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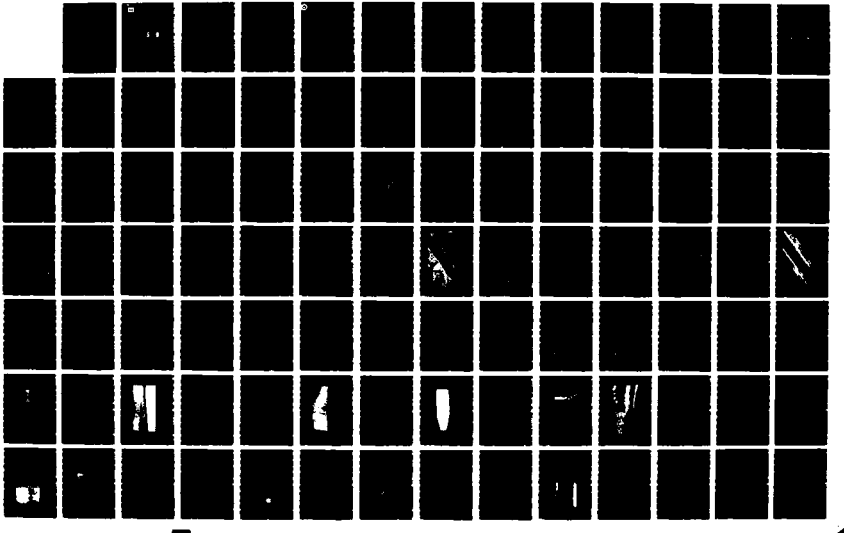

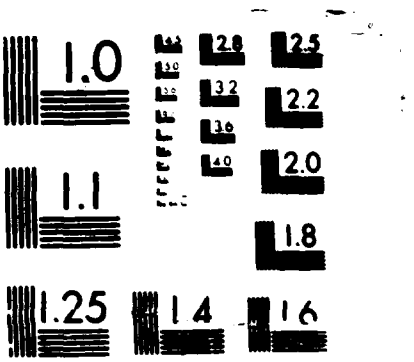

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Report Number:COELMN/PD-86/02

US Army Corps
of Engineers
New Orleans District

CULTURAL RESOURCES SURVEY OF THE WHITE CASTLE REVETMENT ITEM, IBERVILLE PARISH, LOUISIANA.

FINAL REPORT

March 6, 1987

R. Christopher Goodwin and Associates, Inc.
1306 Burdette Street
New Orleans, Louisiana 70118

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

See below

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

R. Christopher Goodwin & Associates, Inc., conducted a cultural resources survey of 0.8 miles of the Mississippi River bankline in Iberville Parish for the U.S. Army Corps of Engineers during August and September, 1985. The project area had been settled by Acadian colonists in the Spanish Colonial Period. Two plantations, Celeste and Belle Grove, developed within the project corridor during the nineteenth century. Six sites were recorded during an intensive pedestrian survey. White Castle Site 1 consists of a disturbed brick scatter; it represents the remains of the Belle Grove warehouse. Site 16 IV 147 consists of a scatter of colonial period habitation debris and an intact architectural feature. The site represents the remains of an Acadian farmstead. Site 16 IV 148 yielded a small collection of Coles Creek period ceramics and historic artifacts but does not possess integrity. Site 16 IV 149 represents the remains of an early nineteenth century farmstead; portions of the site remain intact. Site 16 IV 150 also represents the remains of a late eighteenth/early nineteenth century farmstead, but the site lacks intact cultural deposits. Site 16 IV 151 yielded a small collection of historic and prehistoric artifacts but lacks cultural integrity; the site represents the remains of the Celeste Plantation great house complex. White Castle 1, 16 IV 148, 16 IV 150, and 16 IV 151 are not significant cultural resources. No further work is recommended at these sites. Further testing is recommended to determine the significance of 16 IV 147 and 16 IV 149.

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF

September 24, 1986

Planning Division
Environmental Analysis Branch

To The Reader:

This report of survey and site inventory was prepared for the U.S. Army Corps of Engineers, New Orleans District in advance of revetment construction along the Mississippi River in Iberville Parish, Louisiana. Six historic archeological sites were found adjacent to the river channel. White Castle 1, 16IV148, 16IV150 and 16IV151 were assessed to be nonsignificant. Each of these four sites is an eroded surface scatter without contextual integrity. Sites 16IV147 and 16IV149, however, exhibit in situ features and a potential for retrieval of data of scientific value. Both sites date from the turn of the 18th century and are associated with late colonial and early antebellum settlement of the Acadian Coast of the Mississippi River. Sites 16IV147 and 16IV149 appear to be significant, but require additional testing to formally establish their eligibility to the National Register of Historic Places.

The State Historic Preservation Officer concurs with these findings and interpretations. Construction may proceed without the need for further investigation in the vicinity of White Castle 1, 16IV148, 16IV150 and 16IV151. Sites 16IV147 and 16IV149 will be protected from construction impact until their eligibility has been established and appropriate mitigation measures have been taken.

Carroll H. Kleinhans
Authorized Representative
of the Contracting Officer

Cletis R. Wagahoff
Chief, Planning Division

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CHAPTER I

INTRODUCTION

This report presents the results of a cultural resources survey of the White Castle Revetment Item, located in Iberville Parish, Louisiana. This study was conducted for the U.S. Army Corps of Engineers, New Orleans District, pursuant to Delivery Order No. 001 of Contract DACW29-85-D-0013. The White Castle project area is located on the west (right descending) bank of the Mississippi River between M-192-R and M-191.2-R (Figure 1), where revetment construction is planned by the Corps of Engineers. A continuous, articulated concrete mattress will be mechanically laid from the low water line to a point several hundred feet into the river channel. In preparation, a 200-300 foot corridor adjacent to the bankline will be cleared of all vegetation and graded to a standard slope. The survey effort reported here was designed to locate and identify all cultural resources within this impact area, to permit assessment of project impacts on those resources, and to evaluate the significance of sites identified by applying National Register of Historic Places criteria.

Archival research focused on historic land use and on historic architectural improvements within the project area. Trajectories of land use and property ownership were examined in order to develop an interpretive framework for the project area and to provide a documentary context for use in evaluation of significance of recovered remains. Map research included examination of the 1870s and 1921 series Mississippi River Commission Maps, the Caving Banks Maps, levee setback maps, and nineteenth century historical maps.

Field investigations were conducted during August and September, 1985. The presence of near surface remains was evaluated using a systematic shovel testing program, conducted simultaneously with an intensive pedestrian survey. A total of six archeological sites were identified during this phase of research; they were designated White Castle Sites 1 through 6. Five of these sites (Sites 2 through 6) since have been assigned State Survey numbers 16 IV 147 through 16 IV 151, respectively. All six sites are located along the bankline or cutbank of the Mississippi River. Additional site testing included surface collection, and a combination of shovel and auger testing. Where appropriate, stratigraphic profiles were cleaned along the cutbank of the river and 1 x 2 m test units were excavated. Fieldwork revealed that most archeological remains at the six sites were restricted to the surface. However, at two sites, intact cultural deposits were identified, and additional testing and subsequent laboratory analyses indicated that further

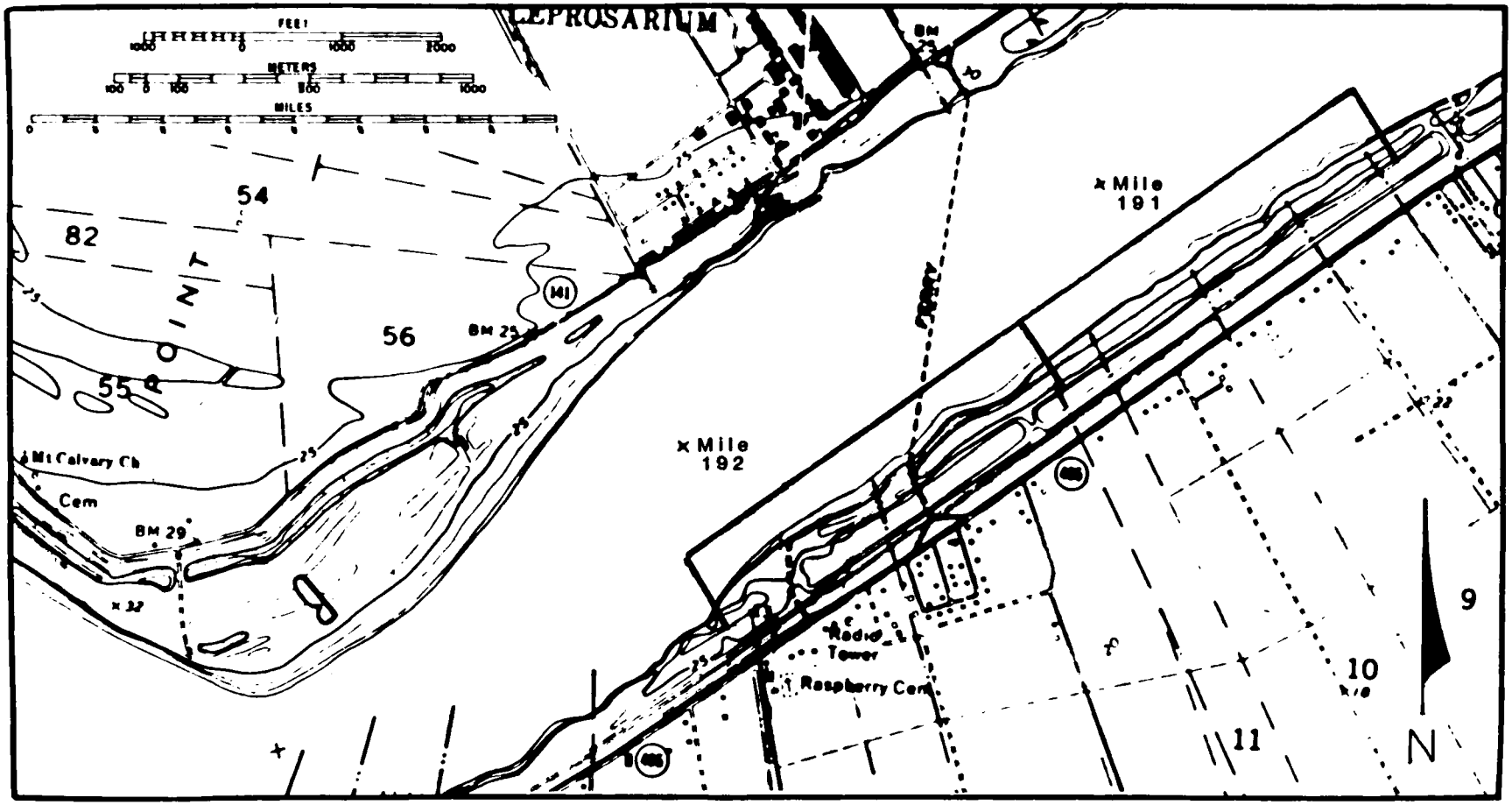

Figure 1. Excerpt from the White Castle and Carville 7.5' quadrangles showing the location of the project area.

research should be undertaken there to assess their National Register of Historic Places eligibility status.

Artifacts recovered during fieldwork were washed, catalogued, and classified. Laboratory analysis focused on identification of function and on chronological placement of recovered remains. In addition, laboratory time was devoted to preparing the various collections for permanent curation.

The results of the archival research and archeological field survey are presented below. Conclusions and recommendations concerning site eligibility to the National Register of Historic Places are discussed in Chapter IX. In addition, recommendations for the next level of testing at sites 16 IV 147 and 16 IV 149 are presented.

CHAPTER II

PROJECT AREA DESCRIPTION

Location

The White Castle Revetment Item is located on the West (right descending) bank of the Mississippi River between M-192-R and M-192.2-R in Iberville, Louisiana (Figure 1). The project area consists of a segment of batture approximately 2,530 m in length, from Levee Station 5997+16 (Range Number D-50) to L.S. 5468+16 (Range Number D-130), and from the low water line of the Mississippi River to the riverside toe of the modern Mississippi River Protection Levee.

The project area was divided into two segments, from D-50 to D-90 and from D-90 to D-130, corresponding to priority work areas established by the New Orleans District, Corps of Engineers. The intensive archeological survey and site recordation effort conducted at the White Castle Revetment Item proceeded according to this schedule. However, because the two survey areas comprise a contiguous segment of batture, they are treated as a single survey corridor in this report.

Natural Setting

The White Castle Revetment project area is located in the Upper Deltaic Plain of the Mississippi River within the modern meander belt, which the river has occupied for approximately the past 4800 years (Saucier 1974:22). Fluvial activity, including lateral migration and overbank deposition during flood stages, is the dominant geologic process operating on the landscape in this region. The formation of natural levees, point bar deposits, and other geomorphic features, such as crevasse channels and abandoned river courses, are well-documented (e.g., Smith et al. 1986).

The project area is situated along the river near the present-day town of White Castle, La., at a point where the river emerges from a sharp bend around Point Clair. Examination of Atchafalaya Basin Levee District maps (Figure 2) indicates that bankline erosion here has been most severe at the extreme upriver portion of the project area. Here, as much as 700 feet of bankline has been lost to the river between 1883 and 1945. This figure decreases to about 200 feet in the vicinity of the White Castle ferry landing for the same interval of time, and approximately the same rate of loss characterizes the downriver margin of the project area. Examination of the 1974 7.5' White Castle and Carville quadrangles indicates that approximately 150 additional feet of bankline has been lost since 1945.

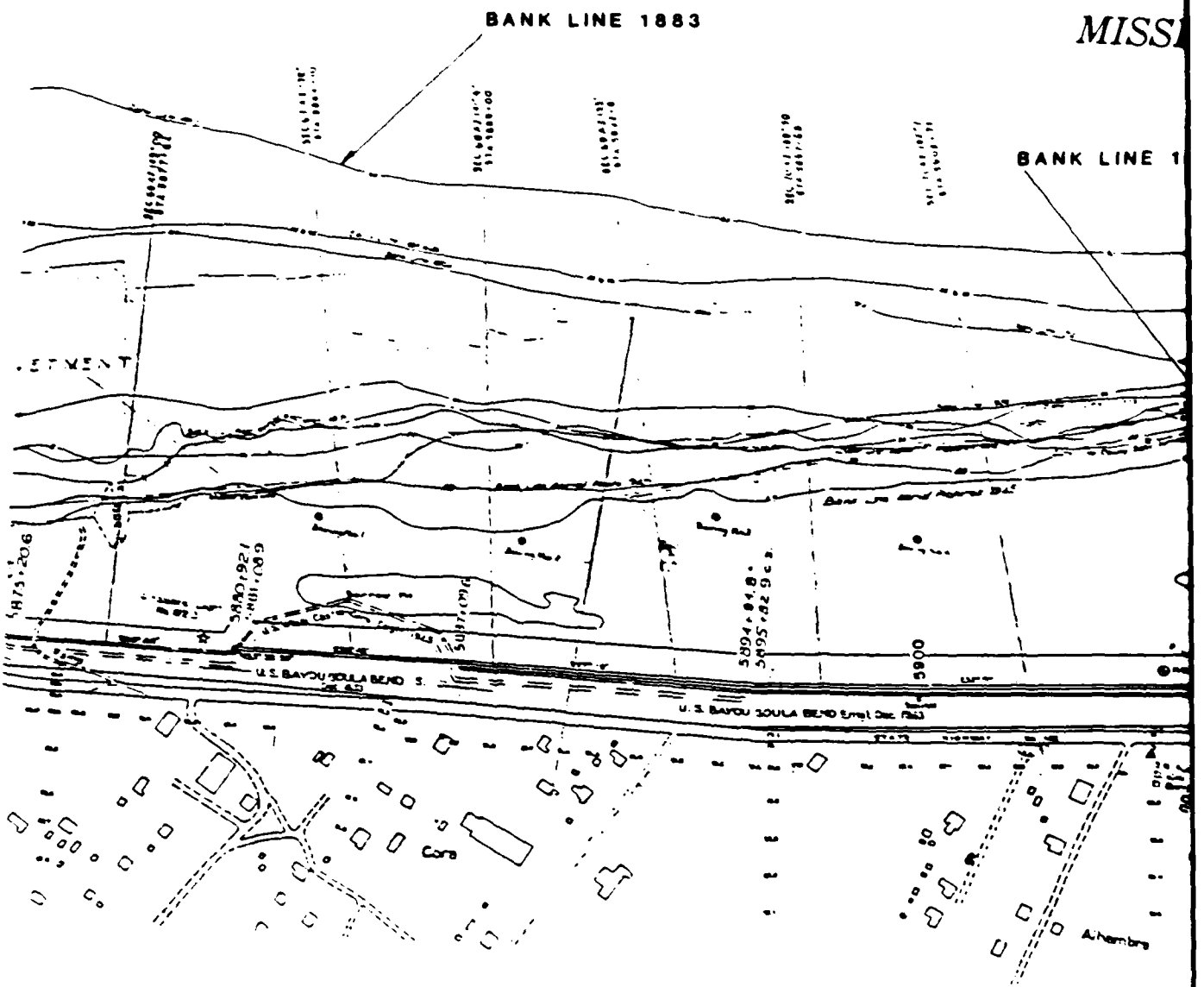

Figure 2. Excerpt from the Atchafalaya Basin Levee Caving Bank Maps showing bankline changes project area.

