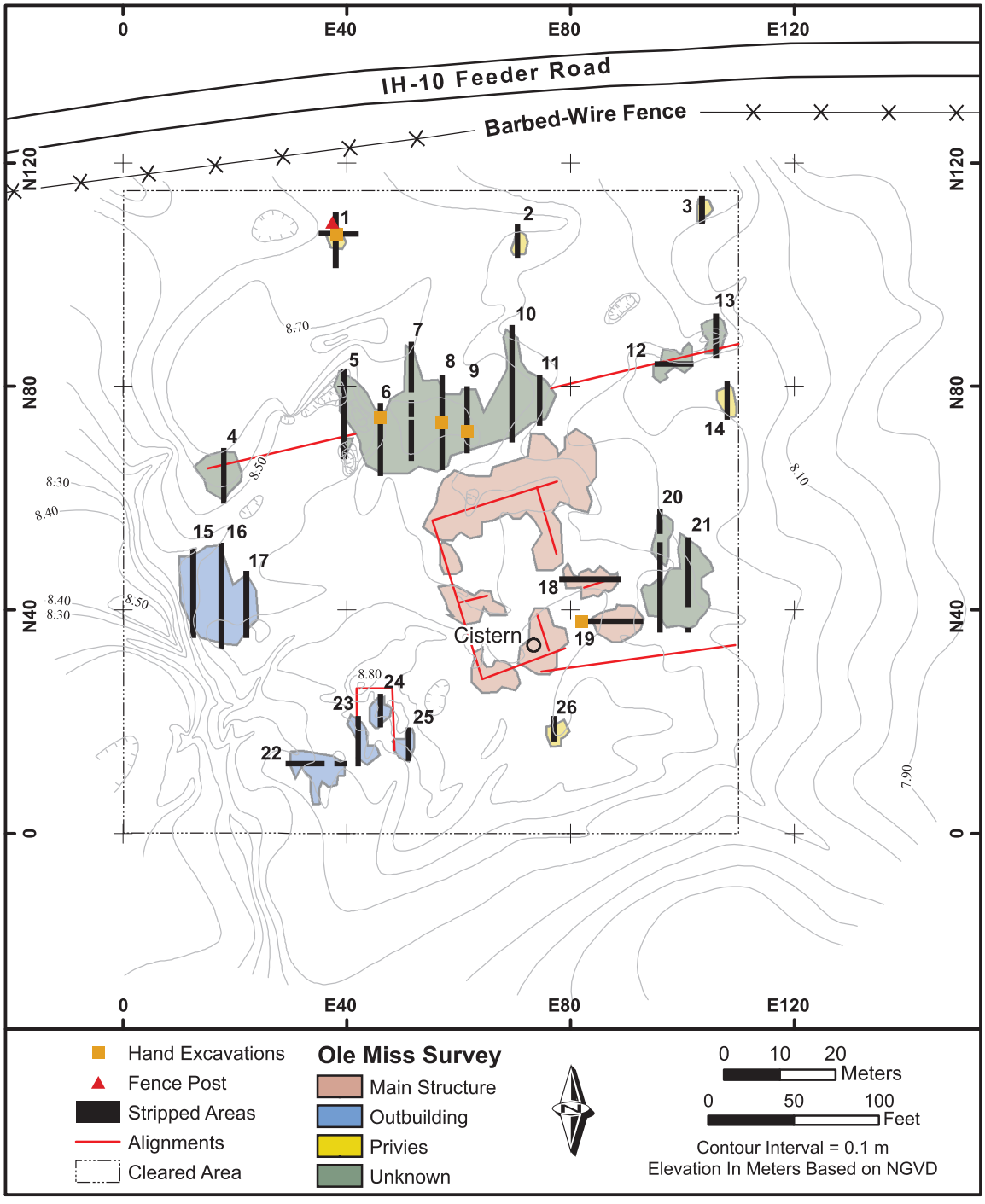


Figure 9-5. Locations of the 26 areas selected for mechanical stripping at site 41CH371 overlain on the anomalies identified by the magnetometer and EM surveys. Note the hand-excavated units within SAs 1, 6, and 8 plus the cross-sectioned areas within SAs 9 and 19.

Figure 9-6. Hand excavation of 1-m-by-1-m unit in Feature 1, Stripped Area 1, at site 41CH371. View is to the west. Date: 3/3/07.

cleared area in the south tract (see Figure 9-5). Their purpose was to examine the five anomalies thought to be privies.

SA 1 was 61 cm wide and originally 5 m long (see Figure 9-5). An artifact-rich deposit, designated Feature 1, was encountered just 10 to 15 cmbs and extended across the entire stripped area. The feature fill consisted of very dark grayish brown (10YR 3/2) sandy loam and contained large quantities of historic ceramics and glass (Table 9-1).

SA 1 was then expanded 3.2 m to the north and 2.8 m to the south in order to define the northern and southern extent of Feature 1 (Figure 9-7). Two additional areas were then stripped perpendicular to SA 1 to determine the feature's eastern and western extent. SA 1A extended to the west for 2.6 m while SA 1B extended to the east for 3.6 m (see Figure 9-7). The horizontal dimensions of Feature 1 were determined to be 5.5 m north-south by 3.7 m east-west. The sterile soil outside of Feature 1 at 15 to 20 cmbs was a dark brown (10YR 3/3) sandy loam.

Recovered from Feature 1 were undecorated whiteware, ironstone, porcelain, molded ironstone, two sherds each of red and blue transfer-printed whiteware, several fragments of a single Albany-glazed stoneware crock, and a coarse earthenware planter (Figure 9-8; see Table 9-1). The pattern of red transfer printing is the same as that found on sherds recovered from the site during shovel testing (see Chapter 6 and Figure 6-15). The glassware includes parts of several molded and lipping-tooled bottles that once contained alcohol, medicine and pickles or relish. Two fragments of a pressed glass hollowware vessel were collected (see Figure 9-8, d-e), plus numerous pieces of bottles, jars, tumblers, lamps, and window glass of unidentified manufacturing technique. One whole molded bottle recovered once contained

Hood's Sarsaparilla (see Figure 9-8, f) was produced between circa 1876 and 1887 (Fike 1987:217). Also recovered was a portion of a bottle for Joseph Walker's "California Vegetable Renovating Vinegar Bitters," dating from circa 1863 to 1890 (Fike 1987:185). It is identical to the whole example previously found in the shovel test at N108E38 that had penetrated Feature 1 during shovel testing and discussed in Chapter

Table 9-1. Artifacts Recovered from the General Surface and Stripped Areas 1 through 8 at site 41CH371.

	GEN. SURF.	STRIPPED AREA 1						SA 2	SA 4	SA 5	STRIPPED AREA 6			SA 7	STRIPPED AREA 8					TOTAL
		GENERAL			FEATURE 1 UNIT						FEATURE 4 UNIT				GEN.	FEATURE 3				
		1	1A	1B	LEV 1	LEV 2	LEV 1-2				LEV 1	LEV 2	LEV 3			LEV 1	LEV 2	LEV 3	LEV 4	
ABORIGINAL CERAMIC																				
Tchefuncte Plain																				
var. unspecified																				
body	–	4	–	–	–	53	–	–	–	–	–	–	–	–	–	–	–	–	–	**57**
HISTORIC CERAMIC																				
Coarse Earthenware																				
Buffware																				
Unglazed																				
planter?	–	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**9**
Refined Earthenware																				
Whiteware																				
Decalcomania																				
saucer	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	**1**
Edged																				
blue																				
flatware	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
Hand-painted																				
flatware	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
unidentified	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
Repoussé																				
flatware	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
Sponged																				
blue																				
flatware	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
Transfer printed																				
blue																				
cup	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
flatware	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
hollowware	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	**4**
unidentified	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
red																				
flatware	–	2	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**3**
platter?	–	–	–	–	1	3	–	–	–	–	–	–	–	–	–	–	–	–	–	**4**
Plain																				
chamber pot	–	3	–	1	1	1	–	–	–	–	–	–	–	–	3	–	–	–	–	**9**
chamber pot?	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	**1**
cup	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
flatware	–	1	–	1	8	8	1	–	–	–	–	–	–	6	5	9	–	–	–	**39**
hollowware	–	2	–	1	1	–	2	–	–	–	–	–	–	–	–	2	–	–	–	**8**
lid	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
saucer	–	–	–	–	–	1	–	–	–	–	–	–	–	–	4	–	–	–	–	**5**
unidentified	–	28	2	8	52	–	–	–	1	2	–	–	–	4	7	5	–	–	–	**109**
Ironstone																				
Decalcomania																				
hollowware	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
Molded																				
chamber pot	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
handle	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
hollowware	–	–	–	1	2	1	–	–	–	–	–	–	–	2	–	–	–	–	–	**6**
serving vessel	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
unidentified	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
Transfer printed																				
blue																				
hollowware	–	–	1	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**3**
teal																				
hollowware	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
plate	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	2	–	–	–	**3**
unidentified	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
Plain																				
bowl	–	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
flatware	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**2**
hollowware	–	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
plate	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
saucer	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
unidentified	1	–	–	–	3	33	–	–	–	–	–	–	–	1	–	–	–	–	–	**38**
Stoneware																				
Gray/brown body																				
Albany (int & ext)																				
hollowware	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	**1**
unidentified	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
Albany (int)/Unglazed (ext)																				
crock	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	**1**
hollowware	–	–	1	–	17	7	–	–	–	–	–	–	–	–	1	–	–	–	–	**26**
Albany (int)/Slipped (ext)																				
crock	–	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**7**
Albany (int)/Salt (ext)																				
hollowware	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
Bristol (int & ext)																				
stenciled blue																				
bowl	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	**2**
Unglazed (int)/Salt (ext)																				
hollowware	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
Red body																				
Yellow Glaze (ext)																				
unidentified	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
Porcelain																				
Hard paste																				
Decalcomania																				
unidentified	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
Molded																				
doll arm	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
Repoussé																				
cup	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
hollowware	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
unidentified	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
Plain																				
saucer	–	1	1	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	**4**
toy saucer	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
unidentified	–	1	–	1	1	1	–	–	–	–	–	–	–	1	–	1	–	–	1	**7**

(Continued)

Table 9-1. Continued.

	GEN. SURF.	STRIPPED AREA 1						SA 2	SA 4	SA 5	STRIPPED AREA 6			SA 7	STRIPPED AREA 8					TOTAL
		GENERAL			FEATURE 1 UNIT						FEATURE 4 UNIT				GEN.	FEATURE 3				
		1	1A	1B	LEV 1	LEV 2	LEV 1-2				LEV 1	LEV 2	LEV 3			LEV 1	LEV 2	LEV 3	LEV 4	
GLASS																				
Molded																				
Lipping Tooled																				
brown																				
bottle	–	2	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**3**
oval bottle	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
clear																				
bottle	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
beveled square bottle	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
clear blue																				
bottle	–	3	–	–	–	2	–	–	–	–	–	–	–	–	1	–	–	–	–	**6**
panel bottle	–	2	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**3**
pickle/relish bottle	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
clear green																				
cylindrical bottle	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
oval bottle	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
clear purple																				
bottle	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
olive																				
bottle	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
olive amber																				
bottle	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
Ground Lip																				
clear																				
jar	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
clear blue																				
jar	–	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
Turn Molded																				
brown																				
cylindrical bottle	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
Unidentified																				
brown																				
cylindrical	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
clear																				
goblet	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
clear blue																				
jar	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
Pressed																				
clear																				
hollowware	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
clear blue																				
unidentified	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	**1**
clear purple																				
flatware	–	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
handle	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
hollowware	–	–	–	–	1	2	–	–	–	–	–	–	–	–	–	–	–	–	–	**3**
lid	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
unidentified	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
Machine-made																				
Owens																				
clear																				
oval bottle	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
Unidentified machine type																				
clear purple																				
bottle	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
Unidentified																				
Ground Lip																				
clear blue																				
jar	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
Post-bottom Mold																				
brown																				
cylindrical bottle	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
rectangular bottle	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
Cup-bottom Mold																				
brown																				
bottle	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
cylindrical bottle	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
French square bottle	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
clear blue																				
cylindrical bottle	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
Unknown Bottom Mold																				
brown																				
bottle	–	–	–	–	–	5	1	–	–	–	–	–	–	–	–	–	–	–	–	**6**
case bottle	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
cylindrical	–	–	–	–	3	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**4**
cylindrical bottle	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
oval bottle	–	1	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	**3**
panel bottle	–	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
rectangular	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
rectangular bottle	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
square bottle	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
unidentified	–	23	–	3	61	49	–	–	–	–	–	–	–	–	6	–	–	–	–	**142**
clear																				
bottle	–	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
cylindrical	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
cylindrical bottle	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
hollowware	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
lamp	–	–	–	–	36	70	–	–	–	–	2	12	–	–	–	–	–	2	–	**122**
lamp base?	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
oval	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
panel bottle	1	1	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**3**
rectangular	–	–	–	–	1	1	–	–	–	–	–	–	–	–	1	–	–	–	–	**3**
tumbler	–	–	–	–	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**3**
wineglass?	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
unidentified	–	50	3	4	137	149	–	–	–	–	3	1	–	–	16	8	1	–	–	**372**
clear blue																				
bottle	–	2	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**3**
cylindrical	1	–	–	–	4	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**6**
cylindrical bottle	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	2	–	–	–	**4**
jar	1	2	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**4**
panel bottle	–	7	–	–	5	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**13**
window	–	24	–	–	65	42	–	–	–	–	1	–	–	–	1	–	–	–	–	**133**
unidentified	–	70	–	12	84	58	–	–	–	–	–	–	–	2	2	7	–	–	–	**235**

(Continued)

Table 9-1. Concluded.

	GEN. SURF.	STRIPPED AREA 1						SA 2	SA 4	SA 5	STRIPPED AREA 6			SA 7	STRIPPED AREA 8					TOTAL
		GENERAL			FEATURE 1 UNIT						FEATURE 4 UNIT				GEN.	FEATURE 3				
		1	1A	1B	LEV 1	LEV 2	LEV 1-2				LEV 1	LEV 2	LEV 3			LEV 1	LEV 2	LEV 3	LEV 4	
GLASS (cont.)																				
Unidentified																				
Unknown bottom mold																				
clear green																				
bottle	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	**1**
cylindrical	–	–	–	–	1	–	2	–	–	–	–	–	–	–	–	–	–	–	–	**3**
cylindrical bottle	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
panel bottle	–	2	–	–	1	2	–	–	–	–	–	–	–	–	1	–	–	–	–	**6**
tumbler?	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
window	–	4	–	–	67	64	–	–	–	–	–	4	–	–	4	1	1	–	–	**145**
unidentified	–	4	–	–	69	54	1	–	–	1	–	1	–	1	9	3	–	–	–	**143**
clear purple																				
beveled rectangular bottle	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
bottle	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
cylindrical	–	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
hollowware	–	–	–	–	2	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**3**
lamp	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**2**
lamp base	–	1	1	–	2	–	–	–	–	–	–	–	–	–	–	10	–	–	–	**14**
panel bottle	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
tumbler	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
unidentified	–	27	–	–	67	6	–	–	–	–	–	–	–	1	7	1	–	–	–	**109**
olive																				
unidentified	–	13	–	3	43	27	–	–	–	–	–	–	–	–	–	–	–	–	–	**86**
olive amber																				
unidentified	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
blue milk																				
unidentified	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
white milk																				
canning jar lid	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	1	–	–	–	**3**
METAL																				
Cuprus/Ferrous																				
railing?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
Ferrous																				
Barbed wire?	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
Buckle	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
Cutlery handle?	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	**1**
Fork	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
Machine part	–	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	–	–	–	**2**
Nail																				
Machine-cut	–	–	–	–	–	–	–	–	–	–	4	1	–	–	5	9	3	4	–	**26**
Unidentified	–	–	–	–	8	4	–	–	–	–	4	6	–	–	4	–	1	–	–	**27**
Unidentified	–	55	–	3	64	117	–	–	–	–	1	2	–	1	5	1	3	1	–	**253**
Ferrous/White Metal																				
fastener	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
unidentified	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
BONE																				
Cow																				
atlas	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
carpal or tarsal	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
epiph. frag.	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	**1**
inominate	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
ischium	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
long bone	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
lumbar vertebra	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	**1**
radius	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
rib	–	–	–	–	–	–	–	–	–	–	–	–	–	1	6	–	–	–	–	**7**
thoracic vertebra	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
tooth	–	–	–	–	–	4	–	–	–	–	–	–	–	–	–	–	–	–	–	**4**
vertebra	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
Pig																				
metacarpal 4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
radius	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	**2**
rib	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
Unidentified large mammal																				
rib	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	**3**
unidentified	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	1	–	–	–	**6**
Unidentified mammal	–	–	–	–	–	–	–	–	–	–	–	–	–	–	19	–	4	–	–	**23**
Unidentified	–	3	–	–	11	4	–	–	–	–	4	3	–	–	–	14	–	11	2	**52**
BRICK	–	–	–	–	2	–	–	–	–	–	–	3	–	–	–	1	–	–	–	**6**
CHARCOAL	–	–	–	–	20	20	–	–	–	–	15	33	–	–	–	31	12	7	35	**173**
SEEDS																				
Uncarbonized	–	–	–	–	25	2	–	–	–	–	5	1	–	–	–	1	–	–	–	**34**
SHELL																				
Oyster	–	–	–	–	–	–	–	–	–	–	–	12	–	2	4	–	–	–	–	**18**
Rangia	–	–	–	–	–	–	–	–	–	–	–	–	–	1	2	–	–	–	–	**3**
Unidentified	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
UNMODIFIED SANDSTONE	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	**1**
TOTAL	**4**	**386**	**11**	**42**	**895**	**816**	**9**	**1**	**1**	**4**	**41**	**81**	**1**	**30**	**151**	**127**	**26**	**30**	**38**	**2,694**

6 (see Figures 6-12 to 6-14). SA 1 also yielded some ferrous metal, shell and bone, as well as four unexpected sherds of aboriginal pottery (see Table 9-1). The historic artifacts are contemporary with the occupation of the main house at site 41CH371. The aboriginal sherds are somewhat unique and difficult to classify for reasons noted later under the discussion of the hand-excavated unit placed into Feature 1. All things considered, however, the sherds would most closely match *unspecified* examples of the type Tchefuncte Plain (see Phillips 1970 and Weinstein and Rivet 1978 for the latest sorting criteria related to this type). If such an assessment is correct, then they would date to some time during the Clear Lake period of Aten's (1983) Galveston Bay ceramic sequence, ca. 300 B.C. to A.D. 100.