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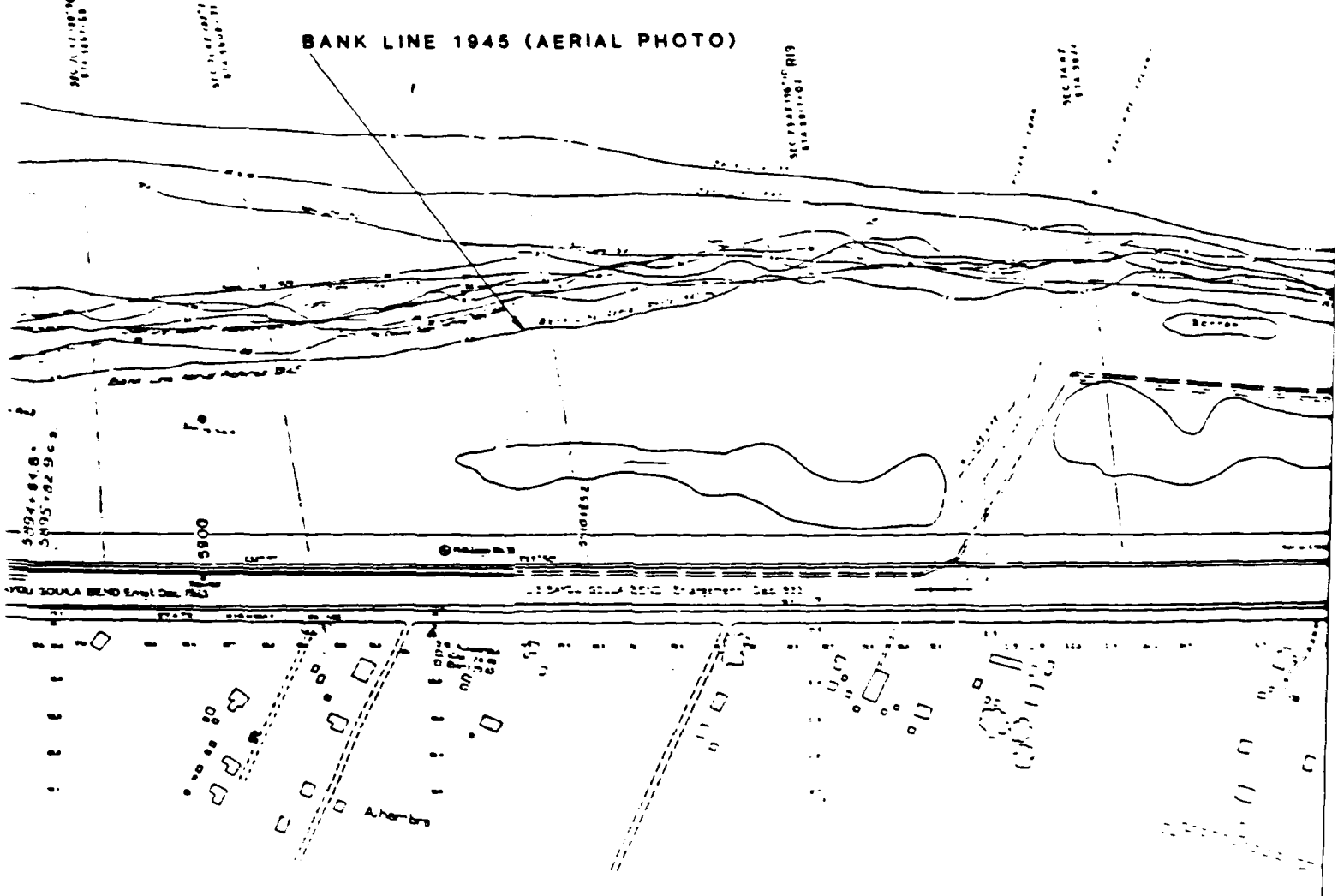

the Atchafalaya Basin Levee District
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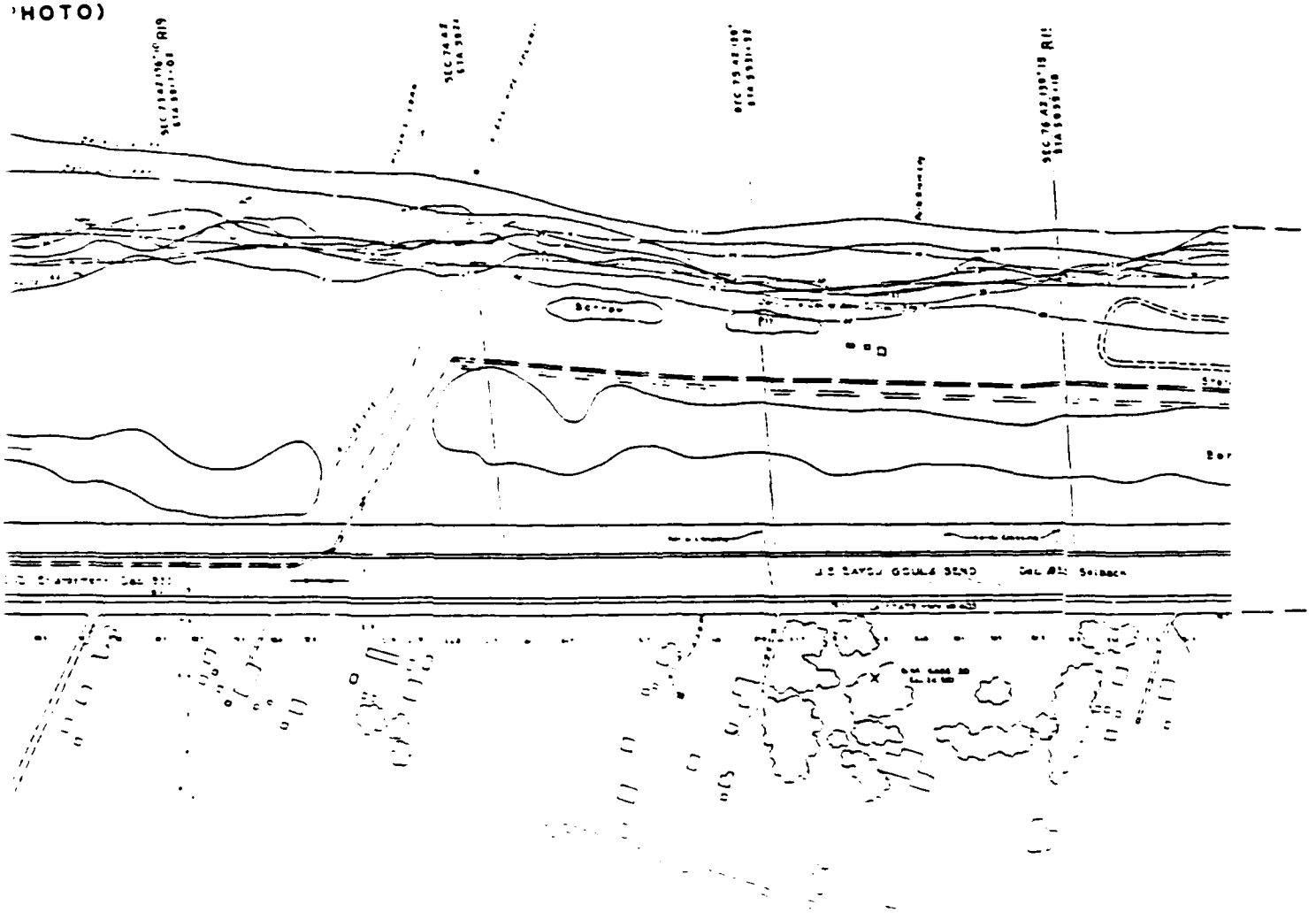
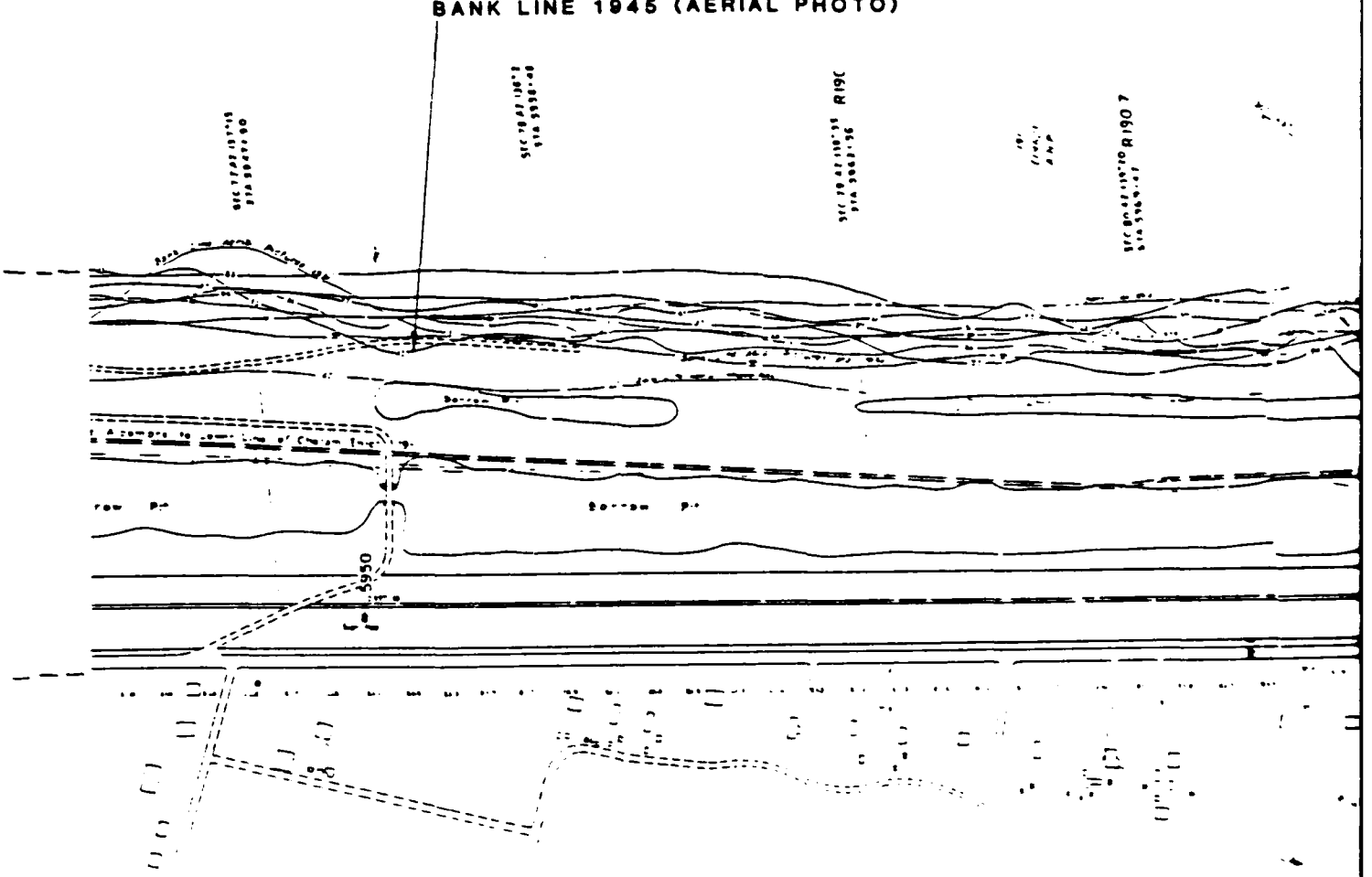


BANK LINE 1945 (AERIAL PHOTO)



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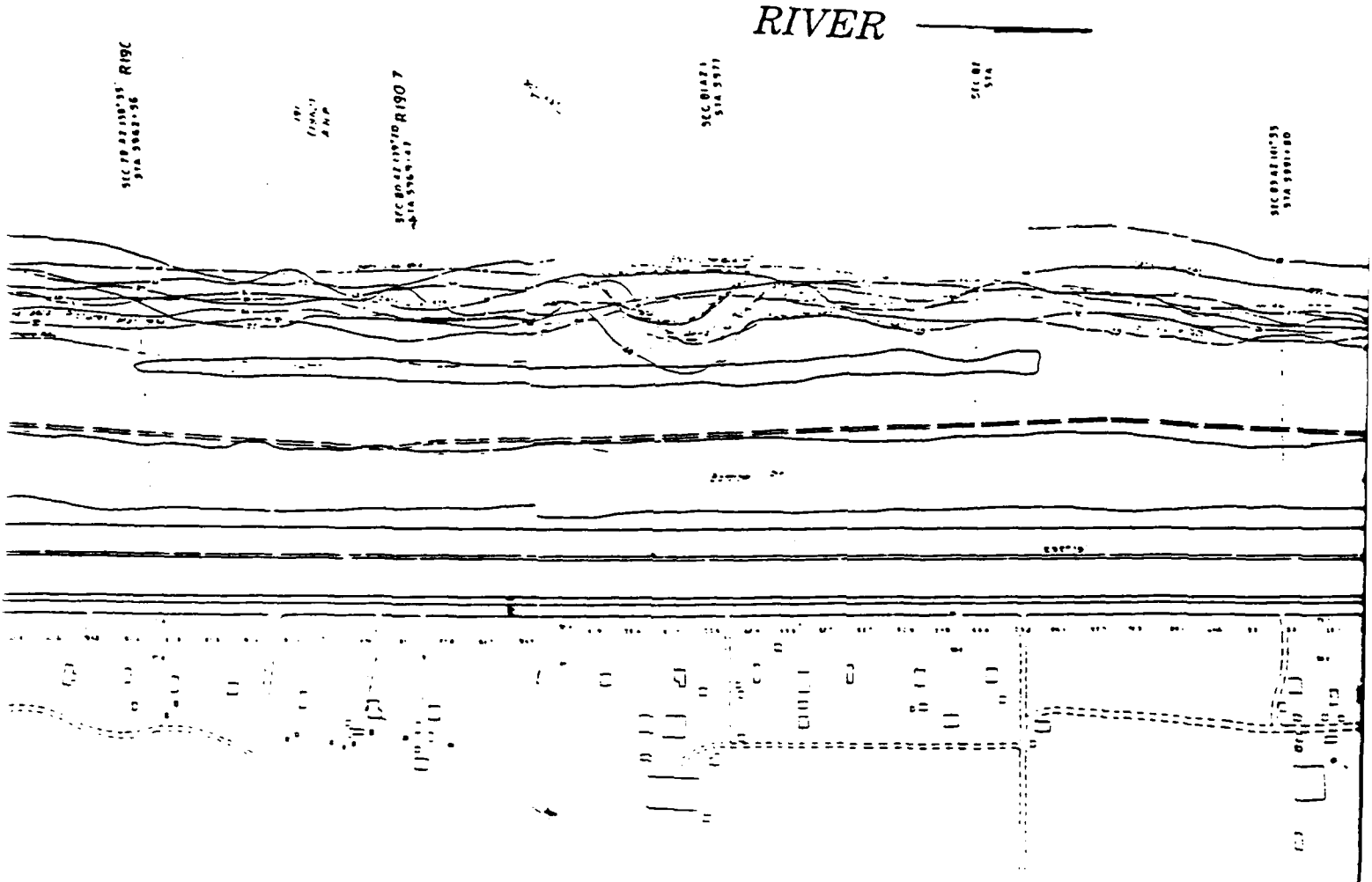

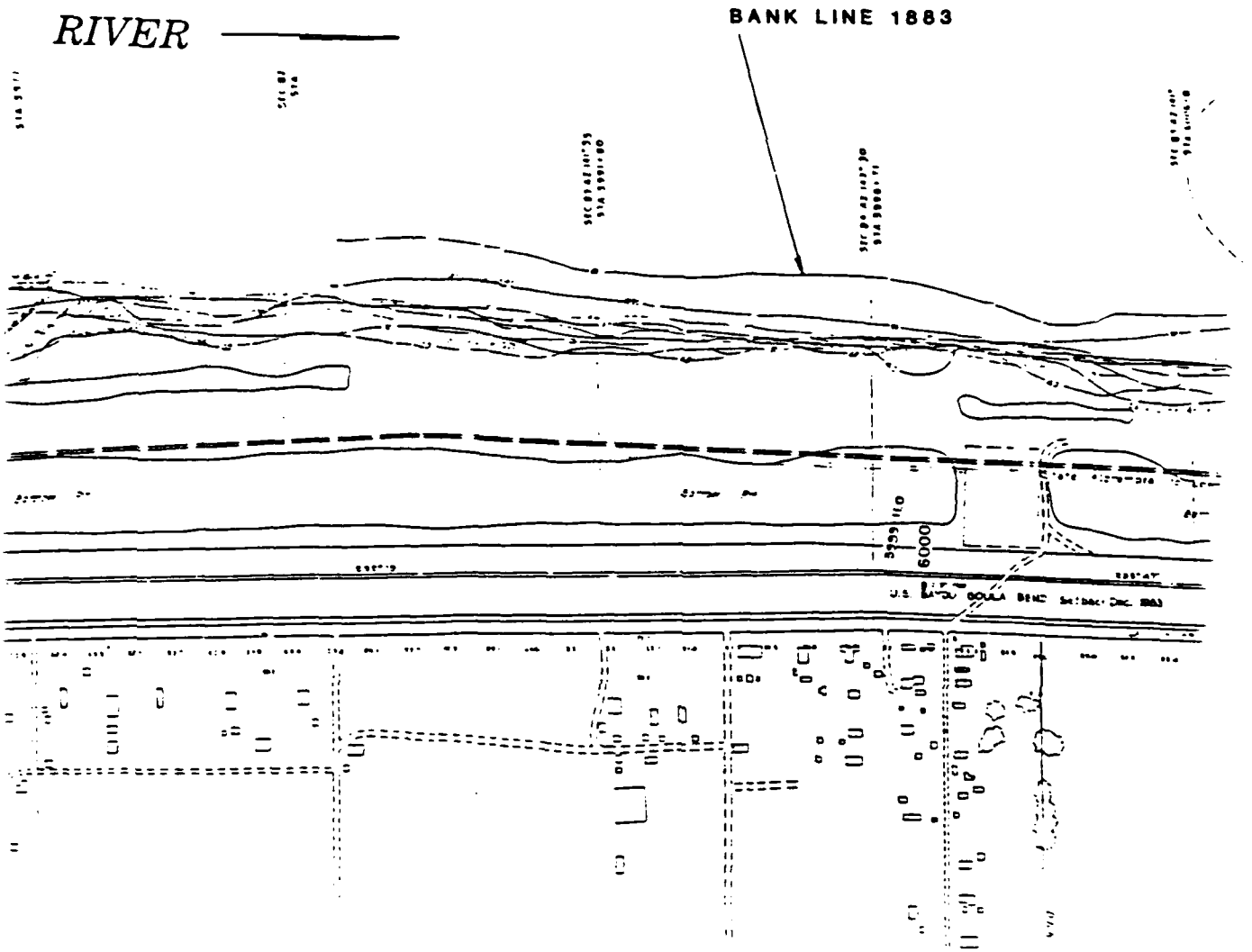

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Prior to the construction of artificial protection levees, overbank deposition during flood stages created massive wedges of sediment, or natural levees, along corridors parallel to the river channel. In the general region of the project area, natural levees attain widths of up to 5 km. Natural levee deposits are highest near the river channel; they gradually diminish between the channel and the backswamp. Human habitation generally is concentrated in areas of higher elevation near the river. The construction of artificial levees has altered the natural pattern of deposition and accretion. Most fluvial activity now is concentrated within the batture, or land lying between the river and the modern levee system. The White Castle project area is located entirely within the present day batture.

Loamy and clayey soils characterize the batture and adjacent natural levee deposits. Convent soils and silty alluvial land are characteristic of the batture. These soils frequently are flooded; in times of flood, they are subject to scouring and deposition. They support a vegetation typical of initial stages of ecological succession. Initial willow forest is dominated by black willow (Salix nigra) with cottonwood (Popular deltoides), sycamore (Platonus occidentalis), and hackberry (Celtis laevigata) comprising the major overstory vegetation. Sweetgum (Liquidambar styraciflua), green ash (Fraxinus pennsylvania), nuttall oak (Quercus nutalli), water oak (Quercus arkansana), elm (Ulmus), and pecan (Carya illinoensis) may occur at higher elevations. Predominant understory vegetation includes poison ivy, grape and trumpet creeper; groundnut, buckwheat vine, and sandvine also may be common locally (Bahr et al. 1983).

During the early historic period, important faunal species included the black bear (Euarctos americanus), mountain lion (Felis concolor), deer (Odocoileus virginianus), cottontail rabbit (Sylvilagus floridanus), swamp rabbit (Slyvilagus aquaticus), raccoon (Procyon lotor), gray fox (Urocyon cinereoargenteus), opossum (Didelphis marsupialis), gray squirrel (Sciurus carolinensis), and fox squirrel (Sciurus niger). In addition, several species of of birds, reptiles, and fish were common in habitats both within and near the present project area (Shelford 1963; Lowery 1974b).

Changes in the landscape caused by natural and artificial agencies during the historic period have implications for the preservation and recovery of archeological remains within the project area. These processes include overbank deposition, lateral migration of the river, and construction of artificial features such as revetments, protection levees, and borrow areas. As will be shown below, these processes have impacted the project area. Locations of cultural remains and the condition of cultural

materials and deposits identified during this survey can be explained largely by these processes.

CHAPTER III

PREVIOUS INVESTIGATIONS

While no previously recorded sites are known from this portion of the White Castle project area, the Belle Grove Plantation site is located just landward of the Mississippi Protection Levee, opposite the White Castle Ferry landing, off LA Highway 405. As will be discussed below, disturbed remains of the Belle Grove Plantation landing may have been recovered during the present survey. A number of previous archeological investigations have been conducted in the immediate vicinity of the White Castle project area and this reflects in part the important role the region played during the early contact period in Louisiana.

Quimby (1957) reported on archeological excavations at the Bayou Goula site (16 IV 11) located just north of the town of Bayou Goula. Excavations focused on the mounds and on several structures at the site. Two components were identified from the mound excavations: a prehistoric Coles Creek-Plaquemine component (A.D. 900 - 1699) and a contact period component. A number of refuse pits, and eleven burials were excavated at the 16 IV 11; the majority appear to be related to the later, historic component. Research at 16 IV 11 also yielded a large assemblage of aboriginal ceramics, faunal remains and European trade materials. Recently, Brown (1976) has argued that the house structures, originally thought to be aboriginal, conform more closely to those of the early colonial French concession.

Fredlund (1982) examined two eighteenth century archeological sites at Bayou Goula. One previously unrecorded site, 16 IV 134, was tested and yielded an impressive assemblage of aboriginal ceramic and chipped stone artifacts in association with eighteenth century European artifacts. Fredlund (1982) argues that 16 IV 134 may have been the site of the Bayougoula-Mugulasha Village visited by d'Iberville in 1699. Site 16 IV 11, traditionally thought to have been that site, apparently conforms to historical descriptions of the du Buisson - du Vernax Concession of 1718 (Giardino 1984).

McIntire (1958) reported on work conducted at the Clara Murray site (16 IV 12), also located just north of the town of Bayou Goula. Two pyramidal mounds, now extensively plowed, were present at the site, while at least a part of the ceramic artifacts were associated with the late Tchula period (200 B.C. - 1 B.C.). Marksville and Plaquemine materials also were present in the artifactual assemblage.

A number of bankline surveys in the vicinity of the White Castle project area have been conducted over the past several years. Goodwin, Yakubik, Stayner, and Jones (1984) reported on a cultural resources survey of the New River Bend Revetment Item located on the east (left descending) bank of the Mississippi River in Iberville Parish. Three sites were recorded during that survey, the Hard Times Plantation Batture Surface Scatter (16 IV 143), the Carville Dump site (16 IV 144), and New River Bend site 1 (16 IV 145). None of these sites were considered significant for the National Register of Historic Places.

Bryant et al. (1982) reported on a bankline survey near the town of Bayou Goula, at the Tally Ho plantation site (16 IV 135). Bankline erosion and levee construction appears to have disturbed and destroyed most of the site, and the majority of archeological remains were recovered from the surface.

Pearson and Guevin, (1984), and Goodwin, Gendel, and Yakubik, (1986) recently completed independent investigations at the former location of the town of Bayou Goula. Archeological testing at 16 IV 131 was conducted in 1983 (Pearson and Guevin 1984). Investigations were designed to assess the nature, character, significance, and potential eligibility to the National Register of Historic Places of cultural resources within a proposed revetment right-of-way. In addition, mitigative plans for cultural resources located within revetment boundaries were developed.

The 1983 fieldwork included pedestrian survey, controlled surface collection, backhoe excavation, and hand excavation. The project area was subdivided into nine segments or "Survey Collection Area", each 137 meters in length and extending from the water line to the riverside toe of the modern levee. The field investigations revealed that the majority of artifactual remains occurred along the bankline of the Mississippi River. Subsequently twenty-two "collection localities" were established along the bankline in areas where cultural remains were exposed (Pearson and Guevin 1984:89).

A total of twenty-two backhoe trenches were excavated during the 1983 investigations. The trenches were designed to locate remains associated with the Bayou Goula site (16 IV 11) and nineteenth and twentieth century structural remains from the town of Bayou Goula. All trenches were placed between the toe of the modern levee and the landside edge of the borrow pit, outside of the project impact area. No remains that could be positively correlated with site 16 IV 11 were recovered. Although remains associated with the town of Bayou Goula were recovered, no intact features were identified and artifact densities were low. The majority of archeological remains recovered during the 1983 study

lacked contextual integrity. However, in situ deposits were recorded in Collection Area 3, Locality 3, Feature 1 (viz. Pearson and Guevin 1984); these remains were interpreted as residential debris from the late nineteenth and early twentieth century town of Bayou Goula. In addition, surface collections from Collection Areas 5 and 6 were interpreted as evidence of a late nineteenth century commercial district (Pearson and Guevin 1984:94).

Based on the evidence that these remains were older than fifty years, and that at least a small portion were determined to derive from primary context, Coastal Environments determined the site to be of sufficient integrity to warrant consideration for inclusion on the National Register of Historic Places. Finally it was believed that additional buried, in situ features were present at the Bayou Goula Landing site, and could potentially yield important historic and prehistoric information (Pearson and Guevin 1984:128).

Due to logistical problems encountered during the 1983 testing program, definition of the full areal extent, character, and data producing potential of deposits eroding from the bankline was prohibited. As a result, the problem of the significance of the Bayou Goula Landing site was not resolved and revetment construction was postponed pending conclusive evaluation of the site's significance. In 1985, Goodwin and Associates, Inc. conducted archeological testing at Bayou Goula Landing to determine the presence of buried cultural deposits, characterize the nature, size, and integrity of any such deposits, and to assess the site's eligibility for nomination to the National Register of Historic Places. Investigations were conducted within the parameters of the research design for historic archeological study previously developed by Pearson and Guevin (1984). Additonal theoretical and methodological issues not specifically addressed by Pearson and Guevin (1984), also were identified. These included the question of site abandonment in an historic context (Goodwin et al. 1986:38). From their investigations, Goodwin et al. (1986) concluded that the archeology of Site 16 IV 131 was too limited both in terms of artifact yields, structural preservation, and spatial extent to provide information important in history (36 CFR 60.4d). Therefore it was not recommended to be eligible for consideration for inclusion to the National Register of Historic Places.

Finally, two National Register of Historic Places properties occur near the White Castle project area, the Tally-Ho Plantation House, located .3 miles south of Bayou Goula off LA Highway 405 and the Nottoway Plantation House, north of the town of White Castle.

CHAPTER IV

PREHISTORIC SETTING

The earliest well defined archeological evidence of human habitation in North America is represented by the Paleo-Indian stage. A date range of 10,000 - 6,000 B.C. has been suggested for Paleo-Indian occupation of the Lower Mississippi River alluvial valley (Brain 1971:3). Archeological evidence from the western United States indicates that Paleo-Indians were semi-nomadic big game hunters. The material culture of the Paleo-Indian period is best exemplified by the manufacture of large, thin, bifacially-worked lanceolate projectile points which had a "fluted" or channel flake scar at their base. Fluted point complexes include the Llano, Clovis, Folsom, and Plano traditions.

The following Archaic stage reflects cultural adaptations to climatological change occurring after the retreat of the last Pleistocene glaciation (approx. 8,000 B.C.). Critical environmental changes influencing human adaptation during the Archaic period have been summarized by Bryant et al. (1982:21-22) as follows:

> 1. The extinction, without replacement, of much of the Pleistocene megafauna, including the elephant, horse, and camel, and most of the Bison species on which the Lithic stage economy had been largely based.
>
> 2. Certain fluctuations in rainfall and temperature as yet only partly understood but presumed to relate to worldwide climatic changes and to be generally correlated with glacial retreat and oscillations.
>
> 3. The plant and animal recolonization of the areas of North America which were previously glaciated, and establishment of the modern geographical position of the major North American lifezones.
>
> 4. The changing volume and gradient of river systems draining eastern North America generated by worldwide deglaciation and rising sea levels.

Archaic cultural complexes are represented by localized stone tool traditions which are thought to represent regional adaptations to different local environmental conditions (Bryant

et al. 1982:22). Projectile point types found in early Archaic sites include San Patrice, Meserve and Dalton. A shift towards exploitation of smaller and more varied game occurred, along with an increase in gathering of plants and previously ignored animal species, such as shellfish. Archaic subsistence patterns became increasingly more efficient with advances in technology which included ground stone tools, such as adzes and metates, and the use of the atlatl (spear thrower). Common point types for the Middle Archaic are Big Sandy, Keithville, Yarbrough, Evans, and Carrollton. A gradual settlement pattern shift from semi-nomadic to seasonal site occupancy to semi-permanent settlement is evidenced during the Archaic. However, in Louisiana, no intact archeological remains firmly associated with the Archaic period have been systematically investigated (Neuman 1984).

The appearance of earthwork and burial mound construction in the late Archaic marked the development of the Poverty Point culture in Louisiana, circa 1500 B.C. Considered to be either an Archaic-Formative transition or an Archaic climax phenomenon, the Poverty Point site, located in West Carroll Parish, is unique in North American prehistory. Although small quantities of fiber-tempered pottery are present at the Poverty Point site, some scholars argue that the culture was aceramic. Nevertheless, crude pottery figurines and irregular-shaped fired clay objects, possibly used in "stone boiling" cooking techniques, occur in Poverty Point contexts (Bryant et al. 1982:23). Poverty Point material culture also is represented by fine stone lapidary work, steatite or soapstone vessels, and by a microlithic tool industry. Subsistence appears to have been based on intensive hunting and gathering, although prior emphasis on protein capture may reflect bias in archeological study of the Poverty Point period. Projectile point types originating in the Late Archaic and continuing into the Poverty Point period are Gary, Ellis, Pontchartrain, Kent, Carrollton, and Marshall, and larger forms such as Hale (Webb 1968).

The next stage in the chronological sequence for the region is called the Neo-Indian era. The appearance of pottery in the archeological record is generally used to mark the beginning of this era. Changes in settlement patterns from semi-permanent to permanent villages, and the introduction of agriculture, characterize Post-Archaic periods. The most frequently applied regional chronology of the Neo-Indian era in South Louisiana includes the following periods.

The first of these periods is the Tchula or Tchefuncte, which has been dated from ca. 100-500 B.C. During the Tchefuncte period, pottery became important in prehistoric Louisiana, and increasing amounts of pottery with rocker stamped decoration and with tetrapodal supports were made (Shenkel 1984). The soft

Tchefuncte pottery had poorly compacted paste, and common vessel forms included bowls and cylindrical and shouldered jars. Decoration also included fingernail and tool punctation, incision, simple stamping, drag and jab, parallel and zoned banding, and stippled triangles. Tchefuncte pottery apparently derived from earlier ceramic complexes at Stallings Island, Georgia, Orange in North Florida, and to the Poverty Point culture. Ford (1969:193) speculated that commonalities in ceramics across the Gulf South states during this period reflected the breakdown of ethnic barriers due to the powerful influence of the arrival of maize (corn) agriculture. Gibson (1978) argues strongly against the presence of maize in the Lower Atchafalaya prehistoric sequence, leaving the reasons for the diffusion of Tchefuncte into this area unexplained.

The Tchefuncte artifact assemblage includes boatstones, grooved plummets, mortars, sandstone saws, barweights, scrapers, and chipped celts. Socketed antler points, bone awls and fish hooks, and bone ornaments also have been found. Projectile point types found in Tchefuncte contexts are Gary, Ellis, Delhi, Motley, Pontchartrain, Macon and Epps. The population of the Tchefuncte period appears to have been a melange of long-headed Archaic peoples with a new subpopulation of broad-headed people who practiced cranial deformation, and who are thought to have entered the southeast from Mexico. The presence of rocker stamped pottery, burial mounds, and of some other individual traits, also shows similarities to the Hopewellian development (500 B.C. to A.D. 300) (Neuman 1984:113-136).

The subsequent Marksville period (100 B.C. - 300 A.D.) to a large degree is a localized hybrid manifestation of the Hopewellian culture climax that preceded it in the Midwest. The type site is located at Marksville, Louisiana. Elsewhere in the state, smaller sites occur which display both Marksville pottery types and a modified form of the Marksville mortuary complex. Marksville houses appear to have been circular, fairly permanent, and possibly earth covered. The economic base of the Marksville culture seems to be a further modification of the Poverty Point - Tchefuncte continuum, albeit prior emphasis on the importance of hunting, fishing, and gathering aspects of subsistence in relation to agriculture may have been overstated. A fairly high level of social organization is indicated by the construction of geometric earthworks and of burial mounds for the elite, as well as by a unique mortuary ritual system. Although large quantities of burial furniture are not recovered from Marksville sites, some items, particularly elaborately decorated ceramics, were manufactured especially for inclusion in burials (Phillips 1970).

Marksville ceramics were well-made, with decorations that included u-stamped incised lines, zoned dentate stamping, zoned

rocker stamping (both plain and dentate), the raptorial bird motif, and, flower-like designs. The cross-hatched rim is particularly characteristic of Marksville pottery, and may relate this complex to other early cultural climaxes in the Circum-Caribbean area. Plain utilitarian wares also were produced. Perforated pearl beads, bracelets, and celts have been recovered from Marksville contexts (Ford and Willey 1940; Phillips 1970; Toth 1977).

Site 16 IV 131, Bayou Goula landing, extends approxiamtely one mile along the right descending bank of the Mississippi River, near the present settlement of Bayou Goula. Forty-one sherds were found, all but one washing out of the bankline at the interface between the natural levee and the backswamp (Pearson and Guevin 1984:123). Thirty of the sherds were identified as Baytown Plain, Var. unspecified, and may date from Marksville through Coles Creek periods. Site 16 IV 12, Clara Murray Place, is also thought to have Marksville affiliations; a collection of Marksville ceramics was recovered from the site. The site consisted of two pyramidal mounds; agricultural acivities have resulted in significant damage to this site. This site is also associated with the natural levee.

The next cultural period identified for south Louisiana is the Troyville or Baytown phase (A.D. 300-700). This transitional period followed the decline of the Hopewellian Marksville culture; it is poorly understood. Except for the type site at Jonesville, knowledge of the Troyville culture is based on the discovery of Troyville ceramics in other sites. In his recent book on Louisiana archeology, Neuman (1984) combines the Troyville period and culture with the better understood Coles Creek period. Among the pottery types clustering in the Troyville period are: Mulberry Creek Cord Marked, Marksville Incised (Yokena), Churupa Punctated, Troyville Stamped, Larto Red Filmed, Landon Red-on Buff, and Woodville Red Filmed. However, these pottery types and most other traits are not confined solely to this period. Troyville is thought to represent the period when maize agriculture and the bow and arrow were adopted. Evidence for agriculture includes shell hoes and grinding stones (Neuman 1984).