The depth and size of Feature 1 suggests that it represents an historic sheet midden and not a

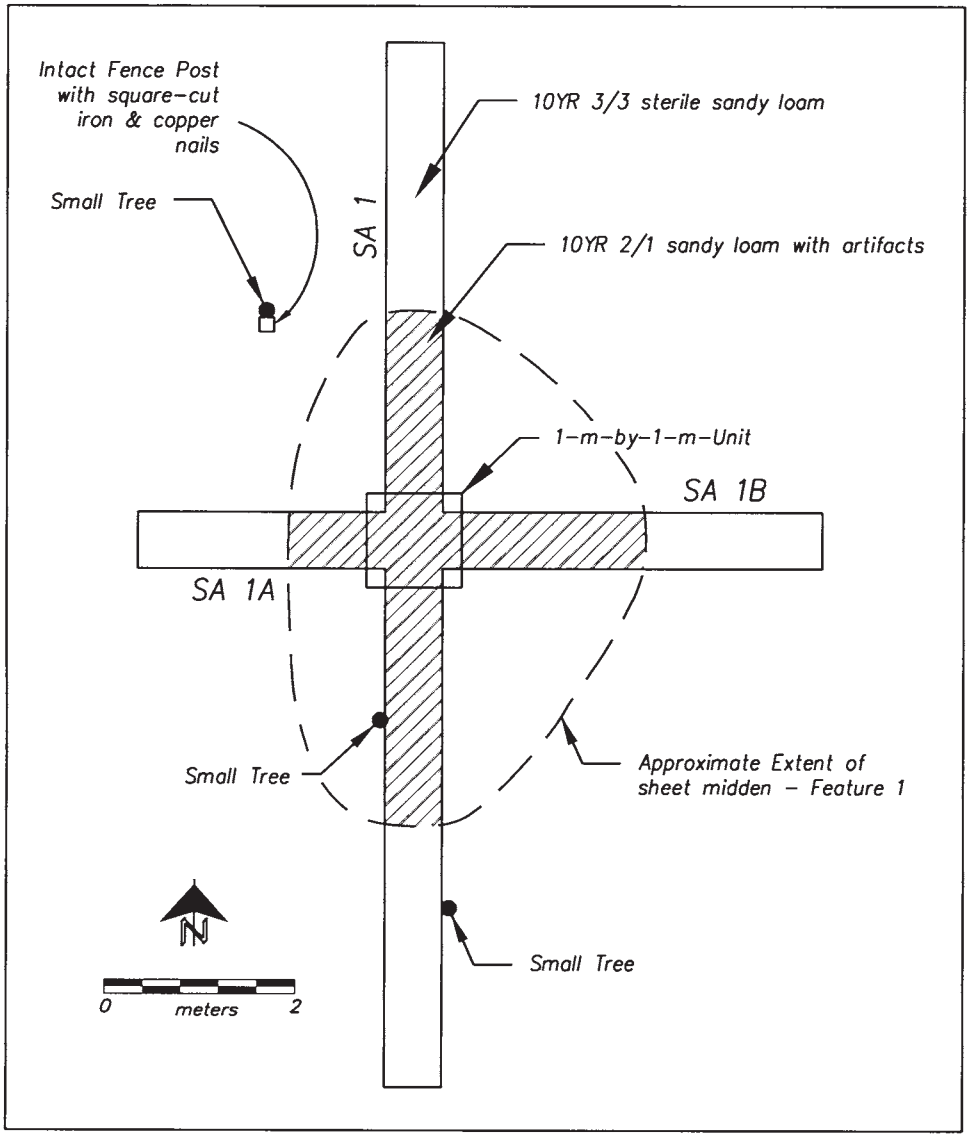


Figure 9-7. Stripped Area 1 at site 41CH371. Note the locations of Feature 1 and the 1-m-by-1-m hand-excavated unit.

privy, although the rich midden area uncovered at the Labadie site and thought to possibly represent a privy located behind the former Labadie house during the 1850s to 1870s (see Chapter 3 and Figure 3-8) comes to mind as a potential analogue. There, however, the midden was found within a shallow, natural depression and not directly upon the old ground surface as is the case for Feature 1. Also of interest was the discovery of an historic fence post, made of cypress, and in situ just 1.2 m west of SA 1 (Figure 9-9, see also Figure 9-7). This post contains both ferrous and cuprous cut nails, and is located adjacent to the northern boundary of Feature 1 (Figure 9-10). As noted, it likely represents the still-extant remains of the fence line (or lines) recognized previously by the distribution of strands of barbed wire discovered during the metal detector search (see discussion in Chapter 6 and Figure 6-32). In all probability, the Feature 1 sheet midden represents refuse disposal along a rear fence line, a practice typical for the time period.

SA 2 was 6 m long, 61 cm wide, and extended to 60 cmbs (see Figure 9-5). The stratigraphy mirrored that seen at site 41CH370 and consisted of 40 cm of dark yellowish brown (10YR 3/4)

Figure 9-8. Selected artifacts recovered from Feature 1 in Stripped Areas 1, 1A, and 1B. (a) blue transfer-printed whiteware; (b) undecorated whiteware with unidentified maker's mark; (c) Albany-glazed interior, slip-glazed exterior, blue-painted stoneware; (d-e) clear-purple pressed glass hollowware; (f) molded and lipping-tooled bottle marked "HOOD'S/SARSA/PARILLA" on front, "C.I. HOOD & CO." on right side, "LOWELL MASS" on left side, and "APOTHECARIES" on back.

sandy loam (Stratum 1) overlying 20 cm of brown (10YR 5/3) sandy loam (Stratum 2). A single sherd of stoneware was recovered from approximately 40 cmbs at the base of Stratum 1 in SA 2, but no other cultural material or deposits were found (see Table 9-1).

SA 3 was 5 m long, 61 cm wide, and ranged from 50 to 90 cmbs (see Figure 9-5). The stratigraphy consisted of 60 cm of dark yellowish brown (10YR 3/4) sandy loam with heavy root disturbance (Stratum 1) overlying 30 cm of brown (10YR 5/3) sandy loam (Stratum 2). The Beaumont Terrace (Stratum 3) was encountered at 90 cmbs. This stripped area yielded no artifacts or other cultural deposits.

SA 14 was 7 m long, 61 cm wide, and 60 cm deep (see Figure 9-5). The stratigraphy of SA 14 mirrors

Figure 9-9. Fence post adjacent to Stripped Area 1 at site 41CH371. View is to the northeast. Date: 3/2/07.

Figure 9-10. Close-up view of the ferrous and cuprous square-cut nails in the fence post adjacent to Stripped Area 1 at site 41CH371. View is to the south. Date: 3/2/07.

that seen in SA 3 except that Stratum 1 was 30 to 40 cm thick, Stratum 2 was 20 to 30 cm thick, and the Beaumont Terrace was encountered at 60 cmbs. A glass jar fragment was recovered from the root zone of Stratum 1, but otherwise SA 14 was culturally sterile (Table 9-2).

SA 26 was intended to be 6 m long, but the southernmost 1.5 m could not be excavated as it contained a large tree (see Figure 9-5). The 4.5 m that actually was stripped was 61 cm wide and 60 cm deep. Stratum 1 was only 25 cm thick in this area and graded into Stratum 2 beneath it. Only two sherds of historic ceramic were found in SA 26 (see Table 9-2).

Stripped Areas 15-17 & 22-25 (Possible Outbuildings)

These seven stripped areas were located in the southwestern portion of site 41CH371 along the east bank of the small drainage that runs roughly north-northwest to south-southeast through that part of the large cleared area. All SAs were positioned to investigate the five anomalies thought to represent outbuildings (see Figure 9-5).

SA 15 was in a wet and low-lying area immediately adjacent to the small drainage. It was 16 m long, 61 cm wide, and 45 cm deep (see Figure 9-5). Stratum 1 was just 5 cm thick in this area and beneath it lay a mottled and very compact soil similar in color to Stratum 2. This new stratum was designated Stratum 4 and appears to be wetland-related. SA 15 produced no artifacts or cultural deposits.

SA 16 was 16 m long, 61 cm wide and ranged in depth from 45 to 55 cmbs (see Figure 9-5). Stratum 1 was 10 cm thick and Stratum 2 was roughly 13 cm thick before it graded into the very mottled and compact Stratum 4. A small concentration of metal items was noted in the center of the area at roughly 25 cmbs (see Table 9-2). A few brick fragments

Table 9-2. Artifacts Recovered from Stripped Areas 9 through 26 at site 41CH371.

	SA 9 FEATURE 2	SA 10	SA 11	SA 13	SA 14	SA 16	SA 17	SA 18	SA 19 FEATURE 5	SA 20	SA 21	SA 23	SA 25	SA 26	TOTAL
HISTORIC CERAMIC															
Semi-refined Earthenware															
Yellowware															
Annular															
hollowware	–	–	–	1	–	–	–	–	–	–	–	–	–	–	**1**
Refined Earthenware															
Early whiteware															
Plain															
plate	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
flatware	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
Whiteware															
Annular															
banded															
flatware	–	–	–	–	–	–	–	–	–	–	–	–	1	–	**1**
Edged															
blue															
flatware	–	2	–	–	–	–	–	–	–	–	–	–	–	–	**2**
Molded and Painted?															
hollowware	–	1	–	–	–	–	–	–	–	–	–	–	–	–	**1**
Repoussé															
flatware	–	–	–	–	–	–	–	1	–	1	–	–	–	–	**2**
hollowware	–	1	–	–	–	–	–	–	–	–	–	–	–	–	**1**
Sponged															
blue															
unidentified	–	1	–	–	–	–	–	–	–	–	–	–	–	–	**1**
Transfer printed															
red															
flatware	–	–	–	–	–	–	–	–	–	–	2	–	–	–	**2**
Plain															
bowl	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
cup	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
flatware	3	3	–	–	–	–	1	2	3	2	3	–	–	–	**17**
hollowware	–	–	–	–	–	–	–	–	–	–	–	–	–	1	**1**
saucer	–	1	–	–	–	–	–	–	–	–	–	–	–	–	**1**
unidentified	2	3	–	1	–	–	1	3	4	2	3	–	–	–	**19**
Ironstone															
Molded															
hollowware	–	–	1	–	–	–	–	–	–	–	–	–	–	–	**1**
Plain															
hollowware	–	–	–	–	–	–	–	–	–	–	–	–	–	1	**1**
milk pan	–	–	–	–	–	–	–	–	–	3	–	–	–	–	**3**
unidentified	–	–	–	–	–	–	–	–	–	–	–	1	–	–	**1**
Stoneware															
Gray/brown body															
Albany (int & ext)															
hollowware	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
Albany (int)/Salt (ext)															
hollowware	–	–	–	–	–	–	–	–	–	–	–	1	–	–	**1**
Red body															
Yellow Glaze (ext)															
hollowware	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
unidentified	–	–	–	1	–	–	–	–	–	–	–	–	–	–	**1**
Slipped (int)/Unglazed (ext)															
hollowware	–	–	–	–	–	–	–	1	–	–	–	–	–	–	**1**
Unglazed (int & ext)															
unidentified	–	–	–	–	–	–	–	1	–	–	–	–	–	–	**1**
Porcelain															
Hard paste															
Decalcomania															
cup	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
hollowware	–	–	–	–	–	–	–	–	1	1	–	–	–	–	**2**
Plain															
cup	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
saucer	–	–	–	–	–	–	1	–	–	–	–	–	–	–	**1**
unidentified	–	–	–	–	–	–	1	1	–	–	–	–	–	–	**2**
Parian															
doll hand	–	–	–	–	–	–	–	1	–	–	–	–	–	–	**1**
GLASS															
Molded															
Lipping Tooled															
brown															
bottle	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
clear blue															
bottle	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
clear green															
bottle	–	–	–	2	–	–	–	–	–	–	–	–	–	–	**2**
clear purple															
bottle	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
Turn Molded															
olive															
cylindrical bottle	–	–	–	–	–	–	–	–	2	–	–	–	–	–	**2**
Unidentified															
clear purple															
handy bottle	–	–	–	–	–	–	–	–	–	–	–	1	–	–	**1**
Pressed															
clear purple															
hollowware	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
Machine-made															
Unidentified machine type															
clear blue															
bottle	–	–	–	–	–	–	–	1	–	–	–	–	–	–	**1**

(Continued)

Table 9-2. Concluded.

	SA 9 FEATURE 2	SA 10	SA 11	SA 13	SA 14	SA 16	SA 17	SA 18	SA 19 FEATURE 5	SA 20	SA 21	SA 23	SA 25	SA 26	TOTAL
GLASS (Cont.)															
Unidentified															
Unknown Bottom Mold															
brown															
bottle	–	–	–	–	–	–	–	–	–	1	–	–	–	–	**1**
cylindrical bottle	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
unidentified	–	–	–	–	–	–	–	–	2	–	–	1	–	–	**3**
clear															
bottle	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
lamp	–	–	–	–	–	–	–	–	2	–	–	–	–	–	**2**
unidentified	–	1	–	1	–	–	–	1	4	–	–	–	–	–	**7**
clear blue															
cylindrical	–	–	–	–	1	–	–	–	–	–	–	–	–	–	**1**
cylindrical bottle	–	–	–	–	–	–	–	1	–	–	–	–	–	–	**1**
jar	–	–	–	1	–	–	–	–	–	–	–	–	–	–	**1**
window	–	–	–	–	–	–	–	–	4	1	–	–	–	–	**5**
unidentified	–	–	–	2	–	–	–	3	4	–	–	–	–	–	**9**
clear green															
rectangular	–	–	–	–	–	–	–	1	–	–	–	–	–	–	**1**
window	–	–	–	–	–	–	1	–	19	1	–	–	1	–	**22**
unidentified	–	–	–	–	–	–	–	–	2	–	1	–	–	–	**3**
clear purple															
cylindrical	–	–	–	1	–	–	–	–	2	–	–	–	–	–	**3**
cylindrical bottle	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
panel bottle	–	–	–	–	–	–	–	–	3	1	–	–	–	–	**4**
unidentified	–	–	–	1	–	–	–	–	8	–	1	–	–	–	**10**
olive															
cylindrical	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
unidentified	–	1	–	–	–	–	–	–	–	–	–	–	–	–	**1**
white milk															
canning jar lid	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**
jar	–	–	–	–	–	–	–	1	–	–	–	–	–	–	**1**
unidentified	–	–	–	–	–	–	1	–	–	–	–	–	–	–	**1**
METAL															
Ferrous															
Chain	–	–	–	–	–	–	–	1	–	–	–	–	–	–	**1**
Machine part	–	–	–	–	–	–	–	–	–	–	–	–	1	–	**1**
Nail															
Machine-cut	–	–	–	–	–	–	–	–	3	–	–	–	–	–	**3**
Unidentified	–	–	–	–	–	–	–	–	6	–	–	–	–	–	**6**
Stove burner cover?	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
Wire?	–	–	–	–	–	–	–	–	2	–	–	–	–	–	**2**
Unidentified	–	–	–	–	–	7	3	–	4	–	–	–	–	–	**14**
BONE															
Cow															
lumbar vertebra	1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1**
tooth	–	–	–	1	–	–	–	–	–	–	–	–	–	–	**1**
Pig															
femur	–	–	–	–	–	–	–	–	1	–	–	–	–	–	**1**
Unidentified large mammal															
unidentified	–	–	–	–	–	–	–	1	–	–	–	–	–	–	**1**
Unidentified mammal	2	–	–	2	–	–	–	–	1	–	–	–	–	–	**5**
Unidentified	3	–	–	–	–	–	–	–	–	–	–	–	–	–	**3**
SHELL															
Oyster	–	–	–	1	–	–	–	–	8	–	3	–	–	–	**12**
Rangia	–	–	–	1	–	–	–	–	–	–	–	–	–	–	**1**
TOTAL	**14**	**14**	**1**	**16**	**1**	**7**	**9**	**20**	**93**	**18**	**15**	**4**	**3**	**2**	**217**

were recovered from the very southern end of SA 16, but these were not collected.

SA 17 was 12 m long, 61 cm wide, and 45 cm deep (see Figure 9-5). Stratum 1 was just 5 cm thick and overlay Stratum 2. A few historic ceramics, plus some glass and metal fragments, were found in this stripped area (see Table 9-2).

SA 22 was intended to be 11 m long, but 1.8 m in the east-central portion of the area could not be excavated as it contained the root mass of a large tree (see Figure 9-5). The remaining 9.2 m of the area were 61 cm wide, and extended to 45 cmbs. The stratigraphy mirrored that seen in SA 15, with Stratum 2 grading into Stratum 4 at the eastern end of the stripped area. SA 22 produced no artifacts or other cultural deposits.

SA 23 was 9 m long, 61 cm wide, and 50 cm deep (see Figure 9-5). Stratum 1 was 5 cm thick and over lay Stratum 2. One sherd each of ironstone and stoneware were recovered from the north half of the stripped area, while a fragment of brown glass was found in the south half 20 cm or less below the ground surface (see Table 9-2).

SA 24 was 6 m long, 61 cm wide, and extended to 60 cmbs (see Figure 9-5). The stratigraphy of SA 24 was identical to that seen in SA 23. Four brick fragments were found in the north half of the stripped area, but not collected, while the south half of the stripped area proved sterile (see Table 9-2).

SA 25 was 6 m long, 61 cm wide, and varied in depth from 55 to 95 cmbs (see Figure 9-5). Stratum

1 proper was 15 cm thick in this area and overlay 40 cm of a transitional deposit showing Stratum 1 grading into Stratum 2. Stratum 2 proper extended from 55 to 95 cmbs at which depth the Beaumont Terrace was encountered. One sherd of annular whiteware (Figure 9-11, a) was found in the south half of the area, while a piece of window glass was recovered from within Stratum 1 at the center of SA 25. Stratum 1 also produced some brick fragments and an iron machine part (see Table 9-2).

Stripped Areas 4-13 & 20-21 (Anomalies of Unknown Nature)

Ten of these 12 stripped areas were located immediately behind (i.e., north-northwest of) the main house at site 41CH371, while the remaining two were at the side of the house to its immediate east. These stripped areas were intended to examine the six anomalies of undetermined nature (see Figure 9-5). It was thought that two of these SAs (20 and 21) might be in the area noted by John V. Clay as the possible location of an unidentified structure once situated immediately to the east of the main house. As noted in Chapter 4, Clay had surmised that this structure had the remote chance of being the second home of Taylor White, built sometime between 1831 and 1838. Interestingly, this area also had been identified by the geophysical research as the possible location of the kitchen associated with Jim's house (see Chapter 7). We now know this to be false, but it supports the notion that a building of some kind may have stood in the area.

SA 4 was 10 m long, 62 cm wide and 45 cm deep (see Figure 9-5). Stratum 1 was 5 to 10 cm thick and underlain by Stratum 2. A brick fragment was found in the central part of the area, a piece of whiteware at the south end, and a piece of tabular sandstone at the north end (see Table 9-1). The brick and sandstone were not collected.

SA 5 was 16 m long, 61 cm wide, and ranged in depth from 40 to 60 cmbs (see Figure 9-5). Approximately 10 cm of Stratum 1 overlay 30 to 50 cm of Stratum 2. An amorphous lens of slightly lighter (pale brown, 10YR 6/3) silty loam was noted within Stratum 2 at approximately the center of the stripped area and appeared to be due to bioturbation. The north half of the stripped area produced a piece of glass plus an iron cultivator cap found roughly 5 cmbs. A brick fragment and two piece of whiteware were found in the north half of SA 5 (see Table 9-1). One of the sherds is marked "ETRURIA/MELLOR & CO." (see Figure 9-11, b).