The subsequent Coles Creek period (A.D. 700 - 1200) developed out of Troyville. Coles Creek was a dynamic and widespread manifestation throughout the lower Mississippi Valley. Coles Creek may be viewed as the local early or pre-classic variant of the Mississippian tradition, and its emphasis on temple mound and plaza construction again suggests Mesoamerican influence. Population growth and a real expansion were made possible by increasing reliance on productive maize agriculture. The seasonal exploitation of coastal areas supplemented the maize economy of large inland sites, and small non-mound farmsteads were

present. A stratified social organization with a dominant priestly social class continued. The construction of platform mounds became important during this period. These were intended primarily as bases for temples or other buildings, but some also contained burials. Rounded smaller mounds still were present. A common motif of Coles Creek ceramics is a series of incised lines parallel to the rim. Pottery types include: Coles Creek Incised, Pontchartrain Check Stamped, and Mazique Incised (Brown 1984).

Site 16 IV 131 may also contain a Coles Creek component. A number of prehistoric sherds including Pontchartrain Check Stamped, var. unspecified and one Coles Creek Incised, var. unspecified were identified. All sherds were recovered from a secondary context.

In the southern part of the lower Mississippi Valley, the Plaquemine culture developed out of a Coles Creek background. Ceremonial sites of this period consisted of several mounds arranged about a plaza area. Associated small sites were dispersed about such centers. Social organization and maize agriculture were highly developed. The most widespread decorated ceramic type of the Plaquemine period was Plaquemine Brushed. Other types include Harrison Bayou Incised, Hardy Incised, L'Eau Noir Incised, Manchac Incised, Mazique Incised, Leland Incised, and Evansville Punctate. Both decorated types and plain wares, such as Anna Burnished Plain and Addis Plain, were well made. Diagnostic Plaquemine projectile points are small and stemmed with incurved sides (Neuman 1984).

Archeological remains associated with the Plaquemine culture have been identified upriver from the White Castle project area. A plaza and two adjacent mounds were recorded at the Medora site, north of Bayou Goula (Quimby 1951). As noted previously, a Plaquemine culture component was identified by Quimby (1957) at the Bayou Goula site (16 IV 11), which contained two pyramidal mounds and a series of structures, hearths, and refuse pits. The site is associated with a natural levee of the Mississippi River.

Late in the prehistoric period, the indigenous Plaquemine culture came under the influence of Mississippian cultures from the Middle Mississippi River Valley. Mississippian culture was characterized by large mound groups, a widespread distribution of sites, and by shell tempered pottery. A distinctive mortuary cult or complex, called "Southern Cult," that made use of copper, stone, shell, and mica was introduced. Elaborate ceremonialism reflected in animal motifs and deities pervaded Mississippian culture. Trade networks were well established during this period, and raw materials and specialty objects were traded across large areas of the central and southern United States (Neuman 1984).

At the time of European contact, the region around White Castle was occupied by the Bayogoula Indians. In 1699, Pierre Le Moyne d'Iberville and a small expedition encountered a Bayogoula/Mugulasha settlement in the vicinity of the modern town of Bayou Goula. In 1700, d'Iberville returned to the Bayogoula/Mugulasha village, accompanied by Father Paul Du Ru, a Jesuit missionary. Du Ru eventually supervised the construction of a church at the Bayogoula/Mugulasha village, and Bayou Goula may be considered the oldest French settlement in Louisiana. However, later that same year the church was destroyed amid intertribal conflict and the Bayogoula Indians later fled the area after being attacked by the Taensa Indians. By 1718, the region of Bayou Goula was settled by the Chitimacha (Giardino 1984).

As noted previously, a number of archeological investigations have been conducted in the region of White Castle/Bayou Goula. Site 16 IV 134 is associated with a natural levee of a former channel of the Bayou Goula distributary. The site contained a large assemblage of aboriginal ceramics and lithic artifacts in association with 18th century remains. Artifacts included Leland incised and Mississippian shell tempered ceramics. Historic trade items included beads, gun flints, pipes, and European ceramics. Fredlund (1982) argues that 16 IV 134 may have been the site of the Bayogoula-Mugulasha village visited by d'Iberville in 1699.

CHAPTER V

HISTORIC OVERVIEW

Initial Settlement of Iberville Parish

The area that at present comprises Iberville Parish first was visited by Euro-Americans in 1682, during Rene-Robert Cavalier, Sieur de La Salle's expedition to find the mouth of the Mississippi River. La Salle visited the Bayogoula village and the Mugulasha Indians near present day Bayou Goula; in 1685 Henri de Tonti, and in 1699 Pierre le Moyne, Sieur d'Iberville, also stopped at the Bayogoula village. In 1700, Father Paul Du Ru built a church there, and he remained to convert the Indians. Both the Bayogoula village and the church were destroyed in 1702 during a Taensa Indian raid (McWilliams 1953:68).

Colonization efforts began in 1718. M. Paris dit Duverney, a director of John Law's Company of the West, was granted a concession near the present project area (Figure 3). Penicaut, writing in 1722 described the concession:

> The first concession established was that of M. Paris, managed by M. Dubuisson, who had brought his brother and his two sisters with him, with twenty-five persons and many personal possessions. It was located twenty-eight leagues above New Orleans on the left bank of the Missicipy (sic) going upstream, in the old village of the Bayogoulas. In addition to the tilling of fields, they established a silkworm factory there; for that reason they planted a great many mulberry seedlings (McWilliams 1953:211-212).

Within a year, Dubuisson complained in a letter to Jean Baptiste le Moyne, Sieur de Bienville, of daily raids made on the concession by Chitimacha Indians. Bienville sent Penicaut to speak to the Chitimacha chief. The Chitimacha were willing to make peace with the French; they agreed to abandon their village, and to settle on the Mississippi River one league below Paris dit Duvervey's concession.

The settlement survived the crisis, and it existed through the close of the French Colonial Period (Figure 3). France ceded Louisiana to Spain in 1762 under the secret Treaty of Fontainebleau. Don Antonio de Ulloa, the first Spanish governor of Louisiana, arrived in New Orleans in March of 1766; he was ousted by an insurrection in November, 1768. During his tenure a group of

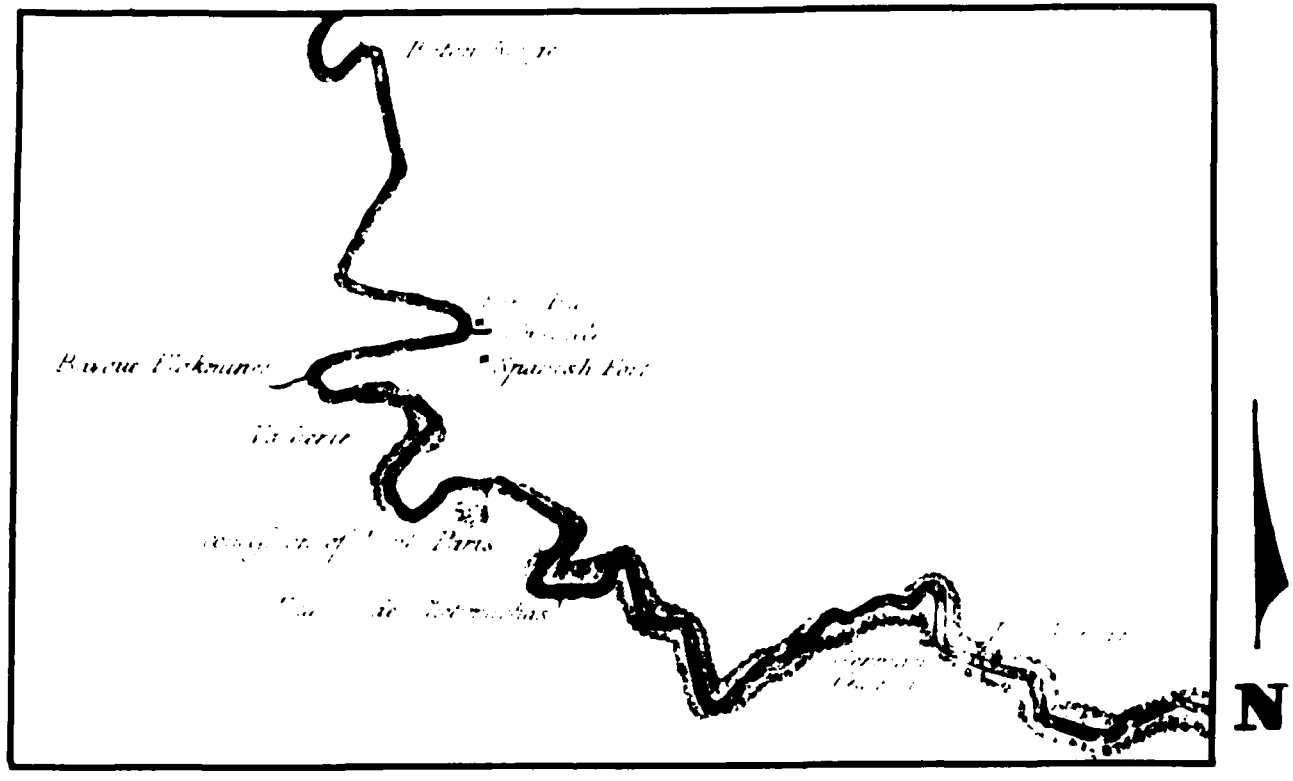


Figure 3. Excerpt from Pittman's 1765 Draught of the River Mississippi from the Balize up to Fort Chartres, showing Paris dit Duverney's concession (Louisiana Collection, Tulane University Library).

over 200 Acadian refugees arrived in New Orleans. Ulloa was unwilling to have them join the Acadian settlement already established in St. James Parish; instead, he sent them to the fort at St. Gabriel on the Cote d'Iberville (Saucier 1951:83). Pittman wrote ca. 1770 of Acadian settlement of Louisiana:

> The new settlements of the Acadians are on both sides of the river, and reach from the Germans to within seven or eight miles of the river Ibbeville (sic) [Bayou Manchac]. These are the remainder of the families which were sent by General Lawrence from Nova Scotia to our southern provinces; where by their industry, they did and might have continued to live very happy, but that they could not publicly enjoy the Roman Catholic religion, to which they are greatly bigoted. They took the earliest opportunity, after the peace, of transporting themselves to St. Domingo where the climate disagreed with them so much, that they in a few months lost near half their numbers; the remainder, few only excepted, were in the latter end of the year 1763, removed to New Orleans, at the expense of the King of France (Pittman 1906:60-61).

Ulloa ordered that the Acadians at St. Gabriel be given land on the east bank of the river, below the fort. They were instructed to build levees and residences on allotted parcels and to prepare the ground for planting. Ulloa provided the Acadians with tools and guns before they left New Orleans; the commander of St. Gabriel was to provide them with necessary supplies until their first harvest. Ulloa expressed genuine concern for the Acadians:

> These people are to be protected with special attention so that they do not come to an untimely end or fail to succeed after having arrived here. It can be seen that it would be very regrettable to lose them after having got them here when our purpose is to populate these uninhabited territories so that the Colony may have a permanence beyond that which it has achieved up to the present (Chandler 1973:77).

In 1769, Don Alexandro O'Reilly arrived in New Orleans to establish formal Spanish control over the Louisiana colony. He ordered a general census, which showed that Iberville had a population of 376 in 1769 (Fortier 1914:524); the population dropped to 277 by 1771 (Kinnaird 1945:196). No agricultural statistics were included with these census figures, but most

Acadian settlers in St. James and Ascension Parishes lived on small parcels of land, three to six arpents front. Hogs were the most common livestock, but the Acadians also kept cattle, horses, and sheep (Voorhies 1973). The economy of the Iberville Acadians probably was similar to that of their downriver neighbors.

Acadians continued to arrive during the 1780s; many settled within present day Iberville Parish. A number of families who arrived in 1785 settled along both sides of the Mississippi River near what is now the town of Plaquemines. Arrival of additional Acadian refugees helped boost the population in this area from 673 in 1785, to 944 in 1788 (Martin 1882:240,240).

Berguin-Duvallon, whose impressions of Louisiana's inhabitants were generally unfavorable, wrote of the Acadians of 1802:

> The Acadians are the descendants of French colonists, transported from the province of Nova Scotia. The character of their fore-fathers is strongly marked in them; they are rude and sluggish, without ambition, living miserably on their sorry plantations where they cultivate Indian corn, raise pigs, and get children. Around their houses one sees nothing but hogs, and before their doors great rustic boys, and big strapping girls, stiff as bars of iron, gaping for want of thought, or something to do, at the stranger who is passing (Davis 1806:77-78).

Paul Alliot, who also visited the "Acadian Coast" during the first decade of the eighteenth century, wrote more favorably of the inhabitants:

> As the traveler leaves New Orleans by the gate St. Louis, to ascend the river...he finds...that (parish) of Cantrelle.... Each of those four communities (the parishes of Clesets Rouges, Cote des Allemands, Bonnet Carre, and Cantrelle) has a priest and a commandant. They are very well populated. Their inhabitants are very industrious, very sober, and very economical. Few of them are married. Almost all of them live with their slaves or with women of color. They cultivate their fields excellently. They raise sugar, indigo, cotton, rice, maize, and many vegetables. The potatoes which they take from the earth are very good. The melons gathered by them are fine, and have an excellent taste and exquisite perfume. Their kitchen gardens are

> full of fruit trees, the fruit of which they gather from the month of July. They do not keep their fruit more than three months, and the fruits are not very good to the taste. The oranges which they gather are delicious. Their barnyards are full of hogs, cattle, and fowls of all kinds. If those inhabitants had more hands at their disposal, they would become rich in a very short period of time (Robertson 1911:111).

Similarly, C. C. Robin, writing in 1807, was favorably impressed:

> Twenty leagues above the city the Acadian coast begins and runs about another twenty up from there. Like the Germans they work their own farms. Only a few of them have Negroes. Already the population has risen so that the farms are subdivided into strips of two or three arpents frontage. You must remember that each plot ran back forty arpents from the river. Only about half of that depth, however, is under cultivation, the rest being inundated and covered with cypress and similar swamp vegetation. Rice, corn, several kinds of beans, melon (in season), pumpkin, salted pork and beef make up their principal diet. Their customs can be compared to those of our farmers of Beauce and Brie Good fellows! They do not show the zeal in their work that their European confreres would, for on the one hand, they are not pressed by necessity, and on the other hand, the lack of outlets for their products discourages them from quarter efforts. However, they are still Frenchmen, passionately loving their country, proud to work for it, and showing a great predilection for its products (Landry 1966:114-115).

Colonial Settlement within the Project Area

During the late eighteenth century, the Spanish government granted several patents within the project area. In 1772, Don Louis Andry surveyed two parcels which correspond to Sections 9 and 8 of T10S R13E. Louis Dardenne owned one parcel, measuring six arpents front by forty in depth (Lowrie 1834:242); Blas (Blais) Lejeune owned the other which measured five arpents front by forty in depth (Lowrie 1834:228). They obtained formal grants for the parcels in 1774 from Governor Unzaga, who issued three additional

patents in the same year for lands within the project area. Athanase Daiden (Dardenne ?) was granted a parcel with six arpents front, corresponding to Section 10 in T10S R13E (Lowrie 1834:272). Anthony Belas received a patent for seven arpents front by forty in depth, and five years later he received a patent for forty additional arpents in the rear of his initial holding. His riverfront parcel corresponds to present day Section 14 in T10S R13E (Lowrie 1834: 276-277). Finally, Pedro Priamo was granted a six arpent front parcel corresponding to Section 11 and the downriver portion of Section 12 in T10S R13E; Joseph Mollere acquired the lands corresponding to Section 12 sometime prior to 1790 (Lowrie 1834:248). The remaining two sections of the project area, Sections 13 and 7, were settled prior to 1793 (Lowrie 1834:229).

The above-mentioned grantees were probably Acadians. "Lejeune" and "Dardenne" are Acadian names; although "Priamo" and "Belas" do not appear to be French surnames, names of immigrants in this period commonly were translated into Spanish (Arsenault 1966:203). None of these individuals are listed in colonial parish registers from St. Gabriel (Arsenault 1965:1039-1046); no further information is available regarding them at the present time.

The Louisiana Purchase and Antebellum Economic Development

In the 1790s and the early 1800s, Louisiana's economy underwent major changes. For a number of reasons, indigo, which had been Louisiana's primary cash crop, could no longer compete on the world market. Indigo produced in India was cheaper. Insect blights and inclement weather caused severe crop losses, and indigo exhausted the soil. An increase in the price of slaves made it difficult to obtain necessary labor for indigo production. The terrible smell of indigo production attracted disease-carrying insects and polluted the streams between Pointe Coupee and the Yazoo River (Holmes 1967:346-348). Other factors in the changing economy were the invention of the cotton gin and the development of a commercial process for extracting sugar from immature cane. Cotton and sugar cane cultivation rapidly became more profitable than cultivation of indigo.

Although the best areas for cotton cultivation were along the river north of Baton Rouge and in the Attakapas and Opelousas districts, cotton was grown as far south as St. James Parish in the early nineteenth century. Berguin-Duvallon describes the area at this time:

> The parish of Iberville then commences, and is bounded on the east side by the river of the same

> name, which, though dry a great part of the year, yet when the Mississippi is raised, it communicates with the lakes Maurepas and Ponchartrain, and through them with the sea; thus forming what is called the island of New Orleans. Except on the point just below Iberville [Bayou Manchac], the country from New Orleans is settled the whole way along the river, and presents a scene of uninterrupted plantations in sight of each other, whose fronts are all cleared to the Mississippi, and occupy on that river from five to twenty-five acres with a depth of forty; so that a plantation of five acres in front contains two hundred.
>
> A few sugar plantations are formed in the parish of Cabahanose, but the remainder is devoted to cotton and provisions, and the whole is an excellent soil incapable of being exhausted. The plantations are but one deep on the island of New Orleans, and on the opposite side of the river as far as the mouth of the Iberville, which is thirty-five leagues above New Orleans (Davis 1806:167-168, sic throughout).

The average yield of a superficial arpent of land was approximately 400 pounds of cotton, worth about $100.00 during the early nineteenth century. One skilled slave (or farmer) could cultivate three arpents of land planted with cotton (Robertson 1911:155). Estimates of the average amount of raw cotton picked per day by a single slave range from 20 (Robertson 1911:156) to 150 (Taylor 1976:67). Cultivation of cotton is discussed in detail by Goodwin, Gendel and Yakubik (1983c) and by Goodwin, Yakubik and Gendel (1983).

Geopolitical changes in the early 1800s influenced economic developments within the area. Spain secretly ceded Louisiana to France in 1800 under the secret Treaty of Ildefonso. France sold the colony to the United States in 1803. In 1804, the U. S. Congress created a territorial government; the first governor, William C. C. Claiborne, divided the Territory of New Orleans into twelve counties including that of Iberville in 1805. The new administrative system was unpopular; in 1807 the Legislature made nineteen parishes, including Iberville, the basis of local government (Brasseaux et al. 1977:11-12).

Acquisition of the Louisiana Territory stimulated American immigration into the region. Opportunities offered by the growing sugar and cotton industries attracted new settlers. Because substantial outlays were required for sugar mills, cotton

gins, levees, and slaves, small farmers and planters, including the Acadians, increasingly sold their holdings to large plantation owners or to wealthy speculators (White 1944:352).

Sugar production rapidly outdistanced that of cotton early in the nineteenth century in St. James Parish. Berguin-Duvallon enumerated the reasons for this:

> The sugar cane may be cultivated between the river Iberville and New Orleans, on both sides of the Mississippi, and as far back as the swamps... Above the Iberville the cane would be affected by the cold, and its produce would, therefore, be uncertain. Within these limits, the best planters admit that one quarter of the cultivated lands of any considerable plantation may be planted in cane, one quarter left in pasture, and the remaining half employed for provisions, etc. and a reserve for a change of crops. One Parisian arpent of one hundred and eighty feet square, may be expected to produce, on an average, twelve hundred weight of sugar, and fifty gallons of rum (Davis 1806:168-169; sic throughout).

Increasing numbers of small farms were sold and consolidated into larger plantations as a result of the shift to sugar cane cultivation. Greater capital investments were necessary for cane cultivation than for cotton (Schmitz 1977:108). Total investment in a sugar plantation could exceed $200,000.00 (Taylor 1976:65); therefore, cane cultivation was impractical for small farmers. Economic practices related to cane cultivation and the sugar industry are detailed elsewhere (Goodwin, Yakubik, Selby et al. 1985; Goodwin, Yakubik and Gendel 1983; Goodwin, Yakubik, Stayner and Jones 1984).

Antebellum Development within the Project Area

Shortly after acquisition of the Louisiana territory, the U. S. Government recognized the need for territorial surveys and for legal ratification of land ownership within those territories. Local landowners were required to register formal claims; legal ownership was based on proof of French or Spanish grants, patents, concessions, and orders of survey. If records were not available, proof of ten years of continuous habitation and cultivation prior to 1803 was accepted.

All claims for land within the project area were small tracts, with one exception; Joseph Mollere claimed property with thirteen

arpents front on the river, corresponding to Sections 11 and 12 of T10S R13E (Lowrie 1834:248). One claimant, Joseph Orillon, owned several small parcels in the vicinity of the project area by the first decade of the nineteenth century; his claims included Section 9 (Louis Dardenne's grant) and Section 13 (Lowrie 1834: 229, 242). Pierre Sigur, Marie Joseph Hebert, Joseph Landry, and Marie Cloatre claimed Sections 14, 10, 8, and 7, respectively, in T10S R13E (Lowrie 1834: 228, 229, 272, 276). Although land within the project area had changed ownership, small farms owned by Acadians predominated approximately through the first decade of the nineteenth century.

Significant changes occurred in the region during the next two decades. One of these changes was the arrival of Anglo-American settlers. Christopher Adams acquired Section 13 of T10S R13E, and John R. Lewis purchased the former Mollere property. In addition, consolidation of small farms into large plantations began. Planters named Lauve and Shiff acquired Sections 8, 9, and 10 of T10S R13E (Office of State Lands, Department of Natural Resources, Baton Rouge).

Little information is available regarding the partners Lauve and Shiff. Lauve may have been Edward Lauve, Captain of the Port of New Orleans in 1825 (New Orleans Municipal Papers, Special Collections, Howard Tilton Library, Tulane University). They developed their holdings, which measured about eighteen arpents front on the river, into a successful sugar estate. By 1844, their plantation, which was called "Celeste", was under the management of Mrs. E. Lauve (Table 1, Figure 4). It produced more than 300 hogsheads of sugar in most years prior to the War Between the States; for two of those years, the yield was greater than 600 hogsheads (Table 1).

The date of consolidation of the land immediately upriver from Celeste into a single plantation is unknown, but by 1844 it was in possession of John Andrews (Figure 4). Andrews' first acquisition within the project area may have been Section 13 of T10S R13E since his wife was Christopher Adams' daughter, Penelope (Kane 1945:238). Andrews himself did not arrive in Louisiana until 1850 (Clement 1952:185; Seebold 1941:188); he probably operated the plantation, which he named Belle Grove, on an absentee basis until that date. Production yields on his lands were high (Table 2), and he made a second fortune in sugar.

In 1857, Andrews commissioned a magnificent, seventy-five room, Greek Revival mansion. Most sources claim that James Gallier was the architect (Clement 1952:185; Seebold 1941:188; Grace 1946; Kane 1945:239), but Samuel Wilson, Jr.'s research indicated that the house was built by Henry Howard, the designer of Nottaway (Laughlin 1961). Andrews' mansion was built with timber

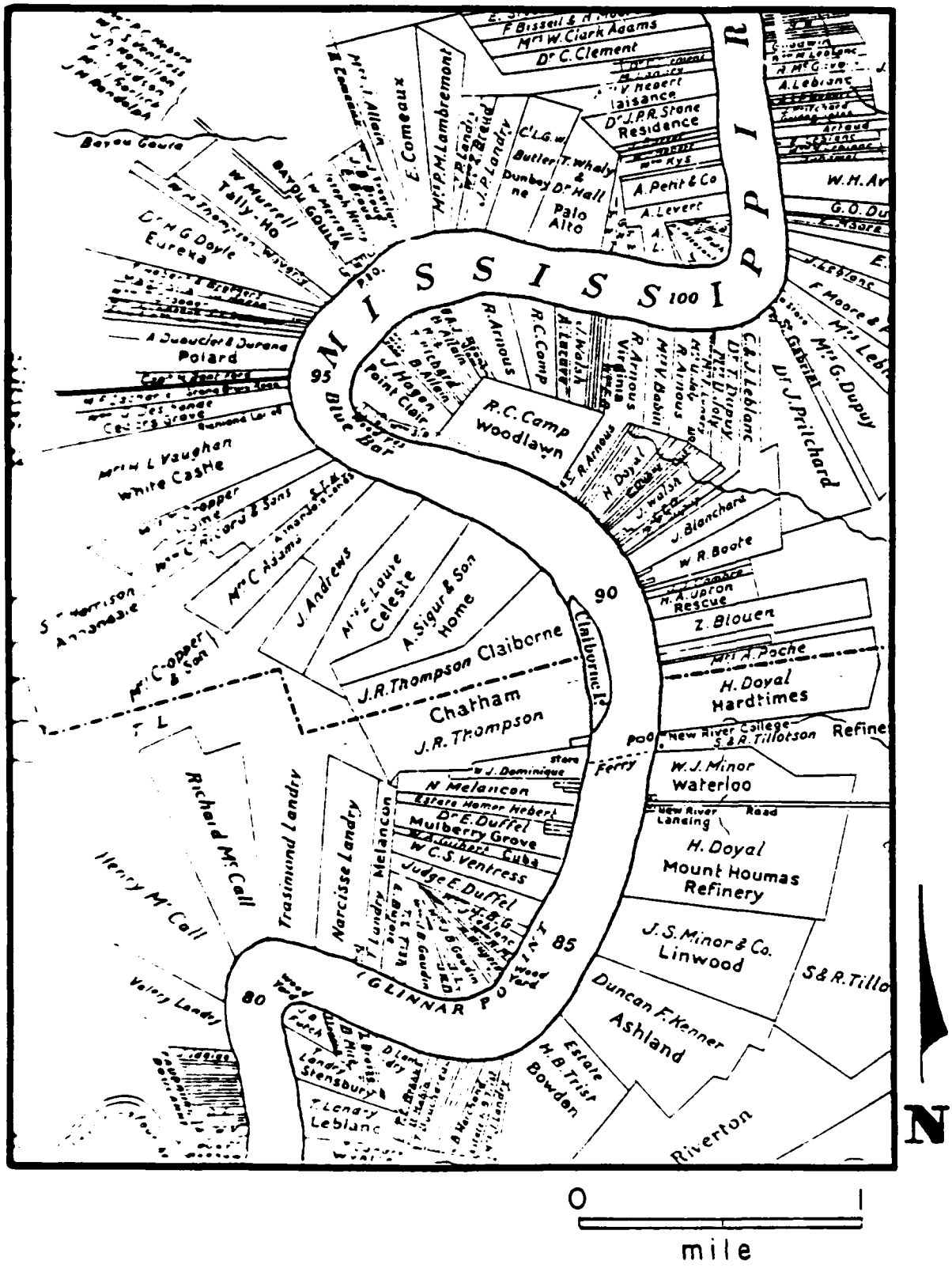


Figure 4. Excerpt from Norman's 1858 Plantations on the Mississippi River from Natchez to New Orleans (Map on file, R. Christopher Goodwin and Associates, Inc., New Orleans).

Table 1. Sugar Production at Celeste Plantation (Champomier 1844-1862; L. Bouchereau 1868-1877; A. Bouchereau 1878-1914).

Year	Owner/Manager	Sugar in Hhds	Rice in Bbls
1844[1]	Mrs. E. Lauve	578	
1845	"	315	
1849	"	201	
1850	"	340	
1851	"	250	
1852	"	480	
1853	"	633	
1854	"	430	
1855	"	182	
1856	"	110	
1857	"	290	
1858	"	320	
1859	"	266	
1860	"	385	
1861	"	685	
1868[2]	"	84,926	
1869	Ulger Lauve	72,000 lbs.	
1870	"	153,000 lbs.	
1871[3]	"	51	
1872	"	----	
1873	F. S. Duffossat	----	
1874	"	----	
1875	Thos. Sellers & Co.	N.Y.	
1876	"	----	5,730
1877	"	----	4,285
1878	"	----	2,571
1879	"	N.Y.	
1880	Tristand Gauthreaux	----	3,475
1881	Ernest Triche	----	1,690
1882	J. J. Thompson	----	2,550
1883	Citizens Bank	----	----
1884	R. Laurent & Co.	----	4,222
1885	"	----	4,950
1886			
1888	Not Listed		
1889	Thompson & Wilkinson	----	5,675
1890			
1895	Not Listed		
1896[4]	James A. Ware	----	----

[1]Steam powered mill
[2]Brick shingle sugar house; steam and kettle apparatuses
[3]Steam, kettle, and open pan apparatuses
[4]Sugar production is not reported after this date, although ware and later, Belle Grove Planting and Manufacturing Co. (1911-1916) continued to be listed until 1916.

Table 2. Sugar Production at Belle Grove Plantation (Champomier 1844-1862; L. Bouchereau 1868-1877; A. Bouchereau 1878-1914).

Year	Owner Manager	Sugar in Hhds
1844[1]	John Andrews	760
1845	"	450
1849	"	580
1850	"	604
1851	"	304
1852	"	852
1853	"	1,052
1854	"	656
1855	"	178
1856[2]	"	582
1857	"	542
1858[3]	"	721
1859	"	463
1860	"	530
1861	"	855
1869[4]	H. Ware	215,000 lbs.
1870	"	230,800 lbs.
1871	"	135
1872	"	84
1873	"	95
1874	"	165
1875	"	207
1876	"	200
1877	"	184
1878	"	150
1879	J. A. and J. M. Ware	332
1880	James A. Ware	342
1881[5]	"	214
1882	"	615
1883	"	214
1884	"	447
1885	"	746
1886	"	429
1887	"	783
1888	"	1,031
1889	"	843
1890	"	1,750,000 lbs.
1891	"	1,223,624 lbs.
1892	"	1,398,000 lbs.
1893	"	1,848,205 lbs.
1894	"	2,168,994 lbs.
1895	"	2,052,882 lbs.
1896[6]	"	2,550,000 lbs.
1897	"	2,500,000 lbs.
1898	"	2,000,000 lbs.
1899	"	497,200 lbs.
1900	"	1,750,047 lbs.

Table 2, continued.

1901	"	2,615,000 lbs.
1902	James A. Ware	2,911,000 lbs.
1903	"	1,987,177 lbs.
1904	"	3,149,250 lbs.
1905	"	2,614,524 lbs.
1906	"	980,000 lbs.
1911	Bell Grove Planting and Manufacturing Co.	1,750,000 lbs.
1912	"	1,250,000 lbs.
1913	"	1,300,000 lbs.
1914	"	----

[1]Steam powered mill
[2]Steam battery
[3]Vespanidus battery
[4]Brick and shingle sugar house; steam, kettle, and open pan apparatuses
[5]Steam tram, vacuum pan, and centrifuge apparatuses
[6]Double effects vacuum pan and centrifuge apparatuses

from the estate and from bricks made on the property; the total cost was $75,000.00 (Kell 1940).

Belle Grove had a brick sugar house with a steam powered mill. The overseer's house, a two story frame structure with eight rooms, was unusually luxurious. Also on the grounds were a frame hospital, twenty double slave cabins, a steam powered sawmill, a brick smokehouse, a brick blacksmith's shop, and stables (Kell 1940).

The War Between the States and Its Aftermath

A chronicle of Louisiana written of the eve of the War Between the States by J. W. Dorr provides a picture of Iberville Parish. Dorr noted that the assessed value of property in Iberville Parish was approximately $14,000,000.00, and that 33,000 acres were planted in cane, 22,000 in corn, and 1,500 in cotton. The white population was approximately 5,600, and there were 10,000 slaves; only about 200 free men of color resided in the parish (Pritchard 1938:1129).

The War Between the States devastated the prosperous parish. After New Orleans fell to Federal troops in 1862, U. S. gunboats ascended the Mississippi River; they shelled and occupied the town of Plaquemines. Union forces then confiscated Holy Cross Academy for a headquarters, and they began to build a fortification below present day Fortville. Because skirmishes in the parish were limited, property destruction was minimal; however, widespread confiscation of movables did occur (Grace 1946:125). Economic difficulties continued for many years after 1865.

Louisiana's sugar industry was seriously affected by the war, and it was slow to recover. Prices fell, credit was tight, and it was nearly impossible to keep slaves on the plantation (Begnaud 1980:38-39; Goodwin and Yakubik 1982b). Many planters lost their estates as a result of financial difficulties. Throughout most of the nineteenth century, the level of sugar production did not approach that of the peak year 1861. Causes for the problems were:

> Changes in labor systems, bad politics and government, and fear that the (sugar) tariff would be abolished or greatly modified, preventing capital from being invested...(A. Bouchereau 1889-1890:53a).

Loss of slave labor encumbered economic recovery. Former slaves were regarded as unreliable, and they were perceived by the white population as a political threat; L. Bouchereau (1870-1871:XIX) advocated employment of German and Chinese contract

laborers. A pervasive lack of capital probably was the greatest impediment to revitalization of the sugar industry. Planters could not afford to rebuild their sugar houses, nor could they repair levees. Many former sugar plantations were inundated during high water. As a solution, L. Bouchereau (1873-1874:XII; 1876-1877; 1877-1878:XX) urged that agricultural and industrial aspects of sugar production be separated. His solution, the "Central Factory System," included centralized mills to serve the needs of many planters. Benefits were obvious. Because manufacture of sugar from cane entailed the greatest expense, the system helped alleviate individual planter's financial and labor difficulties. Also, farmers with small holdings could now afford to grow cane.

Landowners in many parishes cultivated rice, because they lacked the requisite capital for sugar production. Bouchereau wrote:

> Many of the old sugar plantations are planted in rice for want of the necessary means to rebuild or repair sugar houses, etc., while others are only partially cultivated owing to the encroachment of water from crevasses, and many are completely abandoned on account of overflow (L. Bouchereau 1877-1878:XX).

Rice was a more appropriate cultigen after the War Between the States. Inundation of fields due to lack of maintenance of levees could ruin cane; however, flooding was necessary for rice cultivation. The cultivation and economics of rice are detailed elsewhere (Goodwin, Yakubik, Stayner and Jones 1984).

Postbellum Development Within the Project Area

The war ruined John Andrews financially; he was forced to sell Belle Grove. In 1868, Henry Ware, a Texan who had made his fortune as a cotton and sugar commission merchant in New Orleans (Walker n.d.), purchased the estate for $50,000.00 cash (Kane 1945:243). Under his ownership, levels of sugar production were modest (Table 2). Ware also bred horses on the estate (Benjamin Tureaud Papers, Special Collections, Louisiana State University Library, Louisiana State University and Agricultural and Mechanical College). He sold Belle Grove to his sons, James and John, in 1879; James purchased his brother's interest the following year (Table 2) (Walker n.d.).