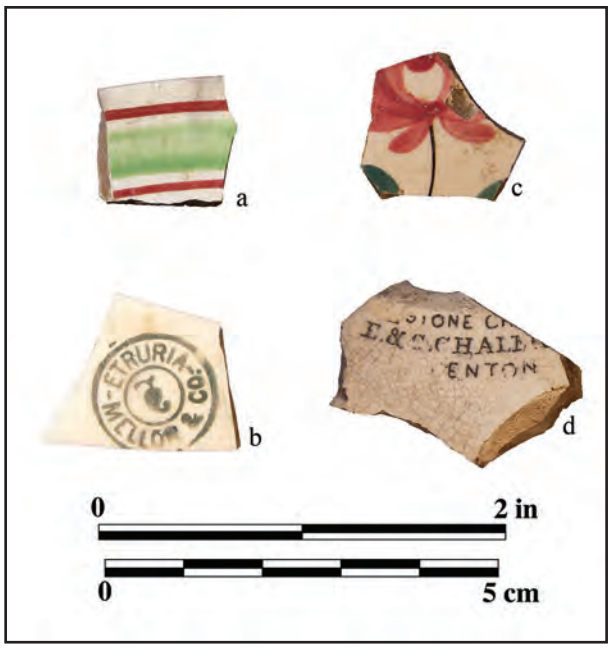


Figure 9-11. Selected artifacts from Stripped Areas 25, 5, and 7. (a) annular banded whiteware from SA 25; (b) unidentified maker's mark on undecorated whiteware from SA 5; (c) hand-painted polychrome whiteware from SA 7; (d) undecorated whiteware marked "STONE CHINA/E. & C. CHALINOR/ FENTON" from SA 7.

SA 6 was 13 m long, 61 cm wide, and ranged in depth from 25 to 45 cmbs (see Figure 9-5). In most of the stripped area, 10 cm of Stratum 1 overlay 35 cm of Stratum 2. However, small patches of Beaumont Terrace clay were noted within Stratum 2 at roughly 30 cmbs. At the north end of SA 6, a 1.1-m-wide area of very mottled soil containing some ceramics, glass, bone, charcoal and possibly mortar was identified at 25 to 35 cmbs (Figure 9-12). This deposit was designated Feature 4 and occurred directly east of the bioturbation stain noted in nearby SA 5. The fill of Feature 4 was a brown (7.5YR 4/3) sandy loam mottled with very dark grayish brown (10YR 3/2) sandy loam.

SA 7 was intended to be 24 m long, but a 1.5-m-wide segment within, and a 2.7-m-wide segment

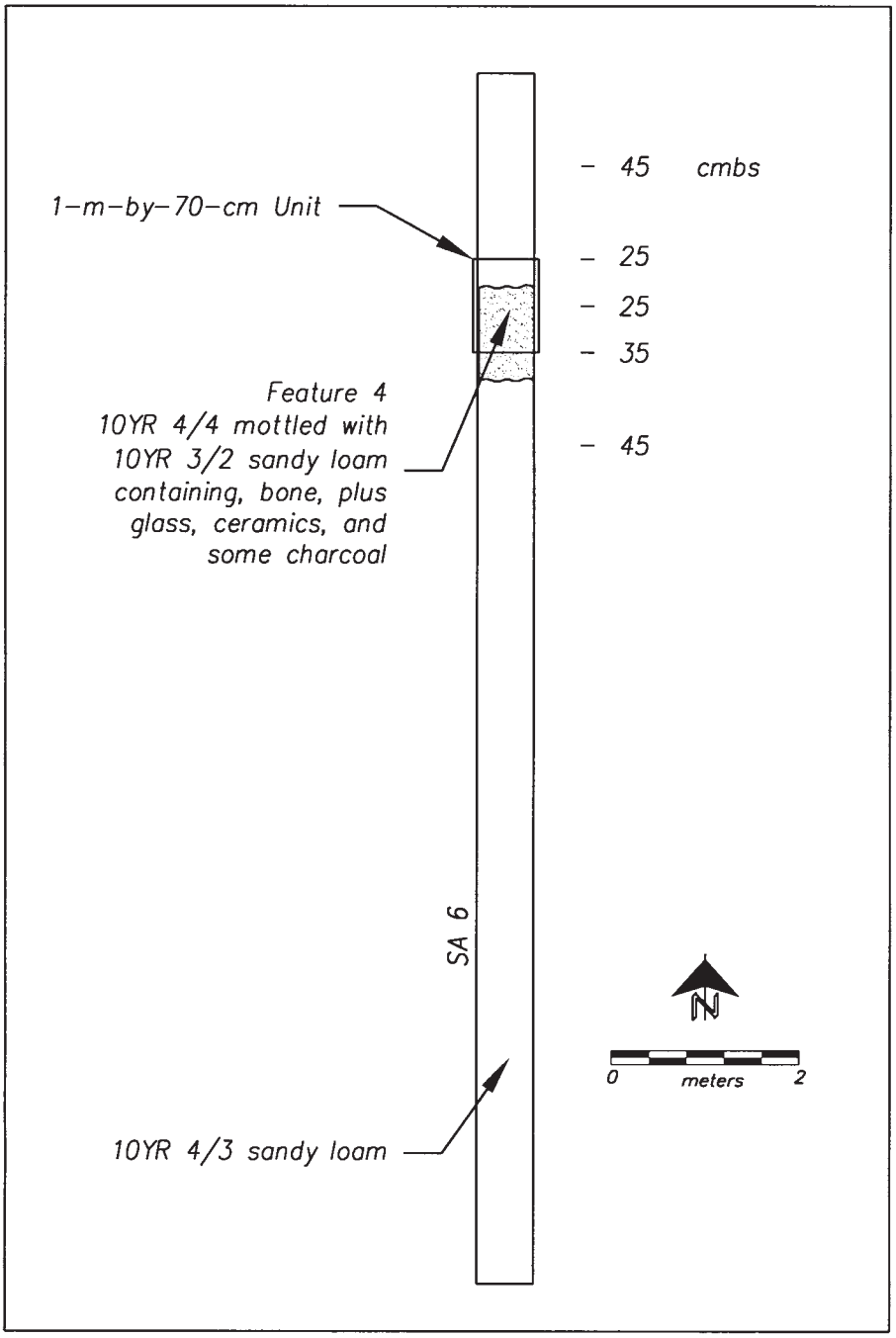


Figure 9-12. Stripped Area 6 at site 41CH371. Note the locations of Feature 4 and the 1-m-by-70-cm hand-excavated unit. Depths at selected points along the SA are noted.

at the south end of the stripped area cou1d not be excavated because they contained extensive root masses from adjacent trees (see Figure 9-5). Likewise, the trackhoe was restricted by trees and could not reach a 50-cm-wide segment in the middle of SA 7. The stratigraphy of the remaining 19.3 m of SA 7 consisted of 10 to 15 cm of Stratum 1 above 30 to 35 cm of Stratum 2. An amorphous lens of mottled (brown, 10YR 4/3 and 5/3) silty loam was noted within Stratum 2 at the south end of the stripped area and appeared to be due to bioturbation. A few historic ceramics, glass, and brick fragments were recovered from the south end of SA 7, while the north end yielded a few ceramics and brick

fragments (see Figure 9-11, c-d). A portion of a cow rib bone was also recovered.

SA 8 was 17 m long, 61 cm wide, and from 15 to 45 cm deep (see Figure 9-5). In most of the area 15 cm of Stratum 1 overlay 30 cm of Stratum 2. In the south-central portion of the stripped area, however, a 3.6-m-long area of very mottled soil containing some ceramics and glass, one piece of bone, a fragment of cuprous twisted cable, brick flecks, and possibly mortar was encountered at ca. 15 cmbs (Figure 9-13). This deposit was designated Feature 3 and consisted of a mixture of very dark grayish brown (10YR 3/2), brown (10YR 4/3-5/3), and dark yellowish brown (10YR 4/4) sandy loam.

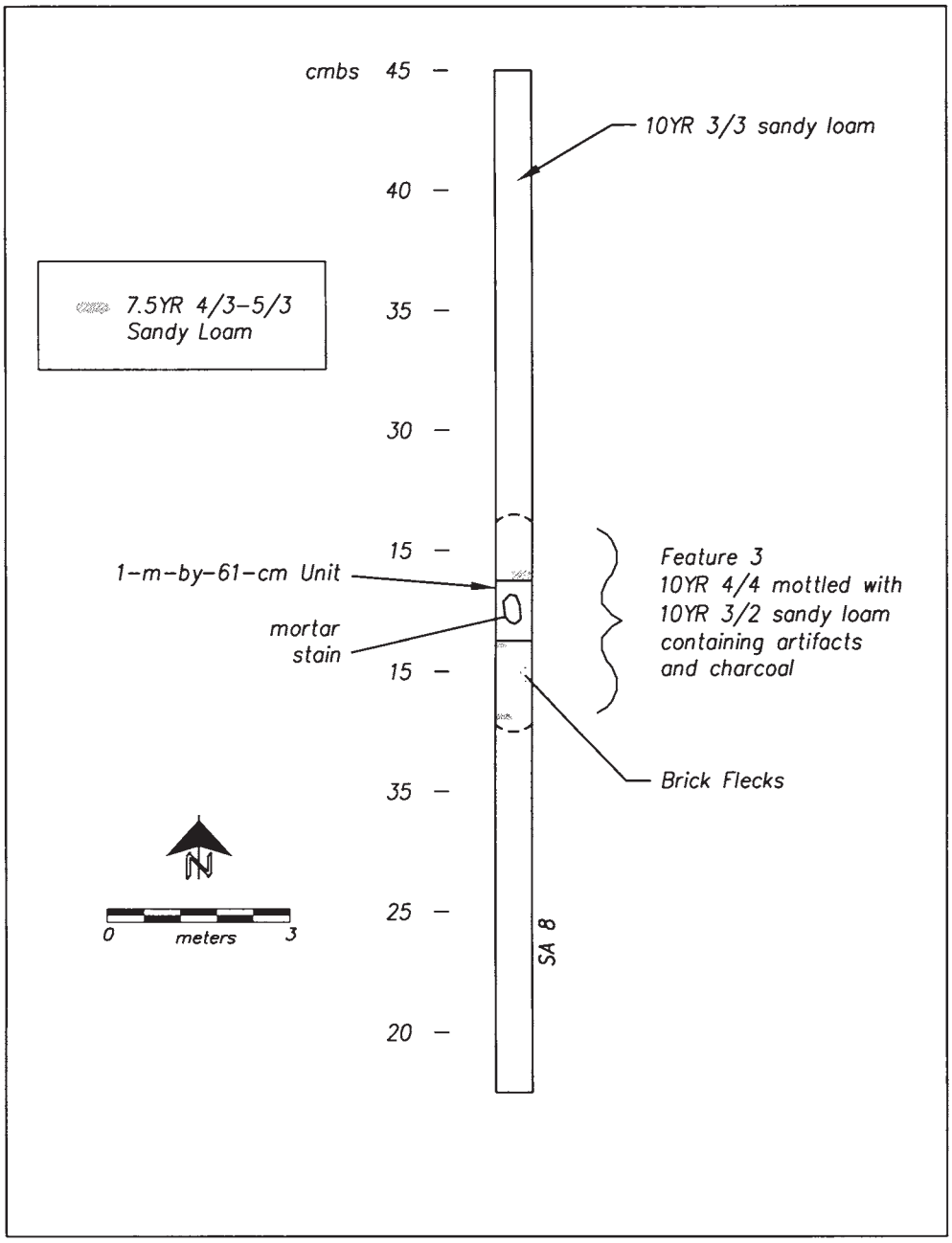


Figure 9-13. Stripped Area 8 at site 41CH371. Note the locations of Feature 3 and the 1-m-by-61-cm hand-excavated unit. Depths at selected points along the SA are noted.

Artifacts recovered from SA 8 included undecorated whiteware and ironstone (Figure 9-14, a), repoussé and transfer-printed whiteware, molded and transfer-printed ironstone (see Figure 9-14, b-c), and Albany-glazed stoneware (see Table 9-1). Vessel forms of note include two plates, a serving vessel and lid, a molded porcelain doll's arm (see Figure 9-14, d), and several chamber pots. Three molded and lipping-tooled bottles occur in the glass assemblage, as well as a bottle of Groves Tasteless Chill Tonic dating from 1891 to 1934 (Fike 1987:234) and a probable bottle of Hostteter's Bitters made by the Illinois Glass Company between circa 1880 and 1900 (Toulouse1971:264). Also recovered was a portion of another bottle for Joseph Walker's "California Vegetable Renovating Vinegar Bitters," dating from circa 1863 to 1890 (Fike 1987:185).

A notable quantity of bone, plus an iron fork that once had a bone handle (see Figure 9-14, e), was also recovered from SA 8. The unworked bone includes various cow and some pig elements, most with saw or break marks visible (see Table 9-1). A rump roast and soup bones are represented among the cattle bones, while several of the unidentified mammal bone fragments are burned.

SA 9 was 12 m long, 61 cm wide, and 50 cm deep (see Figure 9-5). Some 10 to 15 cm of Stratum 1 overlay 35 to 40 cm of Stratum 2. In the southern half of the area, an irregular, but roughly circular, deposit of mottled soil was noted within Stratum 2 at 50 cmbs (Figure 9-15). Designated Feature 2, this deposit contained very dark grayish brown (10YR 3/2) silty loan mottled with brownish yellow (10YR 6/6) and oxidized dark yellowish brown (10YR 4/6) silty loam. Bone fragments were noted on the surface of the feature (i.e., at 50 cmbs), while two sherds of whiteware lay just 4 to 8 cm north of Feature 2 (see Table 9-2).

SA 10 was 21 m long, 61 cm wide, and ranged in depth from 45 to 50 cmbs (see Figure 9-5). Stratigraphically, 10 to 15 cm of Stratum 1 overlay 35 to 40 cm of Stratum 2. SA 10 yielded sherds of blue-edged, blue-sponged, repoussé, and molded whiteware (Figure 9-16), some undecorated whiteware, and two pieces of glass, all from roughly circa 20cmbs (see Table 9-2). One of the edged sherds is unscalloped and impressed (see Figure 9-16, a) while the other is unscalloped and painted (see Figure 9-16, b). These were produced from circa 1830 to 1860 and from 1860 to 1890, respectively (Hunter and Miller 1994:434).

SA 11 was 9 m long, 61 cm wide, and 50 cm deep (see Figure 9-5). Some 20 cm of Stratum 1 lay above 30 cm of Stratum 2. In some areas, Stratum 1 subtly graded into Stratum 2, making the division between the two strata difficult to discern. A single sherd of molded ironstone was found approximately 30 cmbs at the south end of SA 11 (see Table 9-2). Otherwise, this stripped area was culturally sterile.

SA 12 was intended to be 7 m long, but the westernmost 1 m of the area could not be excavated as it contained a large tree (see Figure 9-5). The remaining 6 m of SA 12 was 61 cm wide and between 40 and 50 cm deep. In this area of the site, Stratum 1 was 40 to 50 cm thick and overlay Stratum 2. A whole brick was found within the root zone of Stratum 1. No other artifacts or cultural deposits were encountered in SA 12.

SA 13 was 8 m long, 61 cm wide, and extended from 50 to 70 cmbs (see Figure 9-5). Some 45 cm of Stratum 1 occurred above Stratum 2, stratigraphically. One sherd each of annular yellowware, plain whiteware, and stoneware were retrieved from SA 13, along with two molded and lipping-tooled bottlenecks, other glass fragments and some bone and shell (see Table 9-2).

SA 20 was intended to be 22 m long, but 1.5 m near the north end of the area could not be excavated as it contained a tree (see Figure 9-5). The remaining 20.5 m of SA 20 was 61 cm wide and 50 cm deep. Stratum 1 in this area was from 15 to 25 cm thick and lay above 25 to 35 cm of Stratum 2. A few historic ceramics and some glass (including one molded and lipping-tooled bottleneck) were found in the south half of the area, while the north half produced parts of an ironstone milk pan, undecorated and decalcomania porcelain, and brick fragments (see Figure 9-16, e-f, and Table 9-2).

SA 21 was supposed to be 17 m long, but 3.5 m near the south end of the area were not excavated because of the presence of a large tree (see Figure 9-5). The remaining 13.5 m of SA 21 were 61 cm

Figure 9-14. Selected artifacts from Stripped Area 8. (a) undecorated ironstone with unidentified maker's mark; (b) blue/green transfer-printed ironstone; (c) blue transfer-printed whiteware; (d) molded porcelain doll's arm; (e) iron fork with traces of a bone handle.

wide and 50 cm deep. Stratum 1 was 15 to 20 cm thick in this area and overlay 30 to 35 cm of Stratum 2. That small portion of SA 21 to the south of the tree proved sterile, while the portion north of the tree yielded some historic ceramics (including a red transfer-printed sherd of whiteware [see Figure

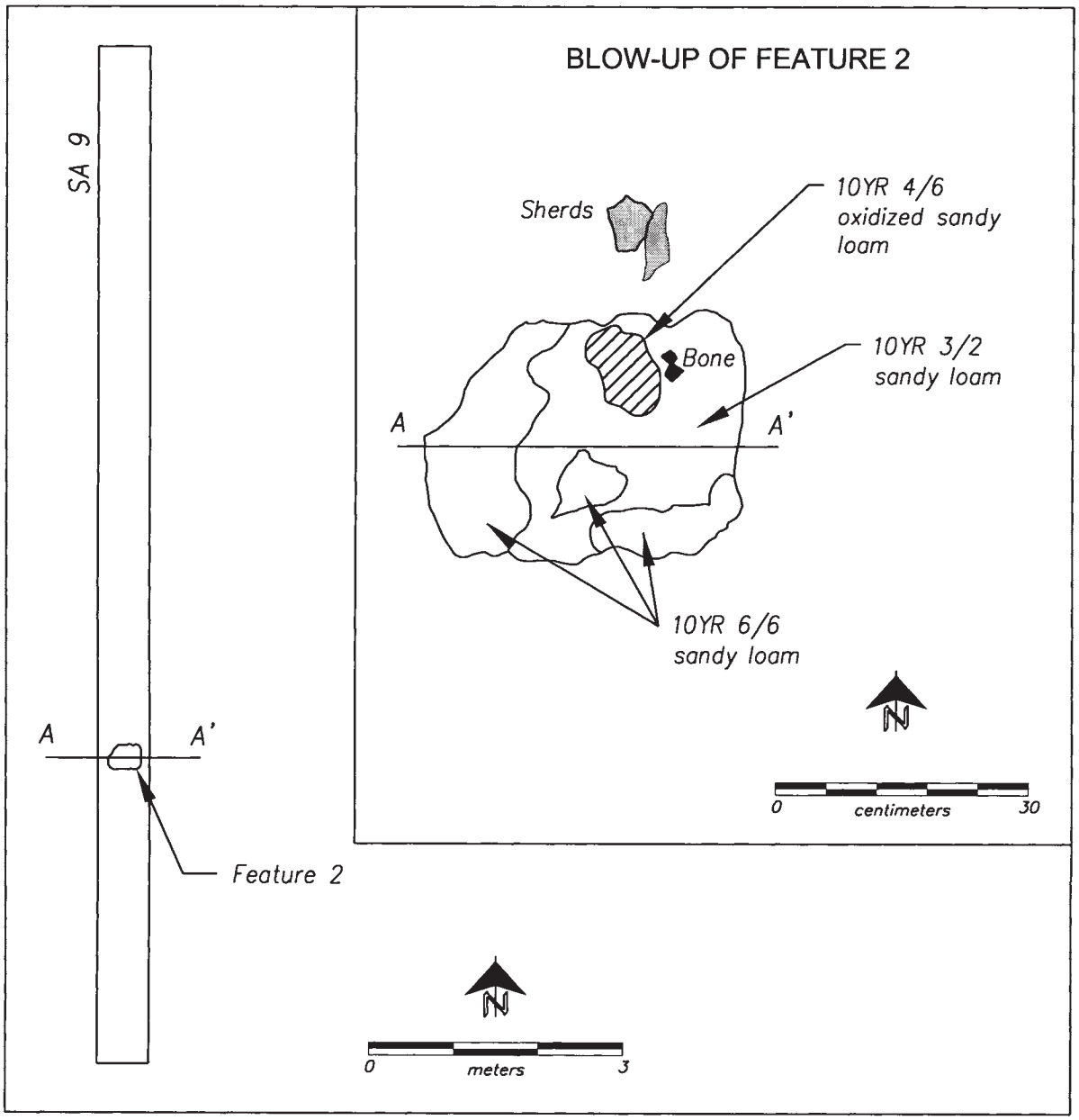


Figure 9-15. Stripped Area 9 at site 41CH371. Note the location of Feature 2.

9-16, g]), three pieces of glass, and some shell (see Table 9-2). One whole brick and a small brick fragment were recovered from the northernmost portion of SA 21.

Stripped Areas 18 & 19
(Possible House Anomalies)

These two stripped areas were located to the immediate east of the main house (see Figure 9-5). They were designed to examine two anomalies thought to be associated either with the main house or the unidentified structure reported by John Clay to have been situated in that area. The latter, as discussed previously, may have served as the second home of Taylor White.

SA 18 was 11 m long, 61 cm wide, and 60 cm deep (see Figure 9-5). The soils were wet and consisted of 25 cm of Stratum 1 above 35 cm of Stratum 2. A brick fragment, one piece of chain, and some historic ceramics were recovered from the west half of the stripped area, while the east half produced glass, ceramics, and brick fragments

Figure 9-16. Selected artifacts from Stripped Areas 10, 20, 21, 18, and 19. (a-b) blue-edged whiteware from SA 10; (c) blue-sponged whiteware from SA 10; (d) repoussé whiteware from SA 10; (e) decalcomania porcelain from SA 20; (f) unidentified medicine bottle fragment from SA 20; (g) red transfer-printed whiteware from SA 21; (h) decalcomania porcelain from SA 19; (i) unidentified bottle fragment from SA 18.

(see Table 9-2). One bottle fragment is embossed "GALVESTON" (see Figure 9-16, i). No other cultural deposits were encountered in SA 18.

SA 19, the final stripped area at site 41CH371, was originally 10 m long, 61 cm wide, and ranged in depth from 25 to 45 cmbs (see Figure 9-5). The soils here also were wet, with 15 cm of Stratum 1 overlying Stratum 2. At the western tip of SA 19, a small scatter of brick fragments and artifacts was detected just 10 cmbs. SA 19 was then extended 2

m to the west to further expose this artifact scatter, which subsequently was designated Feature 5 (Figure 9-17). The 2.3-m-long area surrounding Feature 5 was also widened to 1.8 m in width. In addition to brick fragments, Feature 5 contained several ceramics (Figure 9-16, h), container and window glass, nail fragments, part of a ferrous stove burner lid, mortar flecks, a chunk of charcoal, and a turn-molded olive glass bottle base (see Table 9-2). Aside from Feature 5, SA 19 yielded three pieces of oyster shell and some brick fragments from its eastern end, all located within Stratum 1.

Hand Excavations

Hand excavations were conducted at site 41CH371 to determine the depth and nature of the five features identified during mechanical stripping. A 1-m-by-1-m unit was placed in the approximate center of SA 1 where SAs 1A and 1B adjoined the main stripped area (see Figure 9-7). The purpose of this unit was to investigate Feature 1. Feature 2 in SA 9 was cross-sectioned and the south half excavated (see Figure 9-15). A 1-m-by-61-cm unit was placed in the south-central portion of SA 8 to examine Feature 3 (see Figure 9-13), while a 1-m-by-70-cm unit was placed in the north half of SA 6 to examine Feature 4 (see Figure 9-12). Lastly, Feature 5 was cross-sectioned and the west half excavated (see Figure 9-17). Details on each feature are provided below.

Feature 1

Feature 1 was identified as a 5.5-m-by-3.7-m historic sheet midden during the mechanical stripping of SA 1 (see Figure 9-7). A 1-m-by-1-m unit was placed in the approximate center of SA 1, where SAs 1A and 1B adjoined the main stripped area, to examine this feature (see Figure 9-7). Excavations commenced at the original ground surface, although all but the four corners of the unit had been mechanically stripped down to between 5 and 10 cmbs.

Level 1 in this unit consisted of very dark grayish brown (10YR 3/2) sandy loam that contained an abundance of artifacts (Figure 9-18). Whiteware, ironstone, porcelain, stoneware, both window and container glass, plus nail and other ferrous metal fragments were noted in this level (Figure 9-19, also see Table 9-1). Two of the ceramics were made by Johnson Brothers of England, one after 1891 (see Figure 9-19, a), and the other between

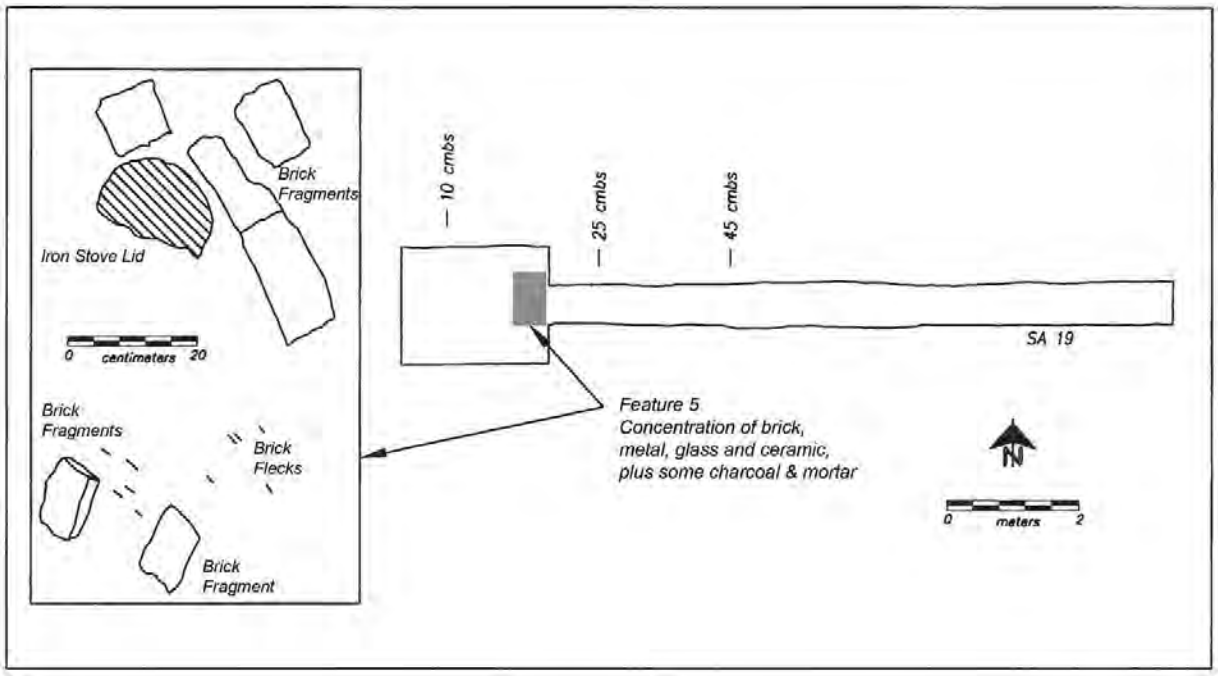


Figure 9-17. Stripped Area 19 at site 41CH371. Note the location of Feature 5. Depths at selected points along the SA are noted.

Figure 9-18. Artifacts exposed during excavation of Level 1 in the hand-excavated unit in Feature 1, Stripped Area 1, site 41CH371. Date: 3/3/07.

circa 1883 and 1913 (see Figure 9-19, b). Both blue and red transfer-printed whiteware were also represented (see Figure 9-19, c-d). The container glass is molded and pressed, and occurs in brown, clear, clear blue, clear green, clear purple, and olive. Two molded and lipping-tooled bottles, a molded goblet and jar, plus bottle, lamp, tumbler, and window glass fragments also were represented (see Table 9-1). Part of a dinner plate is present in the ceramic assemblage.

Level 2 was identical to Level 1 in stratigraphy and content except that the artifact density diminished significantly toward the bottom of this level (Figure 9-20). Another Johnson Brothers ceramic was recovered from this level (see Figure 9-19, e). Several molded bottles and jars occur among the glass finds, plus other bottles, a wine glass, and lamp and window glass of unidentified manufacturing technique (see Table 9-1). One bottle fragment is possibly embossed "FLORIDA WATER/MIANNAY & ALLEN/NEW YORK" and dates to circa 1900 (Fike 1987:244).

The most unusual artifacts found in Level 2 (see Table 9-1) were 53 tiny sherds of aboriginal pottery similar to those discussed previously in this chapter (see Figure 9-19, f-h). These Feature 1 sherds have a slightly laminated paste with tiny specks of sand and shell as natural inclusions, and are smooth to the touch. All can be classified tentatively as Tchefuncte Plain, *var. unspe*cified, and appear to come from the same vessel. The sherds have a highly reduced interior with a thin, tan slip applied. The exterior of most of the sherds is missing, making it impossible to discern if a similar slip was applied to the outside of the vessel. On the interior, a layer of asphaltum was applied over the tan slip. This is somewhat unique for Tchefuncte Plain, but not completely out of the ordinary for other aboriginal ceramics in the Galveston Bay area. While its use was nowhere near as common as along the central Texas coast, asphaltum was still employed as a minor decorative technique or as a mending agent to vessels on the upper Texas coast (see Aten 1983; Black 1989; Weinstein 1991, to cite a few). The closest counterpart to this type

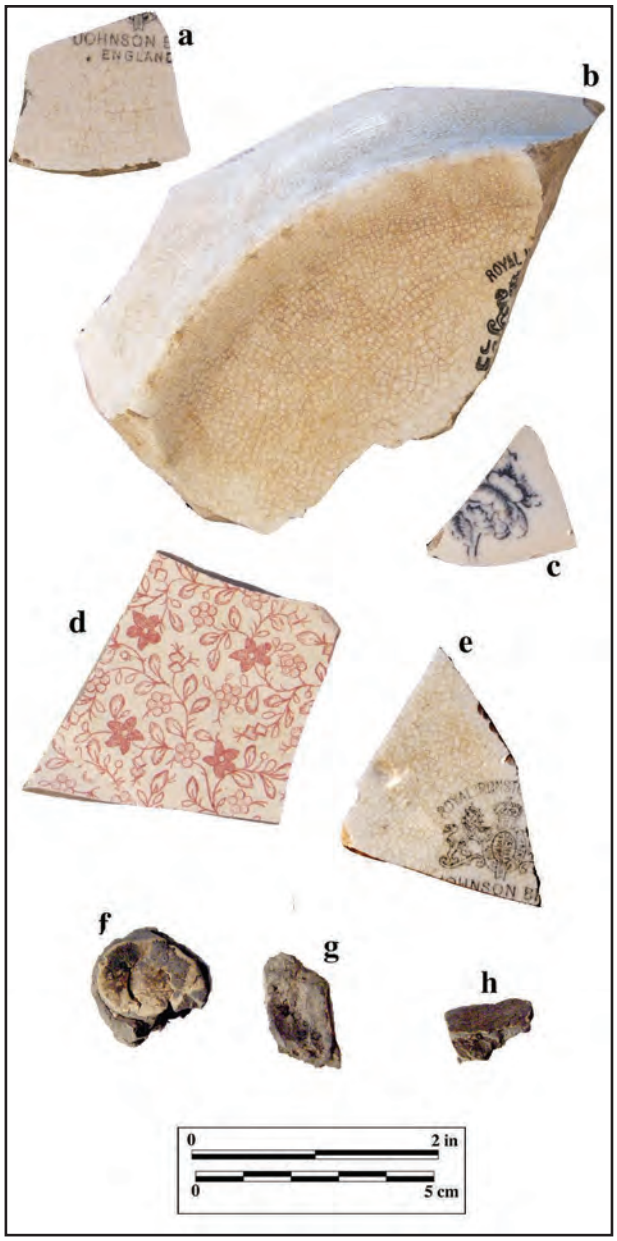


Figure 9-19. Selected artifacts from hand-excavated unit in Feature 1. (a-b) undecorated whiteware made by Johnson Brothers of England from Level 1; (c-d) transfer-printed whiteware from Level 1; (e) undecorated whiteware made by Johnson Brothers of England from Level 2; (f-h) Tchefuncte Plain, var. unspecified *from Level 2.*

of pottery is Tchefuncte Red, which has a tan slip and a subsequent red film applied over a reduced, interior paste. A few examples of Tchefuncte Red have been found in the area (see Weinstein et al. 1988).

Level 3 in this unit consisted of a dark brown (10YR 3/3) sterile silty loam that contained no artifacts or other cultural indicators (see Figure 9-20). Flotation samples were taken from the northwest quarter of the unit in Levels 1 through 3. These were processed but not analyzed. Nevertheless, the light-fraction samples do contain carbonized wood fragments and possibly other carbonized floral remains.

Feature 2

Feature 2 was identified in the south half of SA 9 at 50 cmbs (see Figure 9-15). This roughly circular feature measured 38 by 30 cm and contained very dark grayish brown silty loam (10YR 3/2) mottled with brownish yellow (10YR 6/6) and oxidized dark yellowish brown (10YR 4/6) silty loam (Figure 9-21). Bone fragments were noted on the surface of the feature (i.e., at 50 cmbs), while two sherds of undecorated whiteware lay just 4 to 8 cm to its north (see Table 9-2).

Feature 2 was cross-sectioned along an east-west line and the south half excavated in order to examine its profile. The south half was taken down 30 additional cm to 80 cmbs before excavation was halted due to rising ground water (Figure 9-22). Very few artifacts were recovered, although two sherds of undecorated whiteware were apparent in the feature profile.

Due to the intrusion of ground water into the area removed during cross-sectioning, it was not possible to clearly identify the bottom of the feature. Thus, it is not possible to make an unequivocal decision on the true nature of the feature. The great depth of the feature, its somewhat irregular shape in profile, and its highly mottled fill suggest that Feature 2 may be the result of bioturbation. In such a scenario, those few artifacts found in the feature probably percolated down to these depths via root and/or rodent disturbance. However, in general appearance, both in plan view and profile, the feature looks like a possible posthole. If such is the case, then the mottled nature of the fill undoubtedly occured when the deep soil of the Beaumont Terrace was mixed with upper Holoceue deposits during backilling of the hole. Perhaps the best course of action at present is to note simply that Feature 2 may be a relatively deep posthole.

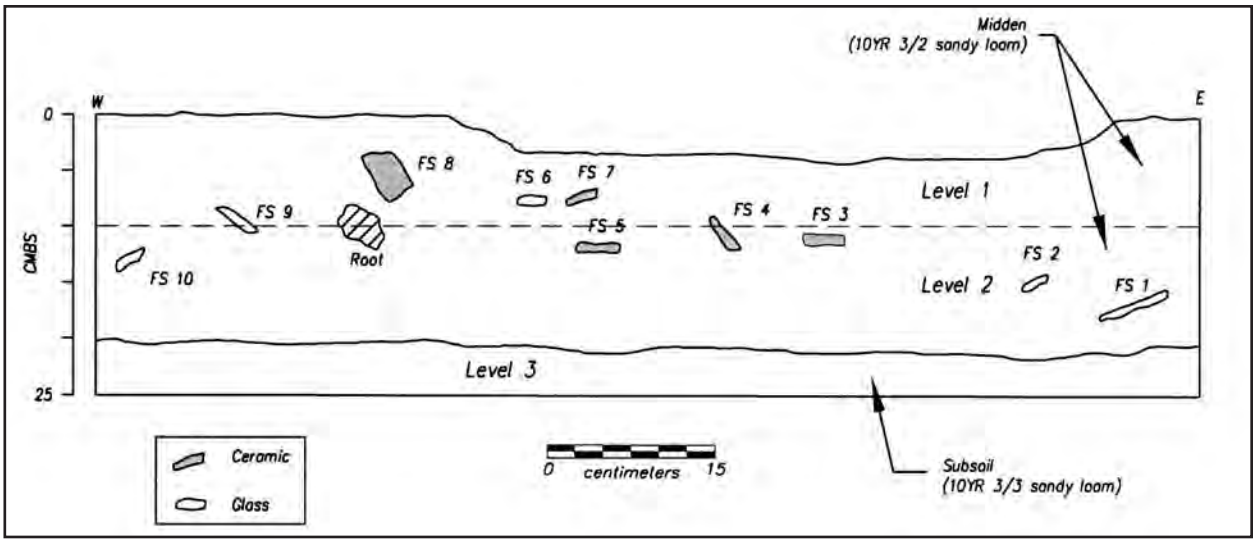


Figure 9-20. North wall profile of the hand-excavated unit in Feature 1, Stripped Area 1, site 41CH371. "FS" indicates individually recorded and piece-plotted artifacts.

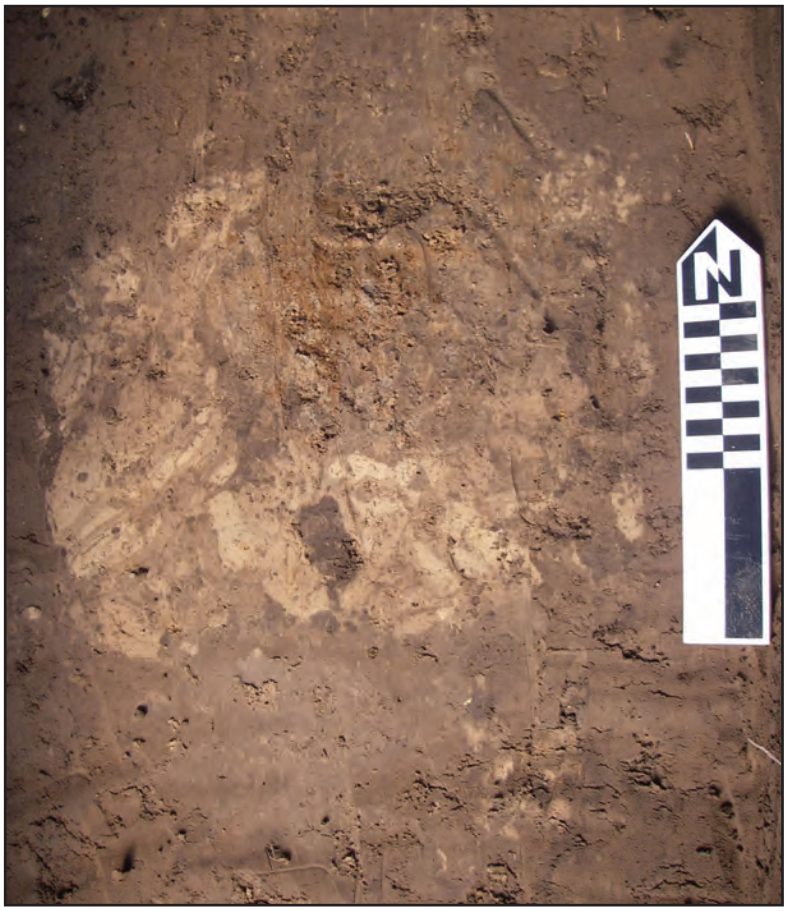


Figure 9-21. Plan view of Feature 2 in Stripped Area 9 at 41CH371. Date: 3/4/07.

Figure 9-22. Profile of Feature 2 in Stripped Area 9 at site 41CH371. Note the lighter color and mottled nature of the feature, plus the two whiteware sherds, visible in the profile. View is to the north. Date: 3/4/07.