James Ware increased sugar production, and in 1881, he installed new processing machinery in the sugar house, including a steam tram, vacuum pans, and a centrifuge (A. Bouchereau 1882).

By 1890, sugar yields were consistently higher than those achieved during Belle Grove's antebellum years (Table 5-2). Like his father, James was interested in horses; he had a race track built on the plantation.

James Ware's estate became a focus for social activity in the area. Ware married Mary Eliza Stone, daughter of Dr. P. L. Stone of Glencoe Plantation; she furnished the house lavishly for entertainment on a grand scale. Their son, John Stone Ware, studied agriculture related to sugar cane at both Tulane University and Audubon Technical School. He built a second race track at Belle Grove, and he organized the Louisiana Trotting Horse Breeder's Association (Kane 1945:243-245).

Figures 5 and 6 show structures at Belle Grove in the 1880s and 1890s. A double row of twenty cabins, which housed tenants in the postbellum period, was located downriver from the great house (Figure 5); the overseer's house was located within an enclosed yard riverward of the cabins. The sugar house was landward of the cabins (Figure 5). Several structures within an enclosed yard on the upriver boundary of the estate (Figure 5), may have been barns. A warehouse stood in front of the great house, landward of the levee (Figures 5 and 6).

After the death of James Ware in 1908, his son, John Stone Ware, continued to manage the plantation successfully for a number of years; however, low crop yields in the 1920s reversed the Ware family's fortunes. Belle Grove was subdivided and sold in 1924 (Kane 1945:246; Walker n.d.). The great house was not maintained by its new owners; it gradually decayed, and in 1952, when it already was in ruins, it was destroyed by fire.

Celeste Plantation, unlike Belle Grove, did not experience rapid post bellum recovery. It was purchased by Ulger Lauve, who possibly was Mrs. Lauve's son, in 1869. Before the War Between the States, Ulger lived in New Orleans; between 1856 and 1858, he was part owner of Sebastopol Plantation in St. Bernard Parish (Sebastopol Plantation Papers, Special Collections, Howard Tilton Library, Tulane University; Sebastopol Plantation Documents, Special Collections, Louisiana State University Library, Louisiana State University and Agricultural and Mechanical College). Crop yields were low at Celeste Plantation until 1871 (Table 1). The estate was purchased in 1873 by F. Soniat Duffossat, and two years later it was in the possession of Thomas Sellers and Company, who used it for rice cultivation (Table 1). Celeste Plantation had a series of owners during the 1880s (Table 1).

Figure 5 shows structures at Celeste. In the early 1880s a double row of tenant's cabins extended into the field. A large

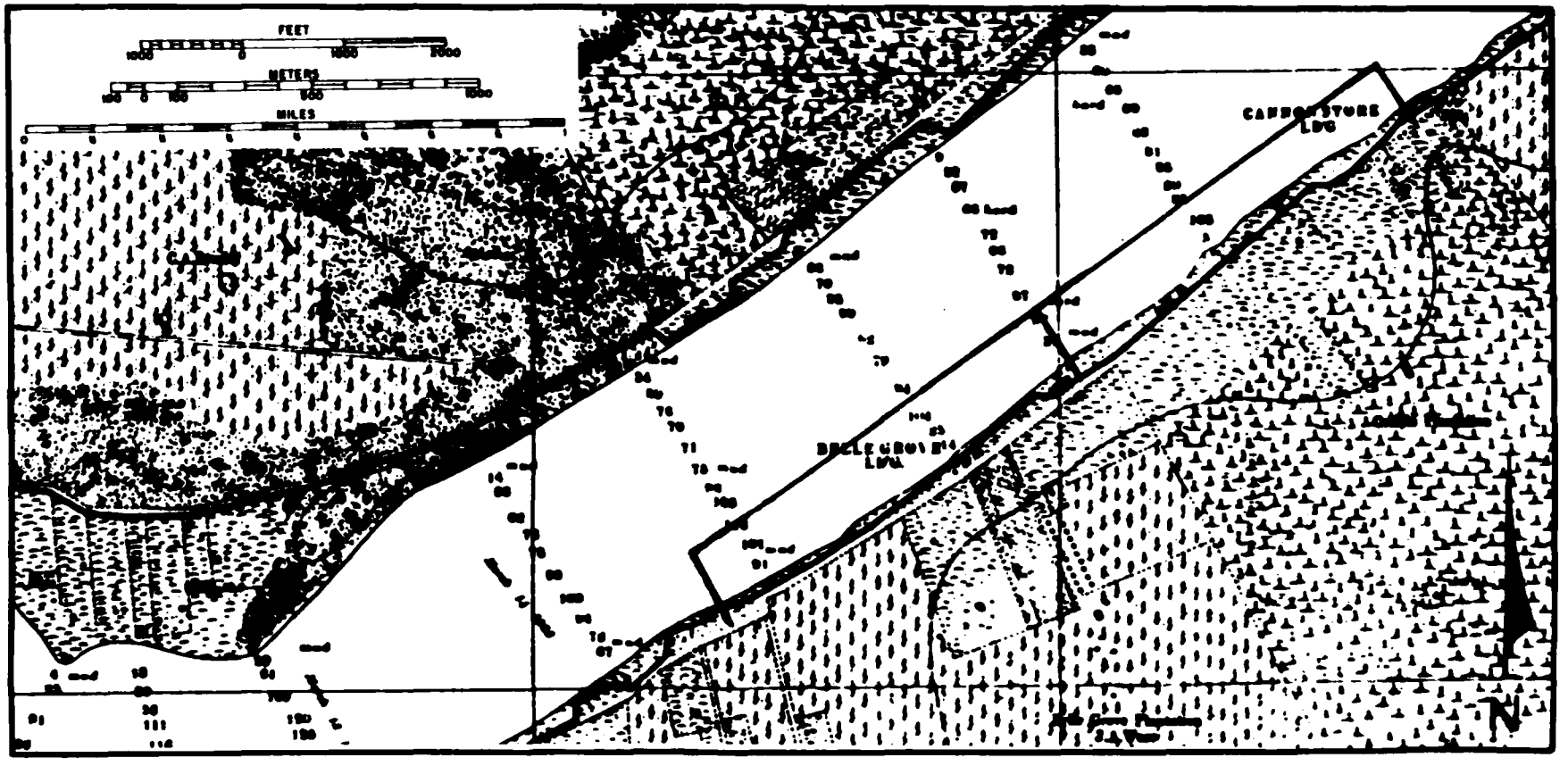


Figure 5. Excerpt from Chart 68 of the 1879-1880 Mississippi River Commission Maps (drafted 1882-1883) (Map on file, R. Christopher Goodwin and Associates, Inc., New Orleans).

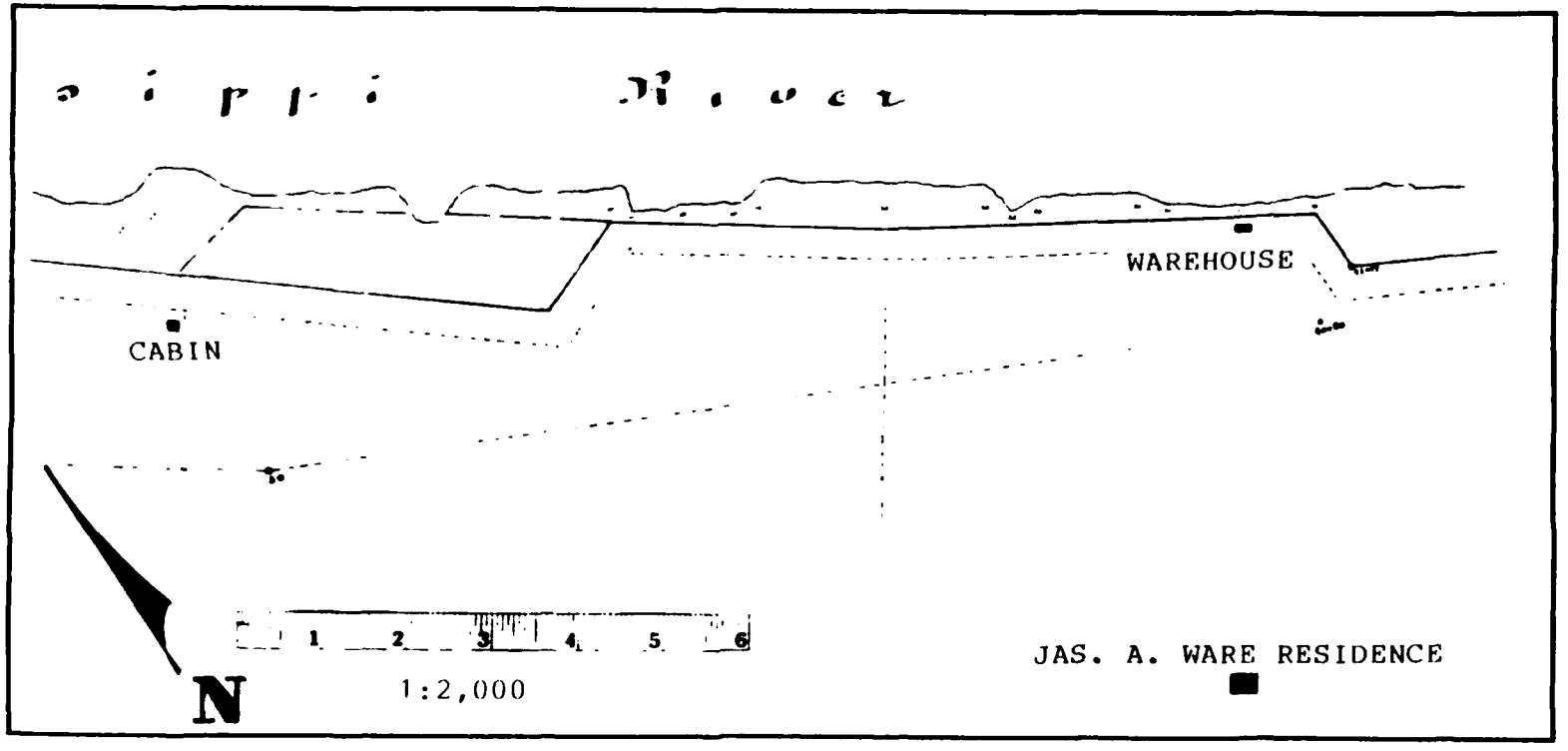


Figure 6. Excerpt from an 1892 map of the Alhambra and Belle Grove Levees (Office of Public Works, Baton Rouge).

structure upriver from the cabins probably was the sugar house, which may have been converted into a rice mill. The great house and attendant structures were located near the river. A fenced complex of structures upriver of the great house (Figure 5) probably represents a small settlement, because by the 1890s, a church, a hall and the Cannon Store stood on this site (Figure 7). The Cannon Store, which had its own landing, was depicted on maps through the 1880s and 1890s (Figures 8 and 9). Apparently, the settlement was called Mt. Salem (Figure 7). Agricultural production at Celeste was not reported after 1890. In 1896, when it was purchased by James Ware, it became part of Belle Grove (Figure 10).

Twentieth Century Development of Iberville Parish

The lumber industry became increasingly important to the economy of Iberville Parish during the late nineteenth century. After the Whitecastle Lumber and Shingle Company, Ltd. was established, the town of Whitecastle developed around it (The Southern Manufacturer 1900). Fortier (1914:525) claimed that more cypress shingles were manufactured in Iberville than in any other parish in Louisiana.

Sugar, traditionally the most important agricultural product of the area, maintained its prominence throughout the twentieth century. Early in the century, increased quantities of rice, corn, fruit, and pecans were produced. Cotton also was grown in the early 1900s, but by the 1940s, cotton production in the area was minimal. Livestock breeding increased during the 1930s and 1940s; former rice fields were used for pasture lands. By the 1960s, cattle production was secondary to cane as a source of farm income (Iberville Parish Planning Board 1945; Iberville Parish Development Board 1964). Soybeans, planted initially with corn in the 1940s to replenish the soil, have become a significant crop in recent years.

Manufacturing in Iberville Parish during most of the twentieth century was primarily the processing of sugar and syrup, and the ginning of Spanish moss. However, in the past twenty years, industrialization has accelerated. In 1956, Dow Chemical Co. established a Louisiana division north of the town of Plaquemines. Their plant manufactured chemicals including ammonia, caustic soda, chlorine, and hydrochloric acid (Iberville Parish Planning Board 1945; Iberville Parish Development Board 1964). Goodyear Tire and Rubber Co. and Georgia Pacific also have plants in the parish at present. Oil and gas fields were discovered in the 1940s (Davis 1940:141). However, increased industrialization has not affected the rural nature of the vicinity of the present project corridor.

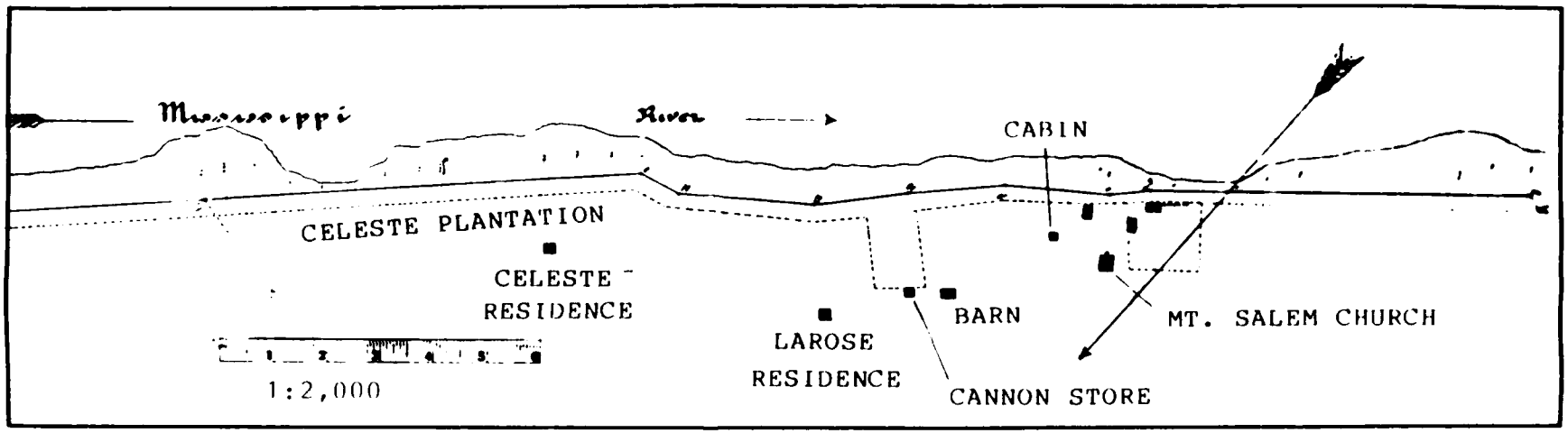


Figure 7. Excerpt from an 1892 map of the Celeste and Mt. Salem Levees (Office of Public Works, Baton Rouge).

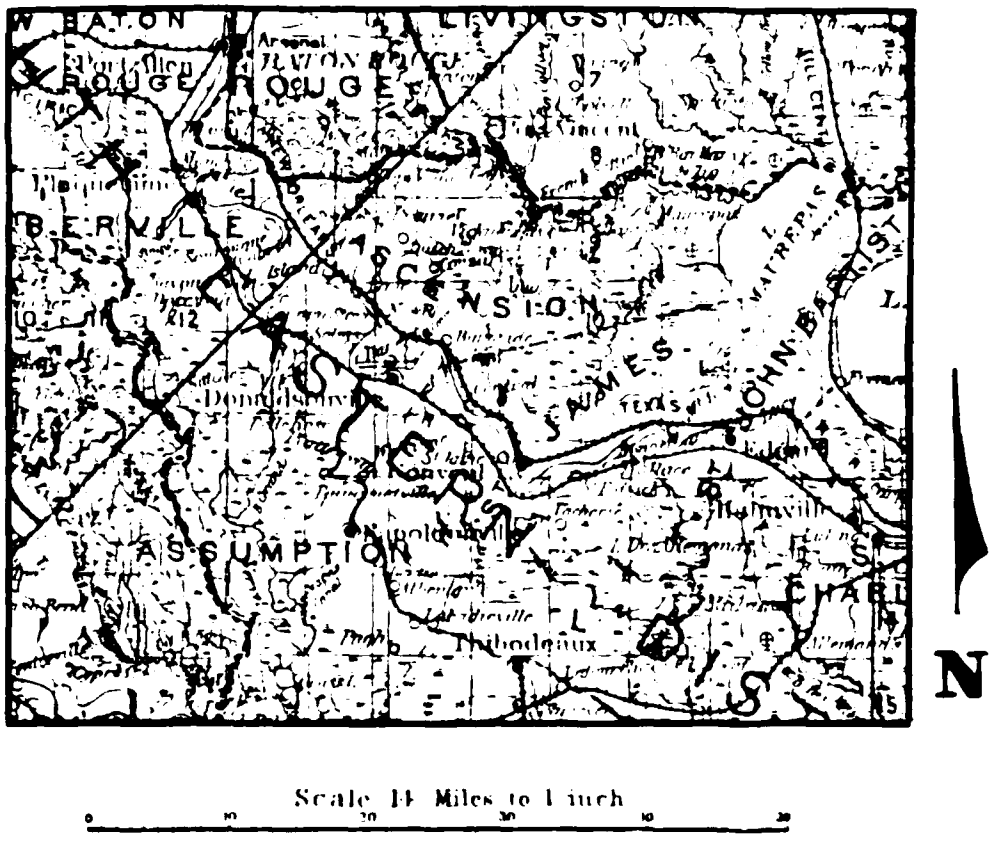


Figure 3. Excerpt from Mayo's 1887 Map of the State of Louisiana, showing the Cannon Store (Map Division, Library of Congress).