Feature 3

This 3.6-m-long feature consisted of a mixture of very dark grayish brown (10YR 3/2), brown (10YR 4/3-5/3), and dark yellowish brown (10YR 4/4) sandy loam (see Figure 9-13). These very mottled soils contained some ceramics and glass, one piece of bone, a fragment of cuprous twisted cable, brick flecks, and possibly mortar (see Table 9-1).

A 1-m-by-61-cm unit was placed in the south-central portion of SA 8 to examine Feature 3 (see Figure 9-13). Level 1 of the unit consisted of the above soils and yielded sherds of undecorated whiteware, porcelain and ironstone, plus transfer-printed, painted, edged, and sponged whiteware, and parts of a Bristol-glazed stoneware bowl (Figure 9-23). The single sherd of blue-edged ware is unscalloped and impressed and dates to between 1830 and 1860 (Hunter and Miller 1994:434). Two cups, a plate, one saucer, and a toy saucer are the ceramic vessel forms represented (see Table 9-1). The glass assemblage from Level 1 includes two machine-made bottles, a pressed-glass lid, plus other bottles, a jar, one canning-jar lid, a lamp base, and window glass. Also recovered was another portion of a bottle of Joseph Walker's "California Vegetable Renovating Vinegar Bitters," dating from circa 1863 to 1890 (Fike 1987:185). Square nails, bone, small brick fragments, and mortar flecks were also noted in this level (see Table 9-1).

By the top of Level 2 (Figure 9-24), the mottled soils were restricted to just two areas in the unit, the remainder consisting of sterile subsoil. The northernmost of these two areas was bisected by the north wall of the unit and called Anomaly A. Anomaly B was located in the west-central portion of the unit (see Figure 9-24). The fill of Anomaly B differed from that of Anomaly A only in that it did not contain the dark yellowish brown (10YR 4/4) soils. However, in shape of the two anomalies were distinctly different. Anomaly A had a square outline, suggestive of a posthole dug

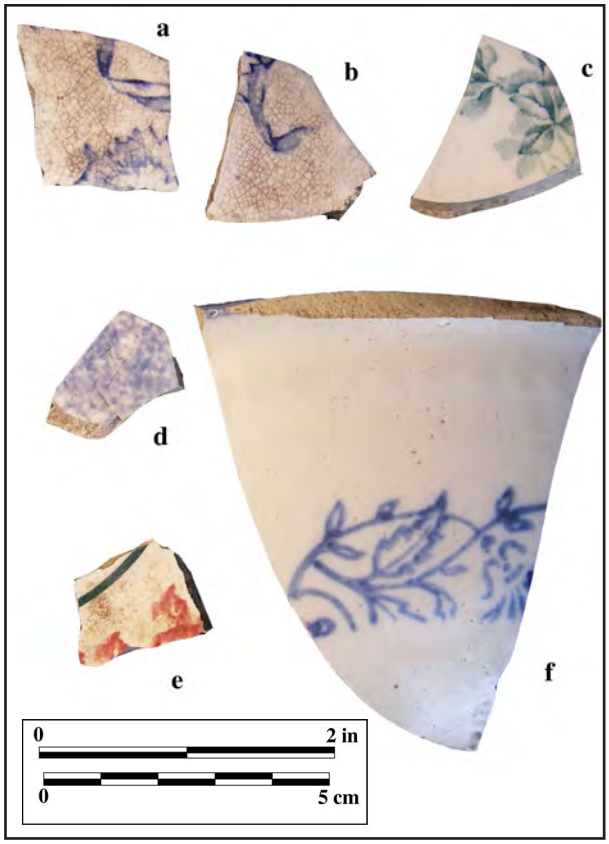


Figure 9-23. Selected artifacts from Level 1 of hand-excavated unit in Feature 3. (a-b) blue transfer-printed whiteware; (c) blue/green transfer-printed ironstone; (d) blue sponged whiteware; (e) hand-painted polychrome whiteware; (f) Bristol-glazed stoneware bowl with blue stenciled decoration.

with a flat-bottomed shovel, while Anomaly B was nebulous and amorphous, likely signs that it was caused by bioturbation. A square nail, a few glass and iron fragments, and four unidentified mammal bone fragments were noted in both anomalies, while Anomaly A also contained flecks of charcoal (see Table 9-1)

The Level 3 excavations were limited to Anomalies A and B. All of that portion of Anomaly A within the unit was removed while Anomaly B was sectioned and only the south half removed (Figure 9-25). Anomaly A yielded three large-mammal rib-bone fragments, charcoal and square nails, while Anomaly B proved to be sterile (see Table 9-1). Level 4 was removed from both anomalies in the same manner. Bone, charcoal, and a single sherd of porcelain were found in Anomaly A and nothing in Anomaly B (see Table 9-1). Anomaly A bottomed out at 55 cmbs, while Anomaly B continued to greater depth. As Anomaly B remained sterile, excavations were halted within it at 55 cmbs (Figure 9-26). Flotation samples were taken from the northwest quarter of the unit in Levels 1 and 2 and from Anomaly A, Level 3. Carbonized wood fragments occur in these samples, and other carbonized floral remains may also be present.

Overall, as alluded to above, the mottled fill, amorphous shape, and great depth of Anomaly B suggest that it formed as the result of bioturbation and is not cultural. Those few artifacts found within

Figure 9-24.

Top of Level 2 in hand-excavated unit in Feature 3, Stripped Area 8, site 41CH371. Note the square shape of Anomaly A in the north wall and the amorphous shape of Anomaly B in the west-central portion of the unit. Date: 3/3/07.

Figure 9-25. Anomalies A and B (Feature 3, Stripped Area 8) after excavation. Note the light and mottled soils in the north and east walls of the unit and the fairly straight and vertical sides of Anomaly A in the north wall. Date: 3/3/07.

it probably percolated downward via root and/or rodent disturbance. Anomaly A, on the other hand, despite its similar mottled fill, likely represents a posthole dug with a flat shovel. Its plan view has a square shape and relatively straight sides. When viewed in cross-section it also has straight, almost vertical sides. The fact that it also contained more artifacts than Anomaly B, plus charcoal, further helps support the notion that this part of Feature 3 is a true posthole.

Feature 4

Feature 4 was a 1.1-m-wide area of very mottled soil identified at 25 to 35 cmbs in the north half of SA 6 (see Figure 9-12). The fill of Feature 4 was a brown (7.5YR 4/3) sandy laom mottled with very dark grayish brown (10YR 3/2) sandy loam. Small patches of white clay from the Beaumont Terrace were also present in this mottled fill, along with some ceramics, glass, bone, charcoal and possibly mortar (see Table 9-1).

A 1-m-by-70-cm unit was placed down in the north half of SA 6 to examine Feature 4 (see Figure 9-12). Level 1 contained some glass, nails, and bone, plus iron and brick fragments (see Table 9-1). Level 2 produced these same materials (see Table 9-1). As excavation progressed, Feature 4 became more and more restricted to the southern portion of the unit. By the top of Level 3, it occupied only the southernmost 30 cm of the unit (Figure 9-27). Level 3 was removed from the southern third of the unit only and produced a single square nail. The feature bottomed out within this level where a 4-in-diameter root bisected the southwest quarter of the unit (Figure 9-28). Overall, the feature appears to represent nothing more than an area of bioturbation.

Feature 5

Feature 5 consisted of a small scatter of brick fragments and artifacts detected just 10 cmbs at the western end of SA 19 (see Figure 9-17). In addition to brick fragments, Feature 5 contained ceramics, container and window glass, nail fragments, part of a ferrous stove burner lid, mortar flecks, a chunk of charcoal, and two turn-molded olive glass bottle bases (see Table 9-2). To determine if this material constituted more than just a thin surface scatter, Feature 5 was sectioned and the west half excavated. Some 10 cm of soil was removed and revealed that the brick fragments were not in situ and did not consist of more than a single course. Although not in situ, this Feature is somewhat tanalizing as it may represent the scattered remains of a pier or other brick feature once associated with the structure that John Clay reported in the area just east of the main house.

Summary

Eight linear stripped areas encompassing 49.04 m^2 were excavated near site 41CH370 and ranged in depth from 40 to 100 cmbs. These excavations showed that no unmarked burials occur within the cleared area adjacent to site 41CH370. In fact, no cultural material or deposits of any kind

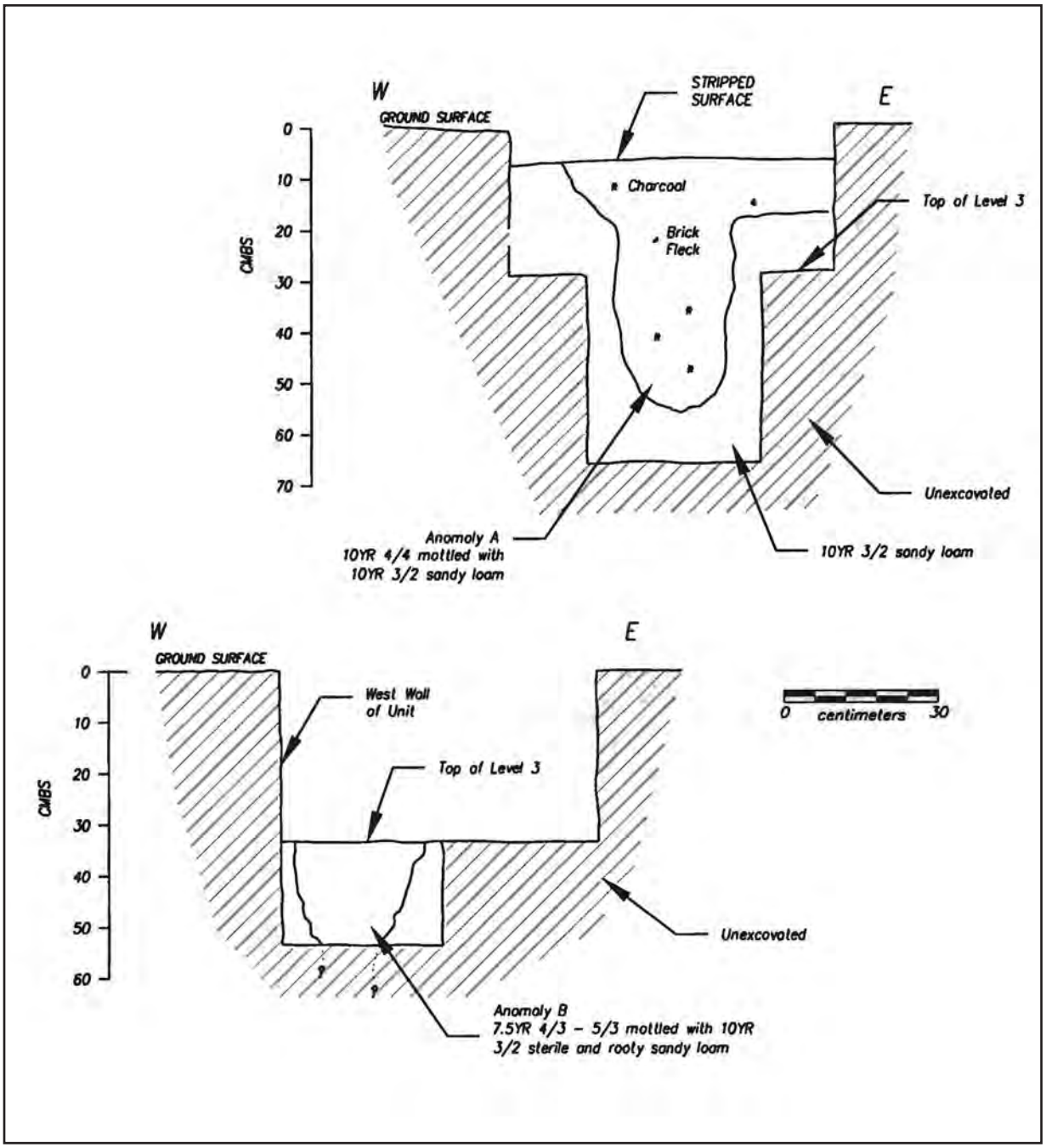


Figure 9-26. Profiles of Anomalies A and B, Feature 3, Stripped Area 8, site 41CH371.

were encountered during mechanical stripping at this location. It is unclear what produced the anomalies identified through the GPR and resistivity surveys. Perhaps the large bulbous roots encountered in the upper strata of some of the stripped areas might account for these anomalous readings.

At site 41CH371, 26 linear areas encompassing approximately 186.66 m^2 were excavated and ranged in depth from 40 to 95 cmbs. Potential cultural deposits were identified in five of the 26 stripped areas (SAs 1, 6, 8, 9, and 19). These five deposits (Features 1 to 5) were examined via hand excavation, and one of them (Feature 4) was determined to be the result of bioturbation. The others were likely (or possibly) the result of cultural activity and are summarized below.

Figure 9-27. Top of Level 3 in the hand-excavated unit in Feature 4, Stripped Area 6, site 41CH371. By this depth the feature had become restricted to a small patch of mottled soil in the southern part of the unit. Date: 3/4/07.

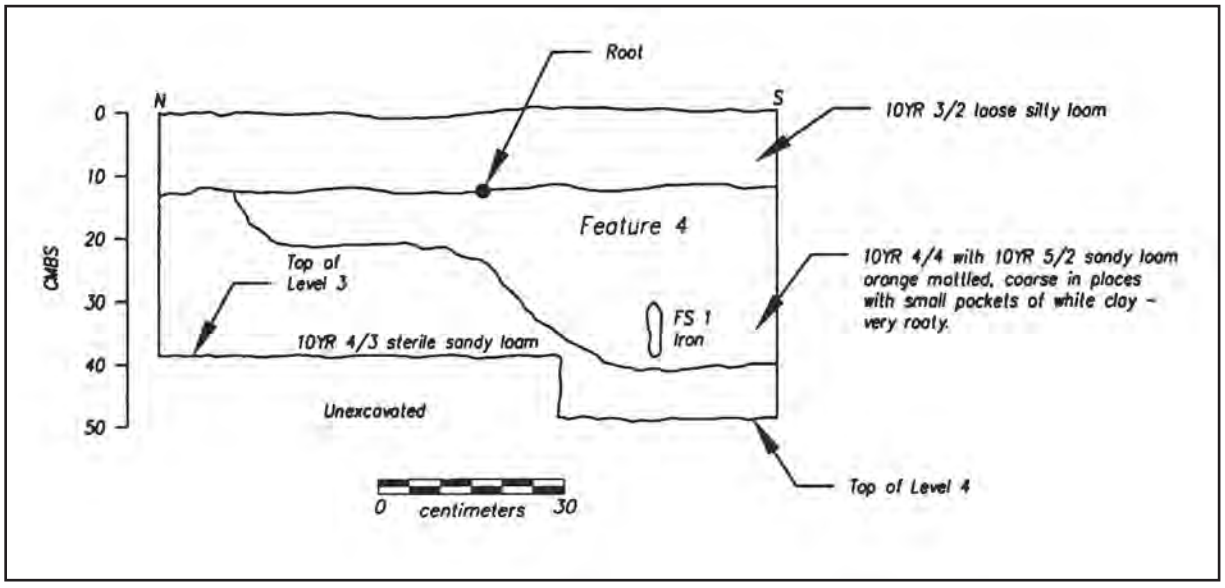


Figure 9-28. East wall profile of hand-excavated unit in Feature 4, Stripped Area 6, site 41CH371. Note the mottled soils of Feature 4.

Feature 1 in SA 1 proved to be an intact, historic sheet midden approximately 5.5 m by 3.7 m in size and some 20 cm deep. This deposit occurred adjacent to an in situ fence post and probably represents refuse disposal along a rear fence line, a practice typical for the time period. The maker's marks identified on some of the glass and ceramics found in Feature 1 indicate that this midden went out of use by the late 1890s. The vessel forms identified are clearly domestic and include, in addition to tableware, chamber pots, planters, window and lamp glass, plus medicine, condiment, and alcohol bottles. The aboriginal sherds found in Feature 1 can be tentatively classified as Tchefuncte Plain, *var. unsp*ecified, and date to the Clear Lake period, (ca. 300 B.C. to AD 100). All of the sherds appear to come from a single vessel, suggesting that the historic occupants of site 41CH371 retained this Native American pot as an heirloom item, possibly having collected it from one of the many prehistoric sites present in Chambers County and vicinity. It is highly unlikely that the sherds represent an aboriginal occupation at site 41CH371, as no other evidence of such an occupation was seen in any of the numerous shovel tests and stripped areas excavated. Nor is it likely that the single water source at the site, the small drainage running through the western part of the large cleaned area, would have been conducive to aboriginal settlement as it retains water only during periods of heavy rainfall.

Features 2 and 3 may represent postholes, the first circular and the latter rectangular. The mottled soils noted in these features are similar to those seen in Feature 4, although that feature appears to be due to bioturbation. A thin lens of similar soil was also noted in SA 7. All of these deposits are located along a rough line to the rear of the main house. As seen in Figure 9-29, these deposits, in addition to the remains of the main house, fall in an area of high magnetic susceptibility as identified in Chapter 7. It is possible that these deposits represent a fence line delineating an activity area behind the main house, perhaps used for a vegetable garden or chicken coop.

Lastly, Feature 5 in SA 19 was a small and thin surface scatter of brick fragments and artifacts detected just 10 cmbs. The location of this feature in the area identified by John Clay as the locus of a fairly prominent structure, perhaps even representing the second home of Taylor White, suggests that other discrete surface artifact scatters or possibly intact piers may exist immediately adjacent to the house in this part of the site.

From one to 30 artifacts were recovered from 18 of the remaining stripped areas at site 41CH371 (SAs 2, 4-5, 7, 10-14, 16-18, 20-21, and 23-26). Most of these artifacts came from Stratum 1 (the topsoil zone) within each stripped area, and no intact cultural deposits of any kind were encountered. The remaining three stripped areas (SAs 3, 15, and 22) produced no artifacts or cultural deposits at all.

Overall, the much larger artifact assemblage gathered during these investigations solidly reflects the period of occupation at site 41CH371. The earliest material recovered (early whiteware, one variety of edged whiteware, and annular whiteware) was produced in the antebellum period between roughly 1830 and 1860. Three machine-made bottles are the latest artifacts found. All three are unlikely to postdate 1920. The vast majority of the artifacts recovered during these investigations date to the second half of the nineteenth century. All of the identifiable nails recovered are square and probably predate 1896. Most of the ceramics are undecorated, a trait characteristic of this time period. The latest ceramic decorations identified, repoussé, decalcomania, and Albany and Bristol glazing, generally date from circa 1890 to 1920.

The residential nature of the site is clearly reflected in the vessel forms represented in the artifact assemblage. Individual sets of tableware are present (i.e., all the red transfer-printed ware found is the same pattern). In addition to tableware, chamber pots, planters, window and lamp glass, medicine, condiment, and alcohol bottles, toys, and butchered faunal remains are all typical of household debris.

It is unclear what exactly produced the 18 anomalies identified at site 41CH371 through the magnetometer and EM surveys. Bioturbation-related Feature 4 (in SA 6) is located within the largest anomaly detected at the site. This anomaly of unknown type (colored green on Figures 9-2

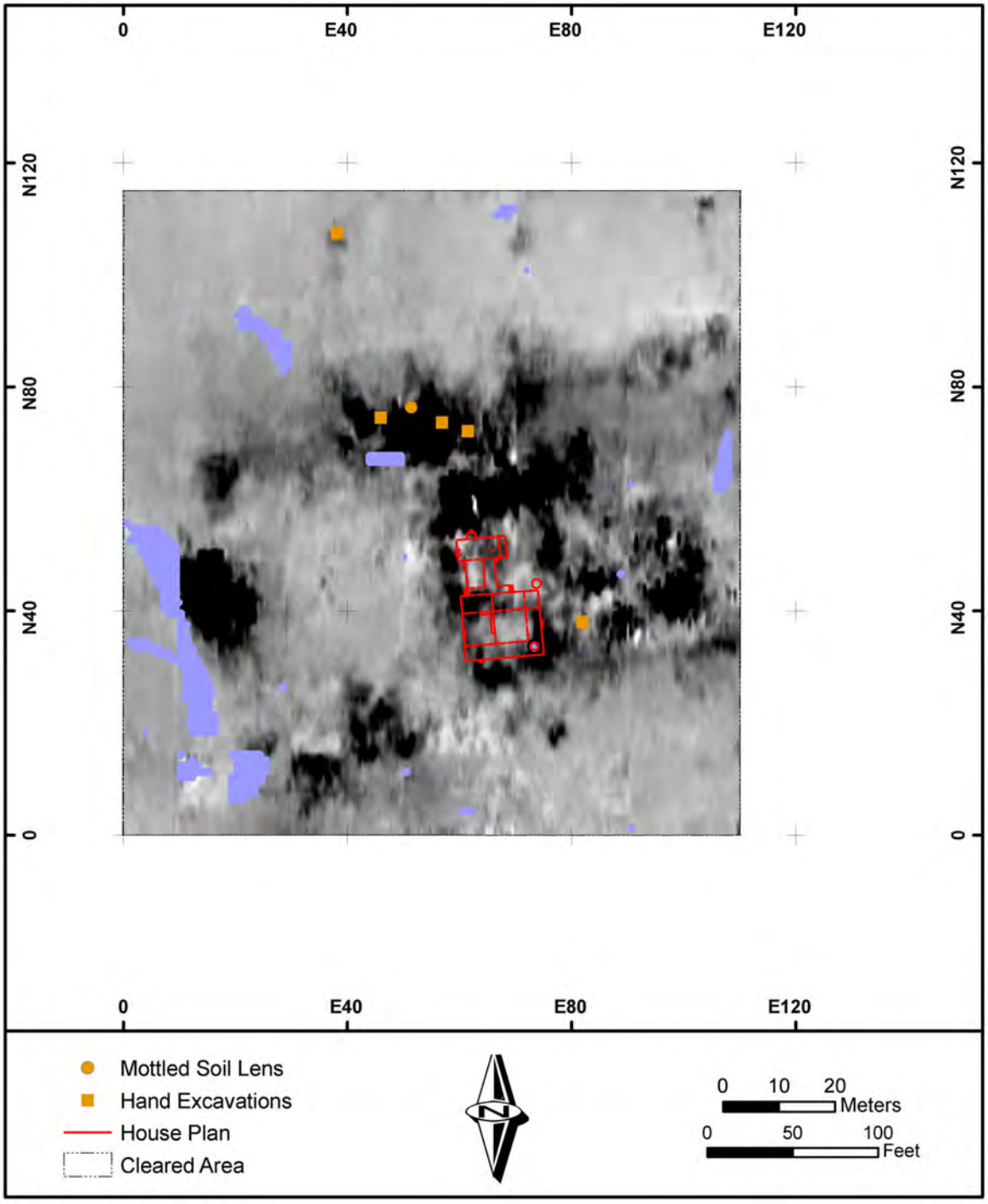


Figure 9-29. Floor plan of the White house, the locations of Features 2, 3, and 4 (the three central orange squares), and the mottled soil (the orange circle) noted in SA 7 overlain on magnetic susceptibility results.

and 9-5) is located immediately behind (north of) the main house. Feature 5 was found in one of the two anomalies thought to be associated with the main house or the structure noted by John Clay immediately east of the main house (pink) (see Figures 9-2 and 9-5). Finally, sheet midden Feature 1 was located in one of the five anomalies tentatively identified as privies (yellow) by the geophysical data (see Figures 9-2 and 9-5).

It is possible that most of the remaining anomalies identified at the site reflect the presence of artifacts or concentrations of artifacts within the topsoil. The three stripped areas that produced no artifacts at all (SAs 3, 15, and 22) are all located on the very peripheries of the site in low and wet areas. It is possible that the compact, wetland-related soils, noted in SAs 15 and 22 in particular, might account for the anomalies detected in those areas during the geophysical surveys.

Chapter 10: Summary and Conclusions

Jennifer A. Kelly, Richard A. Weinstein, and Joanne Ryan

One of the main goals of the present study was to identify the actual location of the home of James Taylor White II in relation to the extant cistern within the south tract (site 41CH371). The identification of potential outbuildings that might have stood near the main house was also of importance. One or more of these outbuildings could have been used as slave quarters prior to the Civil War when White owned several slaves. Once the locations of these potential buildings had been identified and the general layout of structures at the site established, then the site as a whole could be assessed further to determine its eligibility for inclusion in the National Register of Historic Places (NRHP). If the data were still not sufficient to determine NRHP eligibility, then additional archaeological research at selected locations within the site could be proposed. A secondary aim of this study was to ensure that no unmarked burials, slave or otherwise, occurred within the south tract.

Another primary goal of this project was to identify possible unmarked burials located outside the fenced portion of the Broussard Cemetery (site 41CH370) in the north tract. Since this cemetery was established in the early 1890s, long after emancipation, it seemed unlikely that any slave burials might be present in the area. However, the potential for encountering non-slave burials outside the fenced portion of the cemetery was considered high, as the area around small family cemeteries was sometimes used to bury non-family members (tenants, sharecroppers, hired hands, visitors, etc.) who happened to die while residing on the property.

This chapter is divided into three main sections. The first summarizes the results of the investigations on both tracts (41CH370 and 41CH371). The second considers whether any of the possible outbuilding locations identified in the south tract could have been used as slave quarters. The final section assesses the NRHP eligibility of the north and south tracts and provides recommendations for future research.

Summary of Investigations

A multifaceted field program at the two rest area tracts, coupled with a limited amount of historical research, resulted in the accumulation of a significant amount of data on the homestead and life of James Taylor White II. Since the south tract produced the greatest amount of data, the work carried out there will be reviewed first. The investigations conducted at the north tract are then discussed.

South Tract (Site 41CH371)

Both the historical and archaeological data confirmed, without question, that the main home of J. T. White II was present adjacent to the extant cistern in the south tract. The home was a two-story, wooden structure built upon brick piers (five of which were identified during limited ground-truth investigations). The front of the house faced south, while a separate kitchen building, attached by a breezeway, was located directly behind the main house to the north. The extant below-ground cistern was situated beneath the southeast corner of a prominent porch that ran along the south and east sides of the building. Another cistern, shown on John Clay's undated plan of the house, was situated off the structure's northeast corner. Whether this was an above- or below-ground cistern is not known, as its remains have yet to be identified archaeologically. The interior of the house contained four rooms on the ground floor, with a single fireplace located along the west wall of the southwest room. The chimney base for this fireplace was uncovered during the present research. It is likely that wood-fired stoves were present in the other rooms, as many cast-iron stove fragments were found strewn across the area examined.

Remains of the chimney base for the large kitchen fireplace were discovered along the west wall of the kitchen, within a meter of where the Clay plan suggested it was located. The remains of a brick pier also were found in the northeast part of the kitchen, confirming again the accuracy of this plan.

The geophysical surveys conducted in the south tract also confirmed the presence and alignment of the main house. These surveys further identified numerous anomalies located across much of the cleared area in the south tract. Several of these anomalies were interpreted as potential outbuildings, while a few were thought to be privy pits. The nature of the others anomalies remained undetermined. Mechanical stripping (utilizing narrow, linear strips), coupled with the controlled excavation of several small hand-excavated units, was employed to examine most of these anomalies. Unfortunately, the stripping failed to confirm the geophysical interpretations of any of the anomalies. For instance, of the five possible privy pit locations, only one (uncovered by SAs 1, 1A, and 1B) yielded any cultural remains of significant quantity. Although these remains were not associated with a privy pit, they clearly were part of a rich sheet midden (identified as Feature 1) that appears to have been located near a rear fence line situated about 30 m north of the main house. This sheet-midden feature measured 5.5 m north-south by 3.7 m east-west. A single 1-by-1-m unit was placed down into Feature 1 and confirmed the artifactual richness of the sheet midden and the presence of carbonized plant remains. Several sherds of what appear to be Tchefuncte Plain also were found within this midden, although they likely represent an aboriginal vessel collected by one of the members of the White family from a prehistoric site located elsewhere.

Five of the geophysical anomalies were thought to represent outbuildings once situated to the west and southwest of the main house. Two of these locations were also recognized during the metal detector survey as concentrations of farm implements and other metallic tools. Seven stripped areas (SAs 15-17 and 22-25) unfortunately failed to positively confirm the presence of outbuildings in these locations. If outbuildings were located here, no in situ architectural evidence of their presence apparently survives. The location southwest of the main house is at the highest elevation in the south tract. The artifact concentration found here, therefore, may reflect the presence of a carriage house or barn. Although few artifacts were found in this location during mechanical stripping, numerous architecture- and farm-related artifacts were recovered during the metal detector survey. The location west of the main house is low and slopes to the southwest into an intermittent drainage. The artifact concentration found there could represent trash disposal, a common use for low areas on rural historic sites. The fact that so many farm- and so few architecture-related artifacts were found there during the metal detector survey supports this interpretation.

Twelve stripped areas (SAs 4-13, 18-19, and 20-21) were placed where the geophysical surveys had identified eight anomalies of unknown origin (six to the north of the main house and two to the east). Four possible cultural features (F. 2 through F. 5) were identified in four of these stripped areas, and controlled hand-excavated units were positioned in two of them (F. 3 and F. 4). While a portion of Feature 3 (called Anomaly A) appears to represent a square-shaped posthole, Feature 4 likely was the result of bioturbation and not cultural activity. The other two features (F. 2 and F. 5) were cleaned and cross-sectioned. One of those (F. 2) may represent a fairly deep circular posthole, but the data are a bit equivocal. The other (F. 5) was a concentration of artifacts that included bricks, brick fragments, window glass, and nails. This feature may be associated with the structure noted by John Clay that once stood to the immediate east of the main house. Although the bricks are not in situ, they could represent the remains of a pier once associated with this structure. The remaining artifacts recovered from F. 5 are domestic in nature and do not include any farm implements.

Although slim, the possibility exists that an earlier White family home could have stood there, and/or perhaps a slave dwelling. This location was likewise close to what probably was the main road leading to the homestead, as is typical for early frontier dwellings and also slave quarters, particularly those for house servants, on remote, non-sugar plantations (Ryan et al. 1997, 2003) (see the following section below).

North Tract (Near Site 41CH370)

Five possible burial pits were identified by the geophysical surveys conducted within the small cleared area located north of the Broussard Cemetery. These were examined by eight stripped areas/trenches that extended in depth to between 80 and 100 cm below ground surface. No evidence of any burial pits was uncovered and it is likely that the geophysical data had identified the remains of several massive root balls as possible burials.

Potential for Slave Residences

As discussed above, the concentrations of metal and other objects noted in the southwest corner of the south tract suggested the presence of one or more former outbuildings. Another structure also likely stood to the east of the main house as reported by John Clay and possibly supported by the presence in that area of Feature 5. These assumptions were also supported by the geophysical data. The structure(s) to the southwest of the main house likely served as workshops or sheds used for horse/mule shoeing, or other tasks typical of a ranch and homestead from the second half of the nineteenth century. The structure to the east may have been Taylor White's second home. However, one or more of the outbuildings may also have served as slave quarters, like those mentioned by Asahel Langworthy in his 1831 description of the Taylor White ranch (see Chapter 4; Bobby Scherer n. d., WC). Census and tax records mentioned in Chapter 4 indicate that James Taylor White II owned more than 15 slaves.

It is not always clear where slaves' homes were located in relation to the main plantation or ranch houses in east Texas. Investigations of sugar plantations in eastern Louisiana indicate that these types of dwellings were generally located some distance away from the main house (Rehder 1971). The Labadie site, located a short distance from the IH-10 project area in Chambers County, and two antebellum plantations (Levi Jordan and Lake Jackson) in the general vicinity, can be compared to the White II home site. The latter plantations are located in Brazoria County approximately 23 miles from each other. The distance from the Levi Jordan Plantation to Turtle Bayou is about 106 miles.

Located just a few miles from the proposed rest areas in Chambers County is the Labadie site (41CH62). Although occupation at this site is contemporaneous with both the Taylor/Robert White home, as well as the house of James Taylor White II, Nicholas D. Labadie, a doctor who resided on Lake Charlotte, appears to have employed tenants, and not slaves, to work his fields (Weinstein et al. 1989:24-27). While Labadie's Day Book mentions structures on his property, these do not appear to include outbuildings that might be considered slave quarters, but instead were small houses for tenant workers (Weinstein et al. 1989).

For the past 14 years, Ken Brown and students from the University of Houston have been excavating and studying the Levi Jordan Plantation located in Brazoria County, Texas (McDavid 1998a). Now known as the Levi Jordan Plantation State Historic Site (41BO165), the main house there was built in 1848 by Levi Jordan and the people who worked for him as slaves (Figure 10-1). The latter became tenant farmers and sharecroppers on the plantation after emancipation. Archaeological evidence suggests that the majority of the buildings at the Jordan Plantation site were occupied from early 1848 until about 1891, making them contemporaneous with the White II buildings.

Figure 10-1. Photograph of the main house at the Levi Jordan Plantation. (After McDavid 1998b.)

The Jordan slave quarters were located approximately 400 ft (122 m) north of (behind) the main house (Figure 10-2). The quarters were block houses; that is, they were linear rectangular buildings made up of three or four units, and measured about 20 feet wide by 80 feet long. Each of these structures shared a central hallway with a single roof. Entrances to the individual units were located within this hallway. The 1860 census lists the plantation as having 29 cabins (units) for 141 slaves (McDavid 1998a).

The main house and slave quarters at the White II location were presumably built of wood, while the slave and tenant quarters on the Jordan Plantation were made of brick, as was the sugar mill on that plantation. Also, although the Levi Jordan Plantation produced sugar and not cattle, it is possible that the slave quarters at the White ranch were located a similar distance and direction from the main house as those at Levi Jordan. If such was the case, then

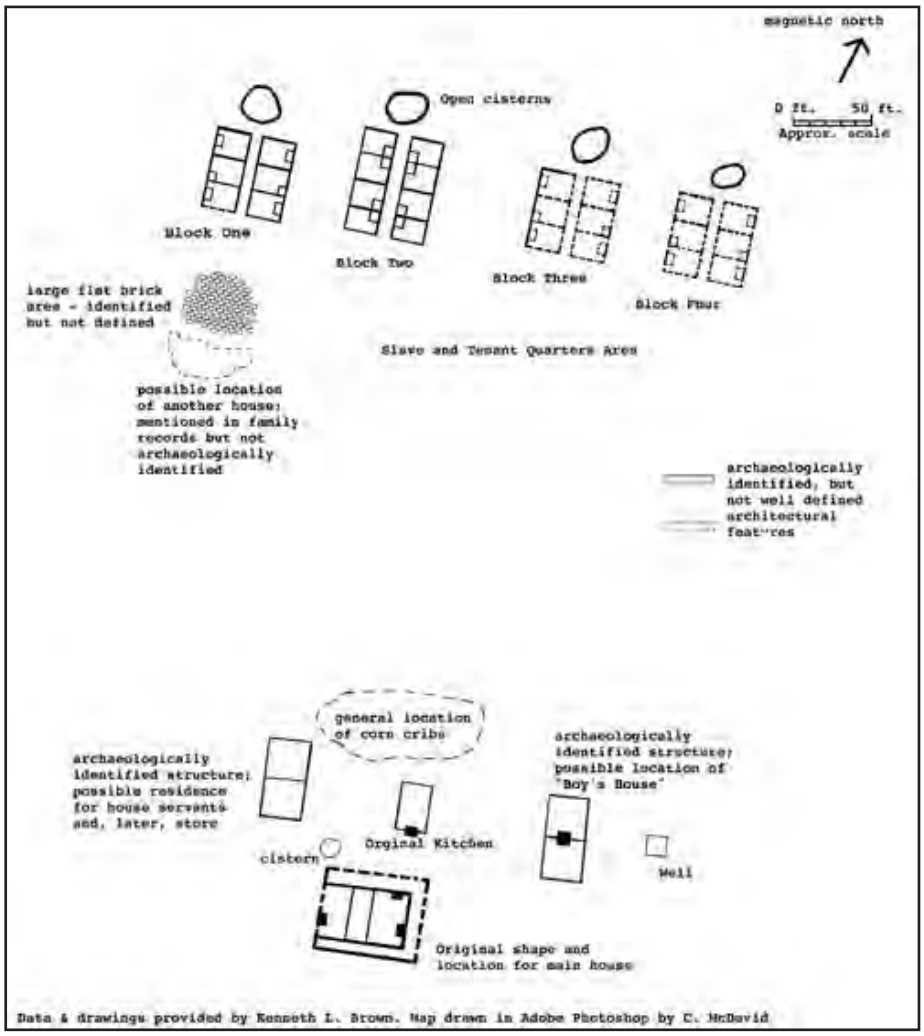


Figure 10-2. Sketch map of the Levi Jordan Plantation buildings. (After McDavid 1998c.)

they would have been situated where IH-10 is located today.

The Jackson Plantation was excavated, for the most part, during Texas Archaeological Society field schools in 1994 and 1995 (Few 1999). Major Abner Jackson founded the plantation around 1842. Initially called the Lake Place, this sugar plantation eventually grew to 3,744 acres. The complex included a colonial-style main house (Figure 10-3), brick outbuildings, gardens, and a sugar mill where the main cash crop of the plantation was processed. Abner Jackson Strobel (1926, cited in Few 2006:26), a descendent of Major Jackson, described Jackson's first home as being made of logs, but explains that Jackson built the cabins, sugar house and a second main residence out of brick, made on the plantation, and stuccoed with cement, making the buildings appear to be made of solid rock. Jackson prospered and lived well until the Civil War.

By 1860, Jackson owned 285 slaves, and was the second largest slave owner in the state (Few 2006:71). According to Joan Few (2006:137, 146), occupation at Lake Jackson can be divided into two time periods: the Jackson period, when slaves were used for labor, and the Convict period, after the Civil War when Jackson used convicts to work the fields and mill. Each period represents a separate building episode on the plantation. A map of the excavated area (Figure 10-4) shows several outbuildings located in proximity to the main house. Of particular interest is Building B (Figure 10-5).

Figure 10-3. Photograph of the Lake Jackson Plantation house prior to 1900. This was before the famous 1900 "Galveston" hurricane destroyed many of the buildings on the plantation. (After Texas Beyond History 2002.)