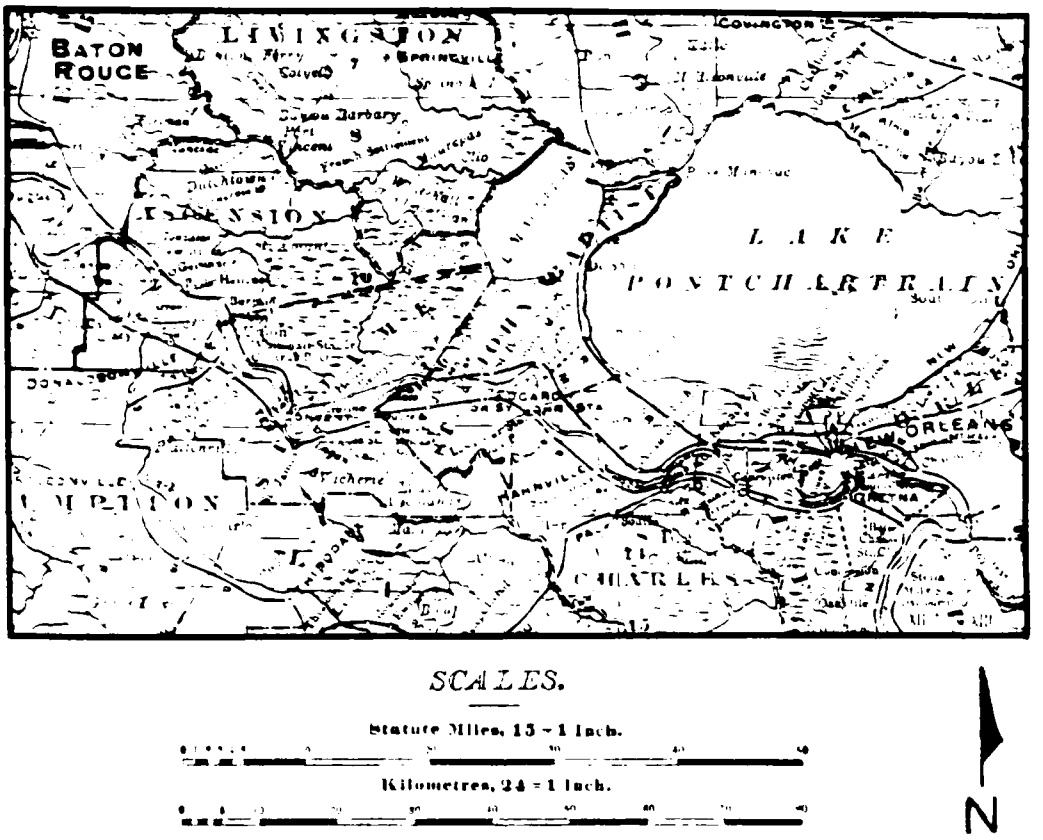


Figure 9. Excerpt from Rand McNally's 1899 Map of Louisiana, showing the Cannon Store (Map Division, Library of Congress).

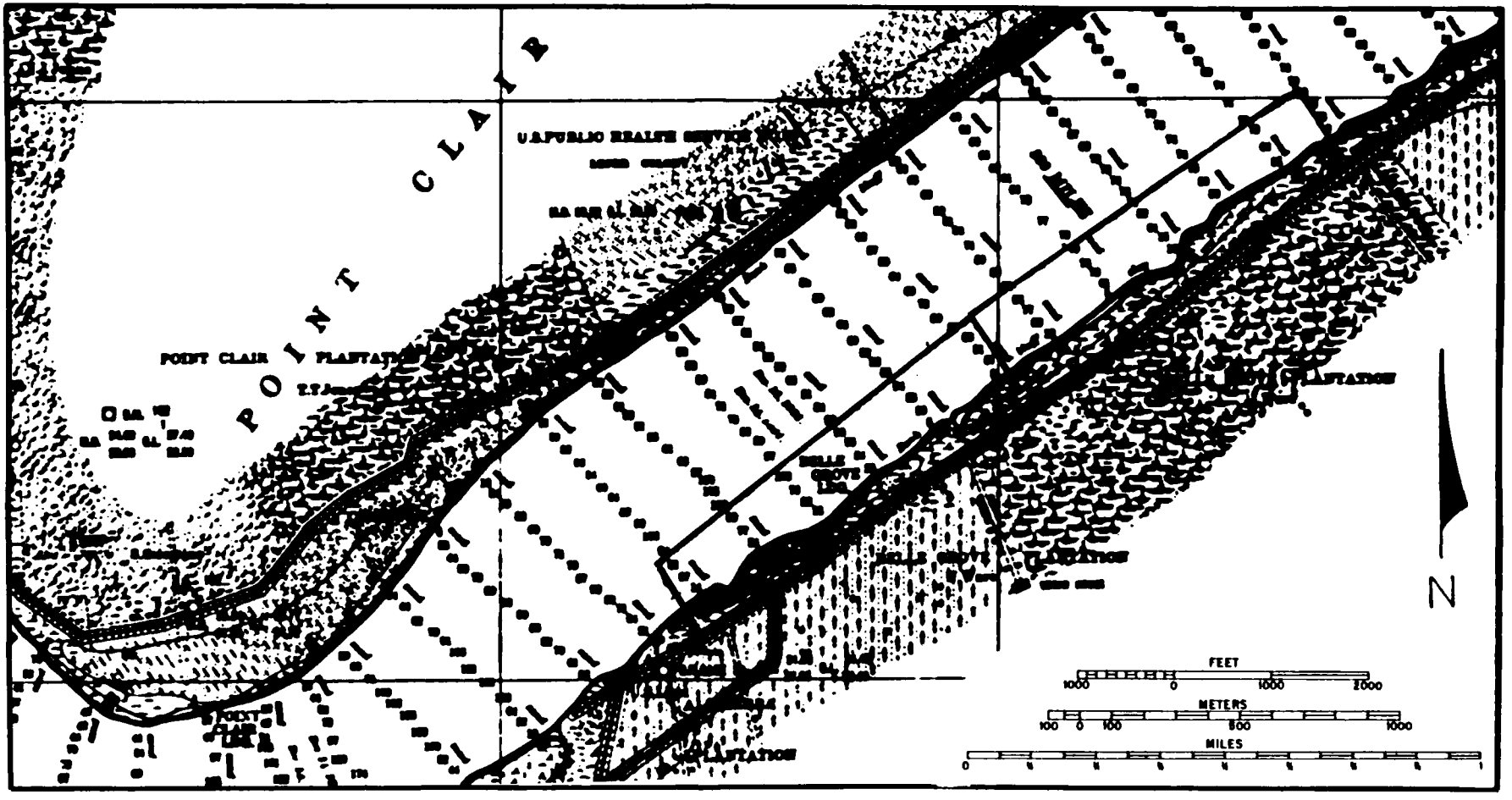


Figure 10. Excerpt from Chart 68 of the 1921 Mississippi River Commission Maps (Map on file, R. Christopher Goodwin and Associates, Inc., New Orleans).

Summary of Themes Significant to the Project Area

Historic land use in the project area was typical of that of the Acadian river parishes. The area initially was divided into small farms which were allocated to Acadian refugees. Later, these small holdings were consolidated into large sugar plantations, two of which were within the project area. One of these estates, Belle Grove, recovered successfully after the War Between the States. Celeste Plantation failed to recover, despite a change to rice production, and it was absorbed by Belle Grove.

Four major themes are apparent from an historic overview of the vicinity of the present project corridor. They are (1) Acadian settlement of Iberville Parish; (2) development of the antebellum sugar industry; (3) recovery of the sugar industry during the postbellum period; and (4) development of rice cultivation during the postbellum period. These themes provide a framework for evaluating the significance of cultural remains recovered during archeological survey.

Examination of late nineteenth and early twentieth century maps suggested that plantation remains from Belle Grove and Celeste might be recovered in the White Castle Revetment project area (Table 3). While no maps showing structural remains from the antebellum period were located, it is likely that the major plantation complexes shown on the postbellum maps were extant prior to the War Between the States. Since the project area was settled by the late Colonial Period, and possibly as early as 1718, it was anticipated that archeological remains from the eighteenth century might be found, but no locational information was available from this period.

Table 3. Archeological Expectations Based on Historic Map Research.

Area	Historic Use	Expectations
Sections 14 and 13 of T10S, R13E	Formerly agricultural fields of Belle Grove plantation	No archeological remains expected.
Section 12 of T10S, R13E	Formerly agricultural fields of Belle Grove plantation, and the Belle Grove warehouse and attendant structures	Remains of the Belle Grove warehouse complex, possibly disturbed by borrowing activity.
Sections 11 and 10 of T10S, R13E	Formerly agricultural fields of Belle Grove and Celeste Plantations	No archeological remains expected.
Section 9 of T10S, R13E	Formerly agricultural fields of Celeste Plantation, and the Celeste great house complex	Remains of the Celeste great house complex, possibly disturbed by borrowing activity.
Sections 7 and 8 of of T10S, R13E	Formerly agricultural fields of Celeste Plantation and the Mt. Salem settlement (at downriver project area)	Remains of Mt. Salem settlement possibly disturbed by borrowing activity.

CHAPTER VI

FIELD INVESTIGATIONS

Introduction

A total of six archeological sites were recorded and tested during field work at White Castle Revetment. These sites were designated White Castle Sites 1 through 6. State Survey numbers have been assigned to Sites 2 through 6 (16 IV 147 through 16 IV 151). Since White Castle Site 1 was highly disturbed and consisted entirely of bricks and rubble in secondary deposition, no state survey number was assigned.

Pedestrian Survey and Subsurface Testing

Pedestrian survey was implemented using linear transects parallel to the bankline of the Mississippi River. Maximum transect width was 20 m, and the entire length of the project area (about 2,530 m) was surveyed between the water line and the toe of the Mississippi River Protection Levee. Shovel tests to an average depth of 45 cm below surface were excavated at 50 m intervals within each transect. All cultural resources encountered during survey were staked and flagged.

Six surface concentrations of artifactual remains were identified during the intensive pedestrian survey. These sites occurred principally along the bankline and cutbank of the Mississippi River. At only two sites were deposits exposed within the cutbank of the river. The six concentrations were designated White Castle sites 1 through 6 in order of their discovery. Subsurface testing, conducted simultaneously with the pedestrian survey, failed to identify additional cultural resources. The only subsurface remains recorded during this phase of fieldwork were those visible along exposed sections of cutbank.

Sketch maps and photographs showing the location of each site were executed. Horizontal and vertical controls for each site were established using levee station markers along the Mississippi River Protection Levee crown. Sites were plotted on 7.5' quadrangles and on aerial mosaic project area maps.

Surface visibility was not uniform throughout the project area. Excellent visibility prevailed along the bankline of the river where vegetation cover was sparse. However, much of the batture in the White Castle project area was densely vegetated, and extensive water-filled borrow areas also were present. As noted above, shovel testing was used to overcome some of these

difficulties; however, this methodology produced negative results. Judging by the stratigraphic position of intact cultural deposits near the cutbank, it is possible that shovel tests may not have reached sufficient depths to detect the presence of buried cultural resources. However, it is unlikely that intact cultural remains would have survived the extensive borrowing.

Site Testing

Site testing was designed to determine site size, depth of cultural deposits, stratigraphy, cultural associations, function, date(s) of occupation, and condition. Recordation techniques included a combination of surface collection and subsurface testing. Surface collection techniques included "grab bag" samples with at least one specimen of each artifact type present collected, and representative samples. An approximate 100 per cent sample of artifactual remains was collected at sites with low density surface manifestations (16 IV 148, 16 IV 149, 16 IV 150, and 16 IV 151). Only brick artifacts were present at White Castle Site 1, and these were not collected. Site 16 IV 147 consisted of an extensive scatter of refuse along the beach and cutbank of the river; a representative sample of these remains was retrieved.

Subsurface examination included shovel tests, auger tests, and limited excavation. Shovel testing was carried out at three sites (16 IV 148, 16 IV 150, and 16 IV 151). Tests were dug at 10 meter intervals along three rays extending from the approximate center of each site. This permitted recordation of the presence and extent of shallow subsurface remains. Auger tests were dug at the datum of each site in order to determine both the stratigraphic setting and the presence or absence of more deeply buried cultural deposits. When appropriate, stratigraphic profiles were cleaned and mapped along the cutbanks. This was possible at 16 IV 147 and 16 IV 149. Two 1x2 m test excavation units were dug at 16 IV 147. The units were places over significant features associated with the site. The results of the testing effort are described below.

White Castle Site 1

White Castle Site 1 is located immediately downriver from the White Castle ferry landing. The site consists of a mass of redeposited red brick, mixed with more recent concrete slabs, asphalt, and other construction materials. All of the debris appears to have been deposited or conglomerated during recent clearing and construction. The material clearly has been artificially deposited as fill and or rip-rap. The origin of the older bricks, some with sandy mortar adhering to their surfaces, is

unknown, but they may derive from the Belle Grove Plantation landing. None of the bricks were collected and, given the impenetrable mass of shell, concrete, and asphalt, no subsurface testing was conducted.

White Castle Site 2 (16 IV 147)

16 IV 147 is located approximately .80 km downriver from the White Castle ferry landing. The site consists of a linear concentration of historic and prehistoric artifacts which extends approximately 360 m along the beach and bankline of the Mississippi River (Figure 11). In some places, artifacts occur as far as 20 m landward of the water line, onto the wide bench or terrace above the cutbank. Historic structural and artifactual remains were observed eroding from the upper bluff edge (or cutbank) in several places. However, the vast majority of cultural debris occurred at the surface along the beach. In addition, a series of tree stumps were observed along the beach and in the river, which was at low water at the time of this survey. The trees extended along the entire length of the site, or for about 360 m.

Pedestrian Survey and Surface Collection

An initial examination of the surface scatter along the beach revealed the presence of two broad clusters of cultural material, designated Zones A and B (Figure 11). Zone A comprised the downriver 220 m of the site, and it consisted of a heavy concentration of brick and brick rubble, ceramics, and glass. Only scattered bricks were present in Zone B, or the upriver portion of the site, although ceramic and glass artifacts were common. Aside from the differing percentages of brick artifacts, a cursory examination of the beach scatter suggested chronological differences in the artifact assemblage. Therefore, the two zones were collected independently. A few aboriginal ceramics and lithic artifacts were collected from both zones.

Pedestrian survey of the bankline also revealed two brick features located along the margins of the wide bench or terrace immediately adjacent to the cutbank (Figure 11). Feature 201 consisted of a small concentration of bricks and brick fragments eroding from the edge of the cutbank. This small feature measures 80 x 50 cm and apparently represents the remaining vestiges of a structure, the vast majority of which were already lost to cutbank erosion. No additional artifactual remains were associated with Feature 201 and probe testing failed to located subsurface manifestations along the bluff edge. Auger testing was not deemed necessary and no further work was conducted at Feature 201.

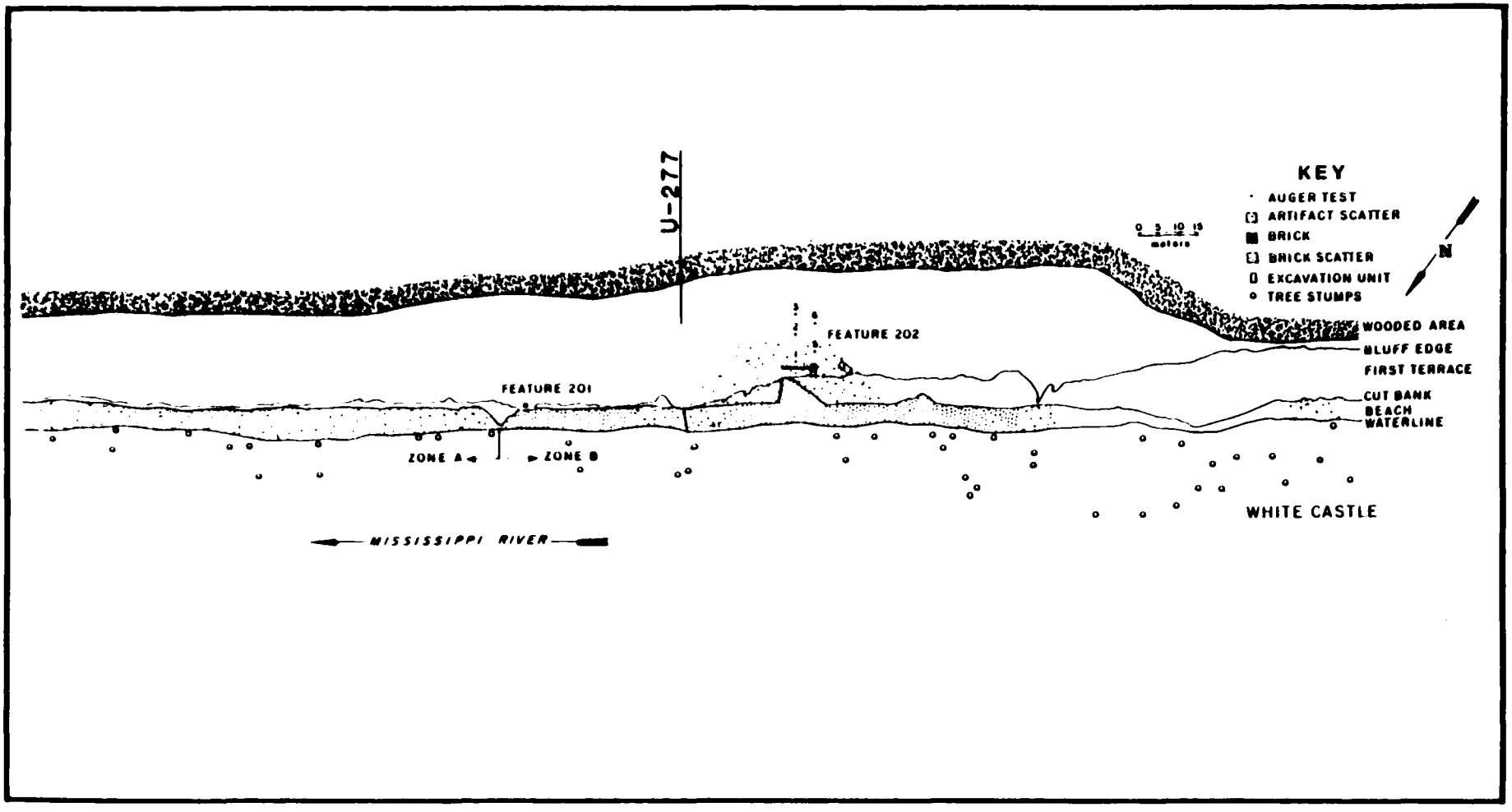


Figure 11. Site Plan of 16 IV 147.