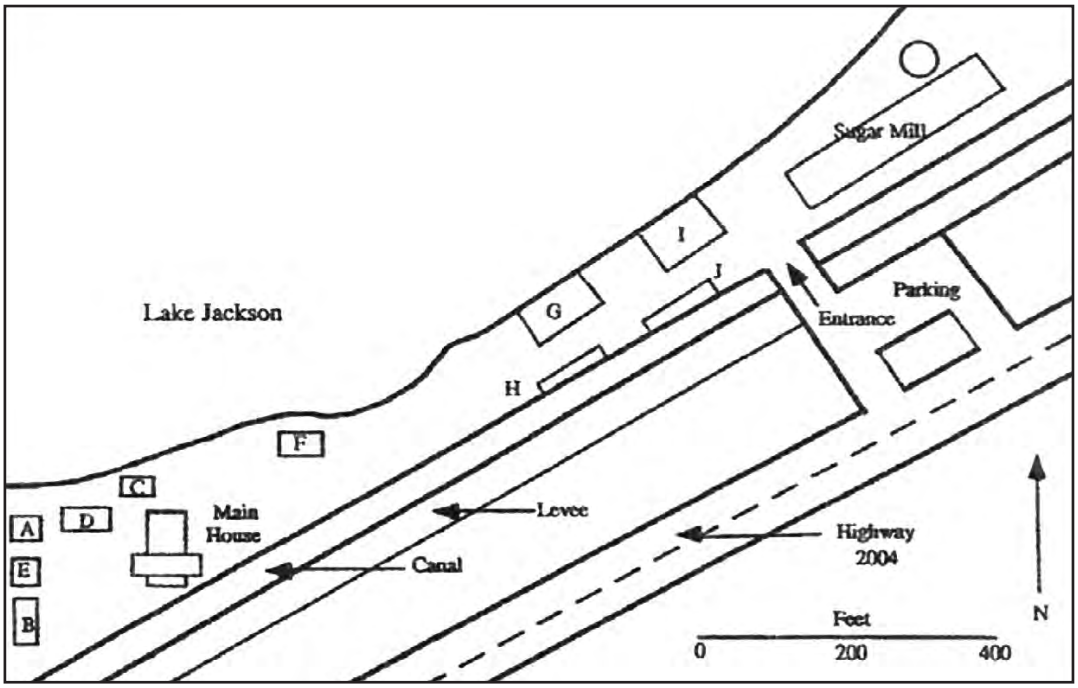


Figure 10-4. Site map of the Lake Jackson Archaeological Landmark. Note that Building B was likely associated with slave housing. (After Few 2006:137.)

Building B was constructed during the Jackson period, and is located less than 150 feet from the main house (towards the west-southwest). The exterior measurements are 30 by 15 ft. It is, like the quarters at the Levi Jordan Plantation, made up of three small contiguous units or rooms. However, Building B is smaller than any of the slave quarters at the Jordan site. The artifacts excavated from Building B numbered 8,829, with the majority coming from Room C. There, a Louisiana militia button was found along with 173 other buttons made of china and bone. Such buttons are generally associated with inexpensive clothing; the type worn by slaves and house servants (Pool 1996). Personal artifacts, including fragments of clay pipes,

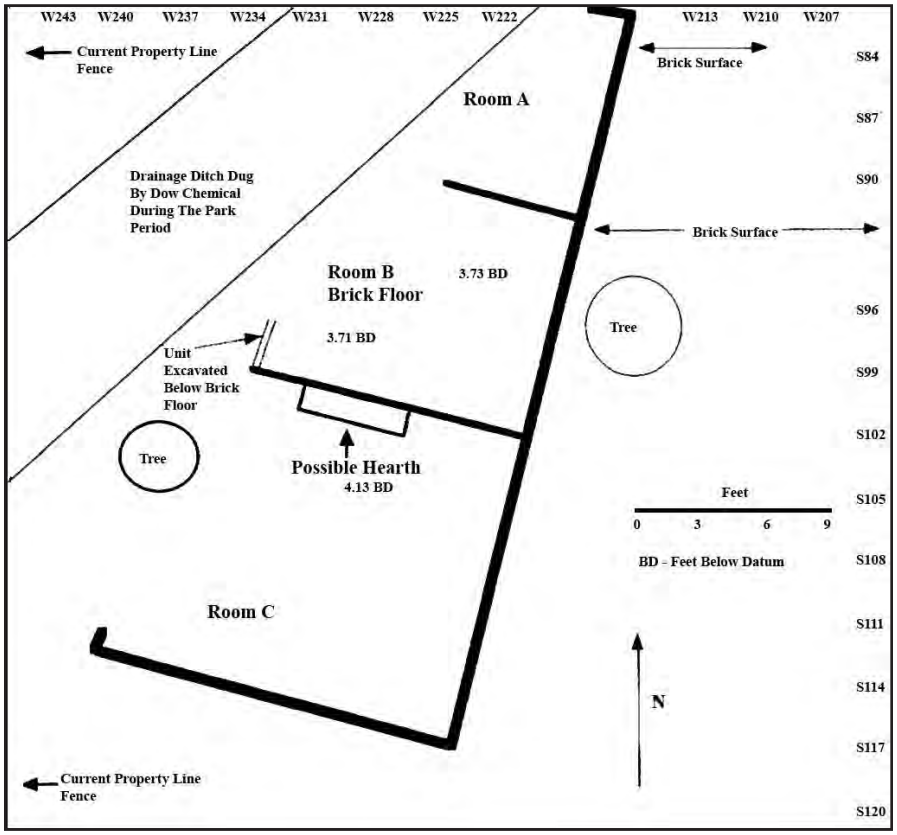


Figure 10-5. Building B, consisting of Rooms A, B, and C. Room C contained artifactual evidence suggestive of occupation by slaves or house servants. (After Few 2006:146.)

an 1860 seated liberty dime, a brass shoe eyelet, and a metal thimble also led Few (2006:147) to believe that Building B was once occupied by slaves.

As just reviewed, the possible slave quarters in Building B were situated approximately 150 ft south-southwest of the front of the main house at Jackson Plantation. Although this location may have been dictated by the presence of Lake Jackson (a relict channel of the Brazos River) and the lack of any land to the north behind the main house where the lake and associated lowlands are situated (see Figure 10-4), it does indicate that some slave quarters were relatively near the big house.

Given the data from Jackson Plantation, it is possible that one or more of the outbuildings located in the immediate vicinity of the White II main house may once have served as slave quarters. Of particular note is the reported structure located immediately east of the main house and the possible outbuilding(s) located on the east side of the small drainage to the west and southwest of the house. Although scraping at the latter outbuilding locations failed to uncover any intact piers, postholes or midden, SA 19 uncovered the remains of a possibly disturbed pier at the location of the reported structure east of the main house. It seems likely, therefore, that an outbuilding of some kind was once present in that area and may be worthy of additional research.

Site Assessment and Recommendations

South Tract (Site 41CH371)

Based on the data presented in this report, the White Family Cistern site (41CH371), which contains the remains of the ranch house of J. T. White II and his family, is recommended as eligible for inclusion in the National Register of Historic Places. This supports the assessment provided by MAC in their earlier study (Terneny 2002).

The significance of an historic property is expressed in terms of whether it meets one or more of several criteria established by the National Park Service (1991):

> The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
>
> a. that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> b. that are associated with the lives of persons significant in our past; or
>
> c. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> d. that have yielded, or may be likely to yield, information important in prehistory or history [National Park Service 1991:2].

A property is considered eligible for nomination to the NRHP if it meets at least one of these four criteria by "being associated with an important historic context and retaining historic integrity of those features necessary to convey its significance" (National Park Service 1991:3). Additionally, properties normally have to be greater than 50 years old to be considered eligible for nomination to the National Register. Those archaeological sites that have been totally excavated, looted, or disturbed to a point where the remaining artifacts are out of their original context and will not provide meaningful information are not normally considered eligible. The archaeological significance of a site is most commonly assessed in relation to Criterion D, or its ability to yield "information important in prehistory or history" (National Park Service 1991:2).

Both the historical and archaeological data acquired so far indicate that the White Family Cistern site was occupied from ca. 1854 until some time during the second decade of the twentieth century, although there is tantalizing evidence that Taylor White's second house (if, in fact he actually had a second house) may also have been situated on the property in the 1830s and 1840s. In addition to an intact subterranean brick cistern, the site includes: the remains of the main house and the kitchen once situated immediately north of the house; a rich sheet midden situated to the rear of the house; an intact nineteenth-century fence post and two possible postholes; a probable non-domestic trash disposal area, and three possible outbuilding locations. It is likely that other concentrations of cultural material reflecting land use (i.e., additional postholes, walkways, gardens, and flower beds) and defined activity areas (for butchering, blacksmithing, livestock rearing, etc.) within the yard surrounding the main house, may also be present.

The White Family Cistern site clearly meets Criterion D as it contains numerous intact deposits that can yield new information on one of the earliest cattle ranches in east Texas. The sheet midden certainly, and the cistern very probably, contain numerous datable artifacts that can reflect the daily life of settlers, free and enslaved, in east Texas in the nineteenth century. Detailed artifact analysis can also tease out undocumented information on the social status of the site occupants, the economic and political networks within which they participated, and the role gender and ethnicity played in east Texas settlement. Architectural remains can provide information on phases of construction at the site, which in turn can reflect human and economic growth at the family and regional levels as the frontier evolved into established rural settlements with strong connections to distant urban centers.

The White Family Cistern site also meets Criterion B due to its connection with the regionally important White family. James Taylor White is known as the first cattle baron, or cattle king, of east Texas. In 1828 he drove his herd from Louisiana and settled near Turtle Bayou, eventually acquiring over 4,000 acres. During the Anahuac Disturbances of 1832 the Turtle Bayou Resolutions were signed near (or at) his home. During the late 1830s or early 1840s Taylor White revolutionized the cattle industry by leading the first cattle drive from Texas to New Orleans. Prior to this time only hides and tallow made it to distant markets. Another ranching innovation initiated by

Taylor was the periodic burning of land to promote new grass growth. Taylor White willed his ranch land to his sons. James Taylor White II continued the family ranching business and was reportedly the first rancher in southeast Texas to fence his pastures. By the 1930s the White family's cattle brands were among the oldest in continuous use in the state, and the family remains in the cattle business to this day.

Due to the White family's connection to the Anahuac Disturbances and the Turtle Bayou Resolutions it is possible that the White Family Cistern site could also meet Criterion A. Significantly more historical research is necessary to make this determination.

Accordingly, it is recommended that construction of the rest area in the south tract be delayed until additional archaeological investigations can take place. While mechanical stripping was an expedient way to examine the numerous anomalies identified in the south tract, horizontal exposure is now necessary in those areas of the tract with the greatest research potential. It is suggested that future research at the site should concentrate on three key locations: (1) the area surrounding the main house and kitchen, (2) the rich sheet midden at the rear of the house identified as Feature 1, and (3) the location of the possible structure situated to the east of the main house.

Within the first area, controlled hand excavations should extend across the recognized extent of the house and kitchen as shown previously in Figure 8-19. This would serve to expose additional piers associated with the two structures and the intervening breezeway, plus allow for the collection of artifacts related to both domestic and kitchen activities. It also likely would uncover the remains of the second cistern known to have been present off the northeast corner of the house. Once exposed, the complete footprint of the main house and kitchen, including cisterns, piers, and chimney foundations, could be preserved, in place, for viewing by visitors to the rest area. Overall, it is recommended that an area measuring 30 m north-south (between N28 and N60) by 24 m east-west (between E56 and E80), or 720 m^2, be included in this aspect of the work (Figure 10-6). These excavations would constitute data recovery for the location of the main house and kitchen.

The second area encompassing the rich sheet midden (Feature 1) also should be completely examined by controlled hand excavations. This is a relatively small area measuring only ca. 5.5 m north-south by 3.7 m east-west. Accordingly, an area 6 by 4 m in size, or 24 m^2, can be employed to remove the entire feature (see Figure 10-6). Using the site's grid coordinates, this area should fall between N103 and N109 and between E36 and E40. Remains from the midden could provide information on the foods being consumed by the White family, plus additional artifacts from the area could be placed on display in the visitor's center at the rest area. These excavations would constitute data recovery for the Feature 1 sheet midden.

The structure east of the main house was apparently residential, and may have functioned as a slave dwelling, Jim White's first house, or even the second home of J. T. White I. Although this location did not yield any in situ architectural remains when examined during the stripping operation, SA 18 and 19 examined only a small portion of the area.

Given the above, it is suggested that four to six controlled 2-by-2-m units be excavated at the possible outbuilding location east of the main house in an effort to acquire more artifactual information that could be used to determine the structure's function. More horizontal exposure of the area is necessary to look for architectural remains, associated sheet middens, and artifacts that may reflect occupation in the 1830s and 1840s. These excavations would constitute archaeological testing of this potential outbuilding location. Overall, the area between N34 and N50 and between E80 and E95 should be examined during this aspect of the research.

In light of the above, a few general research aims and/or questions also can be offered regarding the occupation in the south tract. Perhaps most important would be the need to conduct a thorough examination of other archaeological sites in Texas and surrounding states that once served as cattle ranches. What was the physical layout of these ranches? What types of outbuildings were associated with the main ranch house? How do artifact assemblages from cattle ranches differ from assemblages related to crop plantations?

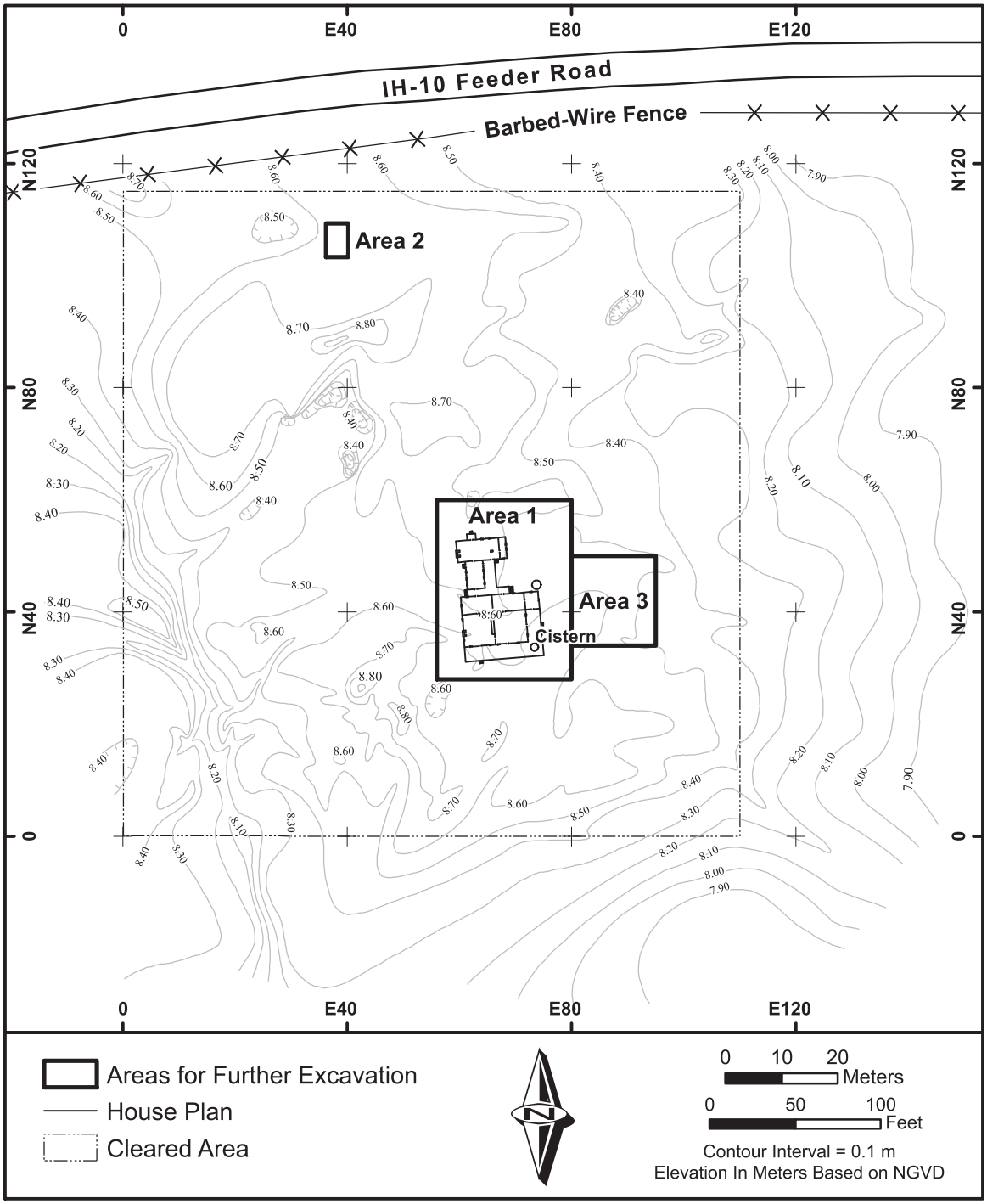


Figure 10-6. Areas in the south tract recommended for further excavations.

Additional research could also explain why the Whites chose to build east-coast-style homes (Carolina I-houses) in Texas, despite their long sojourn in Louisiana where different architectural styles had evolved to cope with the hotter and more humid climate of the Gulf Coast. Another question to consider is why White II's home does not have the requisite central hall of a classic I-house as seen in his brother's house. Finally, how common were such homes in Texas as a whole at that time?

On a more specific level, several detailed analyses of the artifacts recovered from the White house can be employed to obtain a better understanding of when

the house actually was constructed and when it was demolished. For example, the thickness of window glass changed through time, and measurements of glass fragments from the site can provide fairly specific dates related to construction and repairs to the structure. A more detailed analysis of the various artifacts also can lead to an understanding of the socioeconomic class of the White family. Several of the recovered artifacts show that the Whites did not live in an environment isolated from the rest of the World, as glass bottles from cities on both the Atlantic and Pacific coasts were recovered, as well as ceramics that were manufactured in England. Obviously, other questions will be identified once the artifacts are analyzed in greater depth than was possible for this study.

North Tract (Near Site 41CH370)

Cemeteries, like the Broussard Cemetery, are not usually considered eligible for the NRHP and, therefore, their significance does not require assessment. Human burials in the state of Texas are protected from intentional disturbance by Section 42.08 of the Texas Penal Code. No laws currently address unintentional burial disturbance.

The Broussard Cemetery, as currently marked and fenced, will not be impacted during construction of the proposed rest area. The present fieldwork indicated that there are no burials situated beyond the limits of the cemetery fence in those areas slated for construction. Thus, construction on the north tract, as proposed, will not affect any cultural remains.

References

Abernathy, S.
n.d. Historic Ceramics—Decorative Techniques 1600 to Present. Notes on file, Coastal Environments, Inc., Baton Rouge.

Abbott, J. C.
2005 *Dragonflies and Damselflies of Texas and the South-Central United States: Texas, Louisiana, Arkansas, Oklahoma, and New Mexico*. Princeton University Press, Princeton.

Abbott, J. T.
2001 *Houston Area Geoarcheology: A Framework for Archeological Investigation, Interpretation, and Cultural Resource Management in the Houston Highway District*. Archeological Studies Program, Report No. 27. Environmental Affairs Division, Texas Department of Transportation, Austin.

Aitken, M. J.
1961 *Physics and Archaeology*. Interscience Publishers, New York.

Ambler, J. R.
1970 *Additional Archeological Survey of the Wallisville Reservoir Area, Southeast Texas*. Survey Report No. 6. Texas Archeological Salvage Project, University of Texas at Austin.

———
1973 Excavations in the Trinity River Delta: The Lost River Phase. Ms. on file, Texas Archeological Research Laboratory, University of Texas at Austin.

Arnold, J. B., III
1977 A Magnetometer Survey of Fort Anahuac. Ms. on file, Texas Historical Commission, Austin.

Aronow, S.
1971 Quaternary Geology. In *Ground-Water Resources of Chambers and Jefferson Counties, Texas*, by J. B. Wesselman, pp. 34-53. Report No. 133. Texas Water Development Board, Austin.

Aten, L. E.
1983 *Indians of the Upper Texas Coast*. Academic Press, New York.

Bevan, B. W.
1991 The Search for Graves. *Geophysics* 56(9):1310-1319.

———
1994 The Magnetic Anomaly of a Brick Foundation. *Archaeological Prospection* 1(2):93-104.

———
1998 *Geophysical Exploration for Archaeology: An Introduction to Geophysical Exploration.* Special Report No. 1. Midwest Archaeological Center, National Park Service, Lincoln, Nebraska.

Bevan, B. W.
2002 *Geophysical Detection of Brick Structures*. Geosight Technical Report No. 7. Geosight, Weems, Virginia.

Blair, W. F.
1950 The Biotic Provinces of Texas. *The Texas Journal of Science* 2(1):93-117.

Breinner, S.
1973 *Applications Manual for Portable Magnetometers, 18124-01, Rev. A.* Geometrics, San Jose, California.

Brown, D. O.
2005 Review of *Archeology & History at Fort Anahuac (41CH226): Results of the 2003 Season Excavations in Chambers County, Texas*, by R. Feit and J. W. Clark. *Bulletin of the Texas Archeological Society* 76:288-289.

Chambers County Census
1840 "Census Report of Chambers County, Texas." Electronic document, http://www.ancestry.com, accessed May 3, 2007.

Chambers County Deed Records
1842 "Deed Records of Chambers County 1842, Chambers County, Texas." On file, Sam Houston Center, Texas State Library and Archives Commission. Electronic document, http://www.tsl.state.tx.us/shc/countyrecs/chambers.html, accessed May 2, 2007.

Chambers County Tax Roll
1859 "Tax Roll for Chambers County, Texas." Electronic document, http://www.rootsweb.com/~txchamber/taxr1859.htm, accessed May 3, 2007.

Clark, A.
1990 *Seeing Beneath the Soil, Prospecting Methods in Archaeology*. 2nd ed. B. T. Batsford, London.

Coastal Environments, Inc.
2006 *Scope of Work: Archaeological Investigations at Proposed IH-10 Safety Rest Area, Chambers County, Texas (CSF #0508-03-075)*. Coastal Environments, Inc., Baton Rouge. Submitted to Texas Department of Transportation, Austin.

Conyers, L. B., and D. Goodman
1997 *Ground-Penetrating Radar: An Introduction for Archaeologists*. Altamira Press, Walnut Creek, California.

Collins, M. B., and T. W. McKern
1967 Human Skeletal Material from the Presidio San Agustín Ahumada. In *Archeological Excavations at Presidio San Agustín de Ahumada*, by C. D. Tunnell and J. R. Ambler, pp. 114-116. Report No. 6. Archeological Program, State Building Commission, Austin.

Crout, J. D.
1976 *Soil Survey of Chambers County, Texas*. Soil Conservation Service, U.S. Department of Agriculture, Washington, D.C.

Dalan, R. A.
1995 *Geophysical Surveys for Archaeological Research Electromagnetic Conductivity Surveys.* Submitted to Steven L. De Vore, National Park Service, Denver.

Dice, L. R.
1943 *The Biotic Provinces of North America*. University of Michigan Press, Ann Arbor.

Dillehay, T. D.
1975 *Prehistoric Subsistence Exploitation in the Lower Trinity River Delta, Texas*. Research Report No. 51. Texas Archeological Survey, University of Texas at Austin

Ensor, H. B. (editor)
1995 *Archeological Test Excavations at Four Shell Midden Sites in the Wallisville Lake Project Area, Chambers and Liberty Counties, Texas*. Wallisville Lake Project Technical Series, Reports of Investigations No. 2. Geo-Marine, Inc., Plano, Texas. Submitted to Galveston District, U.S. Army Corps of Engineers.

Ensor, H. B. (editor)
1998 *Eagle's Ridge: A Stratified Archaic and Clear Lake Period Shell Midden, Wallisville Lake Project Area, Chambers County, Texas.* 2 vols. Wallisville Lake Project Technical Series, Reports of Investigations No. 4. Geo-Marine, Inc., Plano, Texas. Submitted to Galveston District, U.S. Army Corps of Engineers.

Epperson, J. L.
n.d. Transcription of John V. Clay's notes on the James Taylor White's [sic] Homes. Ms. on file, Texana Heritage Services, Dayton, Texas.

Feit, R., and J. W. Clark
2004 *Archeology & History at Fort Anahuac (41CH226): Results of the 2003 Season Excavations in Chambers County, Texas*. Archeological Series No. 123. Hicks & Company, Austin. Submitted to Chambers County, Anahuac.

Feit, R., J. W. Clark, J. W. Karbula, and M. Miller
2003 *Fort Anahuac: Archeological Testing at a Mexican Era Fort in Chambers County, Texas*. Archeological Series No. 115. Hicks & Company, Austin. Submitted to Chambers County, Anahuac.

Fike, R. E.
1987 *The Bottle Book.* Peregrine Smith Books, Salt Lake City.

Fisher, W. L., L. F. Brown, Jr., J. H. McGowen, and C. G. Groat
1973 *Environmental Geologic Atlas of the Texas Coastal Zone: Beaumont–Port Arthur Area*. Bureau of Economic Geology, University of Texas at Austin.

Fisher, W. L., J. H. McGowen, L. F. Brown, Jr., and C. G. Groat
1972 *Environmental Geologic Atlas of the Texas Coastal Zone: Galveston–Houston Area*. Bureau of Economic Geology, University of Texas at Austin.

Fox, A. A., D. W. Day, and L. Highley
1980 *Archaeological and Historical Investigations at Wallisville Lake, Chambers and Liberty Counties, Texas*. Archaeological Survey Report No. 90. Center for Archaeological Research, University of Texas at San Antonio.

Few, J.
1999 Lake Jackson Archeological Landmark (41B0172): Report of the 1994 and 1995 Texas Archeological Society Field Schools and Additional 1996-1998 Excavations. *Bulletin of the Texas Archeological Society* 70:489-510.

Few, J.
2006 *Sugar, Planters, Slaves, and Convicts: The History and Archaeology of the Lake Jackson Plantation, Brazoria County, Texas*. Privately published, Gold Hill, Colorado.

Generations Network, Inc.
1998 "Texas Death Index, 1903-2000." *Electronic document, http://search.ancestry.com/cgi-bin/sse*.dll?db=txdeath1964+h=4304217+ti=0+indiv=try, accessed May 10, 2007.

Geophysical Survey Systems, Inc.
1998 *GEM-300 Multifrequency Electromagnetic Profiler Operating Manual System Version 1.10*. Geophysical Survey Systems Incorporated, North Salem, New Hampshire.

Geoscan Research
1996a *Instruction Manual, Fluxgate Gradiometer FM9 FM18 FM36*. Geoscan Research, Bradford, West Yorkshire.

_____
1996b *Instruction Manual, Resistance Meter RM-15*. Geoscan Research, Bradford, West Yorkshire.

Gilmore, K.
1974 *Cultural Variation on the Texas Coast: Analysis of an Aboriginal Shell Midden, Wallisville Reservoir, Texas*. Research Report No. 44. Texas Archeological Survey, University of Texas at Austin.

Guevin, B. G., and M. S. Henson
1991 *Archaeological Survey of Fort Anahuac Park, Chambers County, Texas*. Coastal Environments, Inc., Baton Rouge. Submitted to Chambers County Parks and Recreation Department, Anahuac.

Hasek, V.
1999 *Methodology of Geophysical Research in Archaeology*. BAR International Series No. 769. ArchaeoPress, Oxford, Oxfordshire.

Heimmer, D., and S. DeVore
1995 *Near-Surface, High Resolution Geophysical Methods for Cultural Resource Management and Archaeological Investigations*. National Park Service, U.S. Department of the Interior, Washington, D.C.

Henson, M. S., and K. Ladd
1988 *Chambers County: A Pictorial History.* Donning, Norfolk, Virginia.

Hunter, R. R., and G. L. Miller
1994 English Shell-Edged Earthenware. *The Magazine Antiques* 145(3):432-444.

Island of Galveston
2005 "C. F. Marschner Bldg., 1914 Mechanic." Electronic document, http://www.islandofgalveston.com/STRC1914Mechanic.shtml, accessed March 22, 2007.

Johnson, J. K., R. Stallings, N. Ross-Stallings, R. B. Clay, and V. S. Jones
2000 *Remote Sensing and Ground Truthing at the Hollywood Mounds Site in Tunica County, Mississippi*. Center for Archaeological Research, University of Mississippi, University, Mississippi. Submitted to Mississippi Department of Archives and History, Jackson.

Kelly, J. A.
2007 "Family Tree of James Taylor White II." Electronic document, http//www.ancestry.com, accessed April 3, 2007.

Ladd, K., and L. Stewart
2000 "Broussard-White Cemetery." Electronic document, http://www.wallisville.com/cemeteries/broussardwhite, accessed April 3, 2007.

Lewis, C. A., Jr.
1968 Fort Anahuac: The Birthplace of the Texas Revolution. *Texana* 6(1):2-12.

Liebowitz, J.
1985 *Yellow Ware: The Transitional Ceramic*. Schiffer Publishing, West Chester, Pennsylvania.

Lofstrom, E.
1976 A Seriation of Historic Ceramics in the Midwest, 1780-1870. Paper presented at the joint 34th annual Plains Anthropological Conference and the 5th annual Midwest Archaeological Conference, Minneapolis.

Loke, M. H.
2000 *Electrical Imaging Surveys for Environmental and Engineering Studies: A Practical Guide to 2D and 3D Surveys*. Unpublished lecture notes, short training course, Penang, Malaysia.

McDavid, C.
1998a "Levi Jordan Plantation." Electronic document, http://www.webarchaeology.com/html/Default.htm, accessed May 1, 2007.

_____
1998b "Levi Jordan Plantation, photograph of the main house." Electronic document, http://www.webarchaeology.com/html/history.htm, accessed April 3, 2007.

_____
1998c "Levi Jordan Plantation, sketch map of buildings." Electronic document, http://www.webarchaeology.com/html/sitemap.htm, accessed April 3, 2007.

McNeill, J. D.
1996 *Why Doesn't Geonics Build a Multi-frequency EM31 or EM38?* Technical Note TN No. 30. Geonics, Missassauga, Ontario.

Majewski, T., and M. J. O'Brien
1987 The Use and Misuse of Nineteenth-Century English and American Ceramics in Archaeological Analysis. In *Advances in Archaeological Method and Theory*, vol. 11, edited by M. B. Schiffer, pp. 97-209. Academic Press, Chicago.

Miller, G. L.
1980 Classification and Economic Scaling of 19th Century Ceramics. *Historical Archaeology* 14:1-40.

Moir, R. W.
1987 Refined Earthenwares and Rural Ceramic Traditions. In *Historic Buildings, Material Culture, and People of the Prairie Margin*, edited by D. H. Jurney and R. W. Moir, pp. 97-120. Richland Creek Technical Series, vol. 5. Institute for the Study of Earth and Man, Southern Methodist University, Dallas. Submitted to District Number One, Tarrant County Water Control and Improvement, Fort Worth.

Morgan, J.
1836a Audit of Military Claim, REP., Comptroller Military Service Records, Treasury Department, Signed by J. Morgan, July 17, 1836. Archives Division, Texas State Library, Austin.

_____
1836b Audit of Military Claim, REP., Comptroller Military Service Records, Treasury Department, Signed by J. Morgan, September 12, 1836. Archives Division, Texas State Library, Austin.

National Archives
2007 "Research in Military Records." Electronic document, http://www.archives.gov/research/civil-war/index.html, accessed April 28, 2007.

National Resources Conservation Service (NRCS)
2007a "Soil Survey Geographic (SSURGO) Database for Chambers County, Texas." National Resources Conservation Service, U.S. Department of Agriculture, Fort Worth. Electronic document, http://www.ftw.nrcs.usda.gov/ssurdata.html, accessed March 6, 2007.

_____
2007b "Soil Survey Geographic (SSURGO) Database for Chambers County, Texas." National Resources Conservation Service, U.S. Department of Agriculture, Fort Worth. Electronic document, http://SoilDataMart.nrcs.usda.gov//, accessed April 12, 2007.

Nordt, L. C., J. S. Jacob, and P. Goldberg
1998 Late Quaternary Geology and Geoarcheology of Shell Midden Site 41CH252. In *Eagle's Ridge: A Stratified Archaic and Clear Lake Period Shell Midden, Wallisville Lake Project Area, Chambers County, Texas*, edited by H. B. Ensor, pp. 27-54. 2 vols. Wallisville Lake Project Technical Series, Reports of Investigations No. 4. Geo-Marine, Inc., Plano, Texas. Submitted to Galveston District, U.S. Army Corps of Engineers.

Pearson, C. E.
1981 El Nuevo Constante: *Investigation of an Eighteenth-Century Spanish Shipwreck off the Louisiana Coast*. Anthropological Study Series No. 4. Division of Archaeology, Louisiana Department of Culture, Recreation and Tourism, Baton Rouge.

Pearson, C. E., W. L. Fullen, M. S. Henson, and G. J. Castille
1985 Cultural Resources Evaluation of the J. J. Mayes Farm and Cummings Lumber Mill, Wallisville Lake Project Area, Texas. Coastal Environments, Inc., Baton Rouge. Submitted to Galveston District, U.S. Army Corps of Engineers.

Pearson, C. E., and P. E. Hoffman
1995 *The Last Voyage of* El Nuevo Constante. Louisiana State University Press, Baton Rouge.

Phelan, C.
1963 The Old White House. *Houston Post*, November 17, 1963.

Phillips, P.
1970 *Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955*. 2 vols. Paper Vol. 60. Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.

Pool, J.
1970 If Buttons Could Talk. In *Final Report of Research and Excavation at the Lake Jackson State Archaeological Landmark, Lake Jackson, Texas, 41B0172, Between 1991 and 1996, Under Antiquities Permit 1072*, by J. Few, K. E. Fustes, W. S. Gross, C. D. Kneupper, J. T. Pollan,

S. D. Pollan, J. Pool, W. L. McClure, J. L. Smith, J. S. Wayland, and D. J. Wayland, Chap. 15. University of Houston Clear Lake, Houston.

Prewitt, E. R., J. W. Strong, L. W. Klement, B. T. Gray, and M. A. Howard
1986 *Channel to Liberty: Archeological Survey and Historical Steamboat Investigations along the Lower Trinity River, Chambers and Liberty Counties*. Reports of Investigations No. 54. Prewitt and Associates, Inc., Austin. Submitted to Galveston District, U.S. Army Corps of Engineers.

Price, C. R.
1982 *19th Century Ceramics . . . in the Eastern Ozark Border Region*. Monograph Series No. 1. Center for Archaeological Research, Southwest Missouri State University, Springfield.

Rehder, J. B.
1971 *Sugar Plantation Settlements of Southern Louisiana: A Cultural Geography*. Ph. D. dissertation, University Microfilms International, Ann Arbor.

Reynolds, J. M.
1997 *An Introduction to Applied and Environmental Geophysics*. John Wiley and Sons, New York.

Ring, C.
1980 *For Bitters Only*. π [Pi] Press, Wellesley Hills, Massachusetts.

Shafer, H. J.
1966 *An Archeological Survey of Wallisville Reservoir, Chambers County, Texas*. Survey Report No. 2. Texas Archeological Salvage Project, University of Texas at Austin.

St. Martin Clerk of Court
2003 "St. Martin Parish History." Electronic document, http://www.Stmartinparish clerkofcourt.com/history.htm, accessed May 2, 2007.

Stokes, J. S.
1985 Cultural Resources Management Plan, Wallisville Lake Project, Chambers and Liberty Counties, Texas. Unpublished Master's thesis, Department of Anthropology, University of Texas at Austin.

Strobel, A.
1926 *The Old Plantations and Their Owners of Brazoria, County, Texas*. Union National Bank, Houston, Texas.

Terneny, T. T.
2002 *Archeological Investigations of the Proposed Interstate 10 Rest Areas, Chambers County, Texas*. Report of Investigations No. 290. Moore Archeological Consulting, Inc., Houston. Submitted to Corrigan Consulting, Inc., Houston.

Texas Archeological Sites Atlas
2006a "Abstracts Search, Chambers County Cultural Resources Surveys." Electronic document, http://nueces.thc.state.tx.us, accessed July 1, 2006.

Texas Archeological Sites Atlas
2006b "County Search, Chambers County Archaeological Sites." Electronic document, http://nueces.thc.state.tx.us, accessed July 1, 2006.

Texas Archeological Sites Atlas
2006c "Historic Designation Search, Chambers County National Register Properties, State Archeological Landmarks, and Recorded Texas Historic Landmarks." Electronic document, http://nueces.thc.state.tx.us, accessed July 1, 2006.

Texas Beyond History
2002 "History of Lake Jackson Plantation." Electronic document, http://www.texasbeyondhistory.net/jackson/history/html, accessed February 10, 2007.

Texas Historical Commission
2001 Fort Anahuac. Unpublished Powerpoint presentation. On file, Texas Historical Commission, Austin.

Texas Natural Resources Information System (TNRIS)
2005 "2004 NAIP Imagery for Monroe City." Electronic document, http://www.tnris.state.tx.us/datadownload/quad.jsp?Quad=Monroe%20City&num=29094-G5, accessed April 12, 2007.

Toulouse, J. H.
1972 *Bottle Makers and Their Marks*. Thomas Nelson, New York.

Tunnell, C. D., and J. R. Ambler
1967 *Archeological Excavations at Presidio San Agustín de Ahumada*. Report No. 6. Archeological Program, State Building Commission, Austin.

UsGenWeb Archives
n.d. "Service Records from the War of 1812." Electronic document, http://www.usgenweb.org, accessed April 3, 2007.

U. S. Geological Survey (USGS)
1928 *Anahuac, Texas*. Quadrangle map at scale of 1:125,500. U.S. Geological Survey, Washington, D.C.

Weinstein, R. A., T. H. Hahn III, M. S. Henson, D. B. Kelley, and J. P. Whelan, Jr.
1989 *Archaeological Testing and Mitigation at Cedar Hill Park, Wallisville Lake Project, Chambers County, Texas*. Coastal Environments, Inc., Baton Rouge. Submitted to Galveston District, U.S. Army Corps of Engineers.

Weinstein, R. A., C. E. Pearson, J. P. Whelan, Jr., and D. B. Kelley
1988 *Archaeological Investigations along the Lower Trinity River, Chambers and Liberty Counties, Texas.* Coastal Environments, Inc., Baton Rouge. Submitted to Galveston District, U.S. Army Corps of Engineers.

Weinstein, R. A., and P. G. Rivet
1978 *Beau Mire: A Late Tchula Period Site of the Tchefuncte Culture, Ascension Parish, Louisiana.* Anthropological Report No. 1. Louisiana Archaeological Survey and Antiquities Commission, Baton Rouge.

Weymouth, John W.
1986 Geophysical Methods of Archaeological Site Surveying. In *Advances in Archaeological Method and Theory*, vol. 9, edited by M. B. Schiffer, pp. 293-357. Academic Press, New York.

White, G. (editor)
1966 *The 1840 Census of the Republic of Texas*. Pemberton Press, Austin.

Wright, Z .H., Jr., and W. S. Wright
1975 "Chambers County Cemeteries." Electronic document, http://www.rootsweb.com/~txchambe/whitescem.htm, accessed May 27, 2007.