Feature 202 consisted of a partially eroded linear alignment of bricks about 3.70 m in length located near the margin of the bluff edge, and exposed at the surface of the first bench or terrace of the batture (Figure 12). Only one course of bricks was well preserved; however, at least one additional course appears to have been present. Brick rubble extended about 1 m to either side of this brick alignment. On the east side of the brick alignment, the scatter of brick rubble appeared to be buried beneath overbank deposits. Many of the bricks exhibited traces of intensive thermal alteration, and the soil matrix between the brick alignment and the bluff edge was impregnated with charcoal and ash; it appeared to have been partially fused by intensive heat. The upriver extremity of the brick alignment was covered by a thin stratum of overbank deposits; these deposits thickened downriver from this point. Here, Feature 202 consisted entirely of a 10 cm stratum of brick rubble exposed along the cutbank.

Finally, a light scatter of bricks and brick fragments also were observed along the bench, or first terrace, paralleling the surface scatter along the bankline. However, most bricks occurred as isolated specimens, and no architectural features or associated artifactual remains were observed.

Following the pedestrian survey, surface collection, and mapping, additional testing at 16 IV 147 focused on the area around Feature 202. Here, a series of auger tests were excavated, stratigraphic profiles were cleaned and mapped along the cutbank, and two 1 x 2 test units were excavated.

Auger Testing

Auger testing at 16 IV 147 was designed to determine the possible extent of Feature 202 beyond those areas in which it was exposed at the surface and in profile along the bluff edge. A total of six auger tests, excavated to depths of between 40 and 110 cm below surface, were placed at five meter intervals along two transects oriented perpendicular to the bankline (Figure 13). Auger Test 1 (Figure 14) was placed adjacent to the intact brick alignment exposed at the surface of Feature 202, and excavated to a depth of 40 cm below surface. The test revealed a series of clayey silt and silty clay overbank deposits and was devoid of cultural remains. Auger Test 2 (Figure 15) was placed 5 meters landward of Test 1, and excavated to a depth of 70 cm below surface. Here, .Y 1 84 110 2 18 1 1 62 2 1 7 1 35 5
brick fragments were encountered at 60 cm below surface, within a dark grey (10 YR 4/1) silty clay (Stratum III). Auger Test 3 (Figure 16) was placed 5 m landward of Test 2 and excavated to a depth of 110 cm below surface. One stratum of brown (10 YR 5/2) sandy silt loam devoid of cultural remains was present. Auger

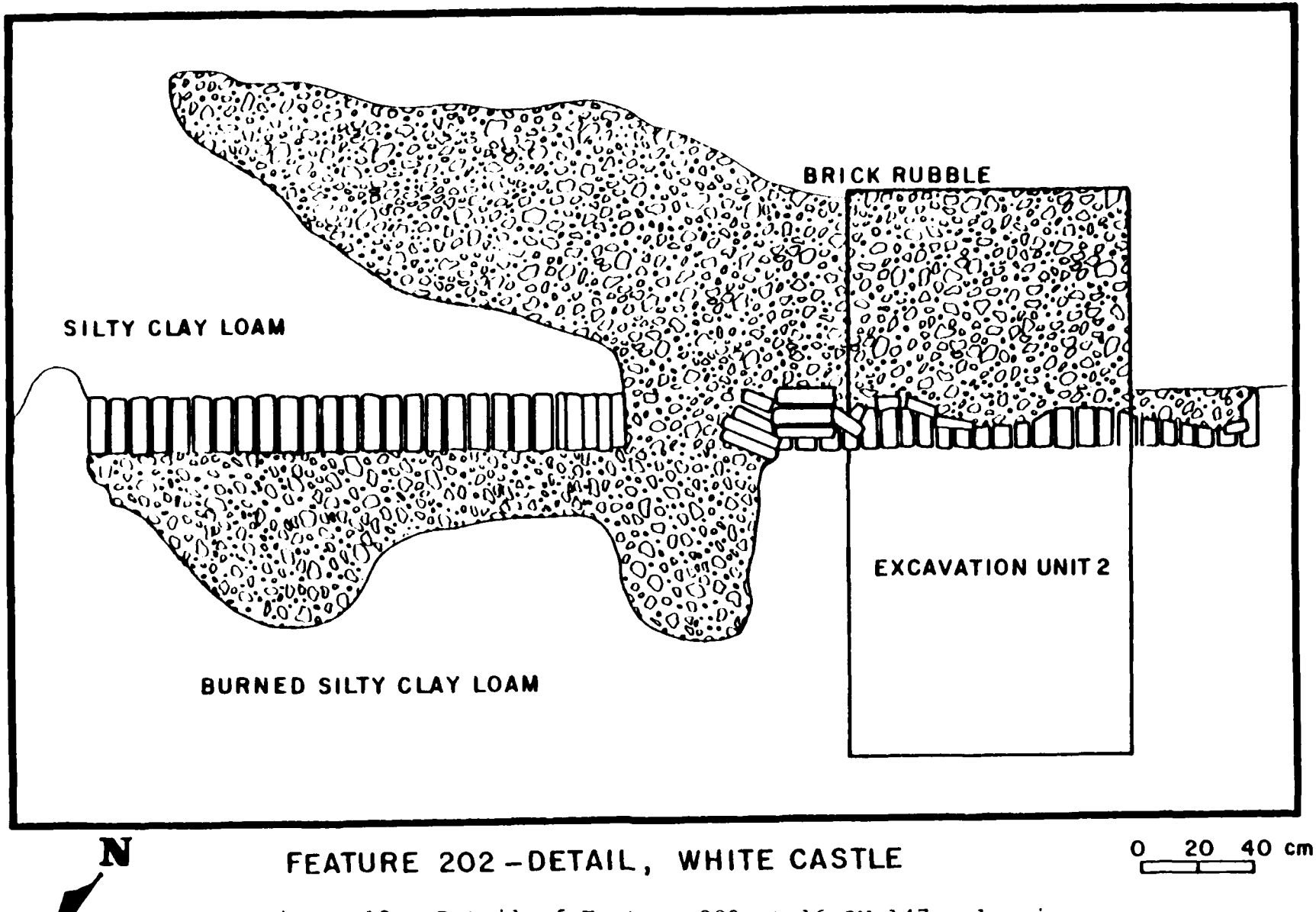


Figure 12. Detail of Feature 202 at 16 IV 147; planview.

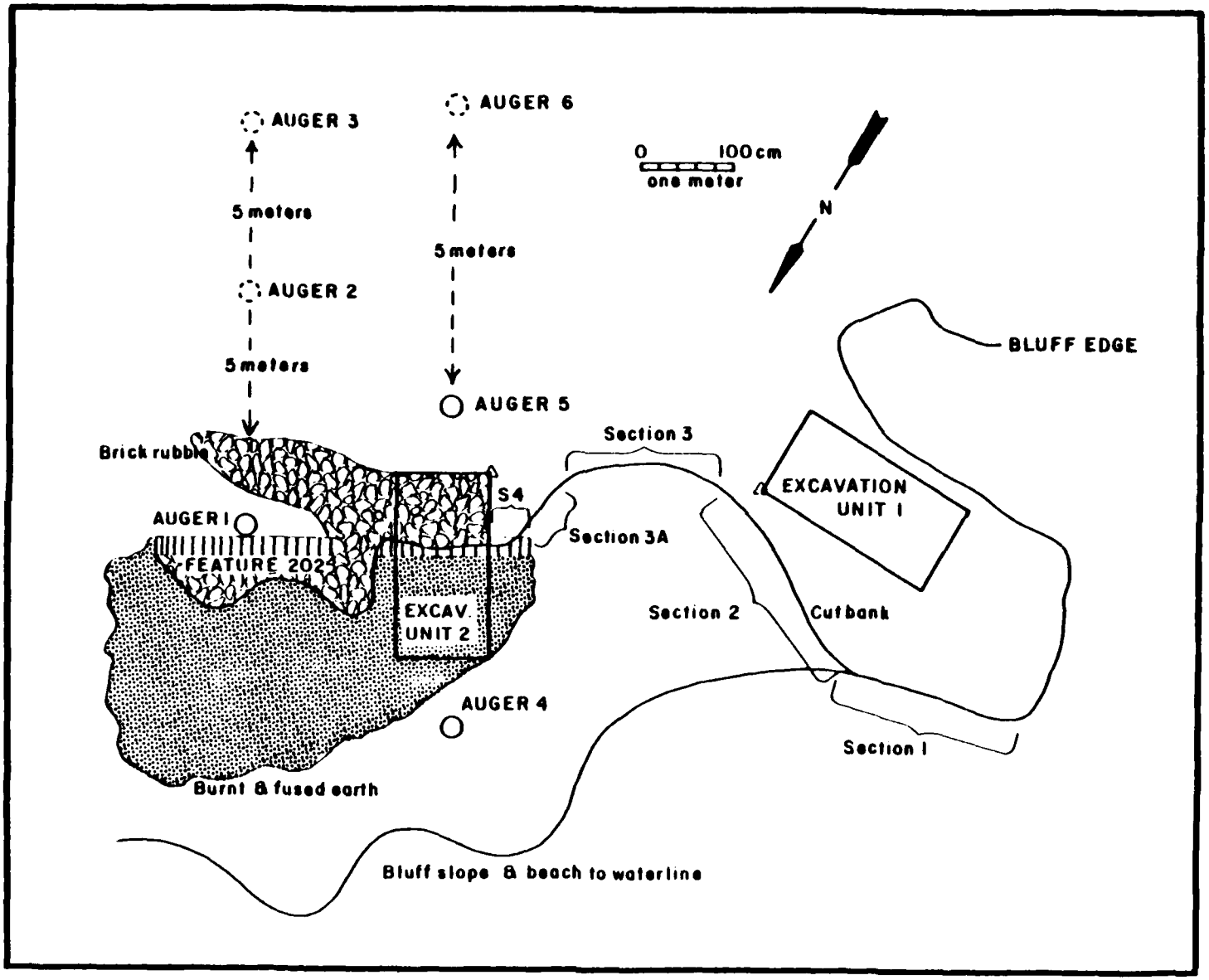
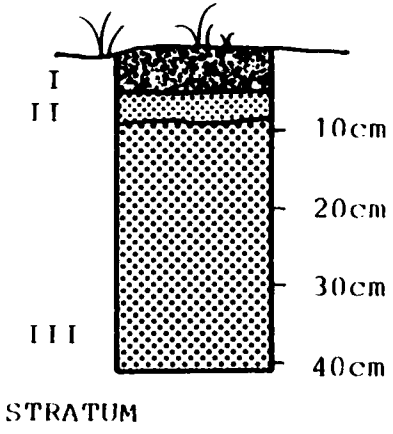


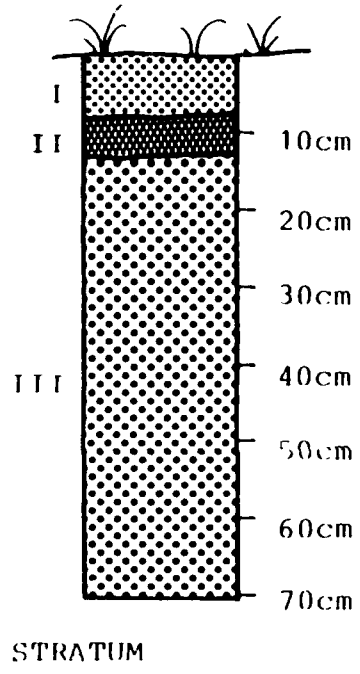
Figure 13. Plan of Feature 202 at 16 IV 147.



KEY

Stratum I: Brown (10 YR 5/3) clayey silt
Stratum II: Yellowish brown (10 YR 5/4) clayey silt
Stratum III: Dark gray (10 YR 4/1) silty clay

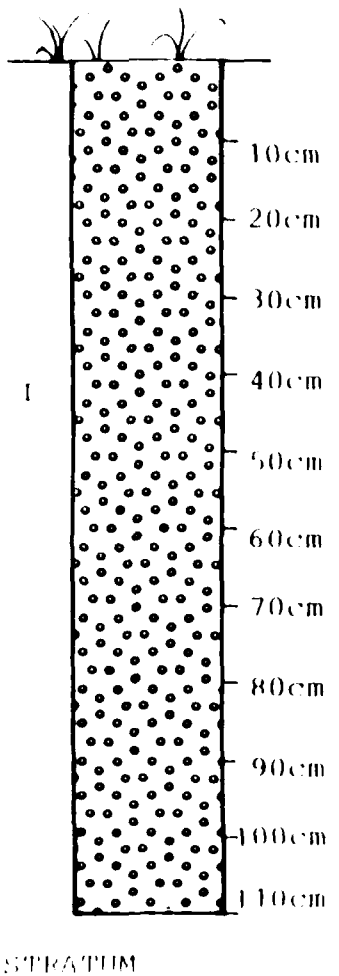
Figure 14. Profile drawing of 16 IV 147, Auger Test No. 1.



KEY

Stratum	I:	Dark grayish brown (10 YR 4/2) silty clay
Stratum	II:	Gray (10 YR 5/1) clayey silt
Stratum	III:	Dark gray (10 YR 4/1) silty clay

Figure 15. Profile drawing of 16 IV 147, Auger Test No. 2.



KEY

Stratum I: Brown (10 YR 5/3) sandy silt loam

Figure 16. Profile drawing of 16 IV 147, Auger Test No. 3.

Test 4 was located about two meters riverward of the brick alignment at Feature 202, about 1.5 m from the bluff edge (Figure 17). Three strata consisting of silty clay and sandy silt were identified. None contained cultural remains. Auger Test 5 (Figure 18) was located 5 m landward of Test 4 and excavated to a depth of 65 cm below surface. Two strata consisting of culturally sterile silty clay were identified. The last auger test, Test 6 (Figure 19), was located 5 m landward of Test 5 and was excavated to a depth of 60 cm below surface. One stratum of sandy silt loam, devoid of cultural remains, was present.

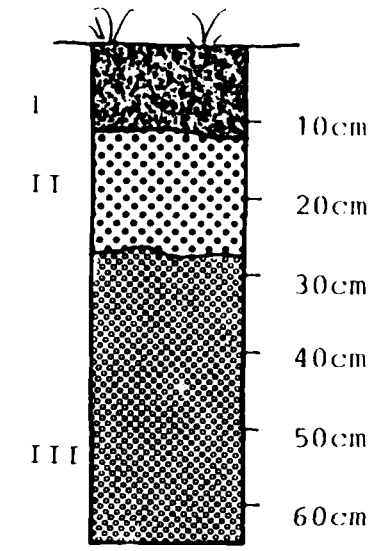
While the majority of auger tests failed to recover additional cultural remains, brick fragments were encountered 60 cm below surface in Test 2. Whether or not these remains represent isolated subsurface deposits, or an extension of Feature 202 could not be determined, and must await additional testing.

Bluff Edge Stratigraphic Profile

As noted above, Feature 202 dipped below overbank deposits downriver from the brick alignment and were exposed along the terraced bluff edge. One stratigraphic profile, having a total length of about seven meters, was cleaned along the bluff edge in order to document the nature and extent of this exposure. Because of the irregular contour of bluff edge, the profile was mapped in four sections.

Section 1 (Figure 20) is located at the upriver extreme of the profile. Deposits associated with Feature 202 occur here only as a narrow band. Further upriver, however, erosion and deflation have stripped the batture of overbank deposits at this elevation, and with it, any traces of the occupation level. At the upriver extreme of Section 1 a dark greyish brown (10 YR 4/2) mottled silty clay loam (Stratum I) is present from 0 to 42 cm below surface. Stratum II consists of eroded, yellowish red (5 YR 5/8) brick fragments. This thin stratum, between one and two cm thick represents the furthest upriver extent of Feature 202. Stratum III, present only in the downriver portion of Section I is a greyish brown (10 YR 5/2) silty clay loam with inclusions of crushed brick fragments. Stratum IV is a brown (10 Y 5/3), culturally sterile silty clay loam between about 44 and 53 cm below surface. Stratum V, a light brownish grey (10 YR 6/2) clayey silt loam between 53 and 64 cm below surface also was devoid of cultural remains. Finally, a culturally sterile dark greyish brown (10 YR 4/2) clay loam was present from 64 cm below surface to the base of the profile at 110 cm below surface.

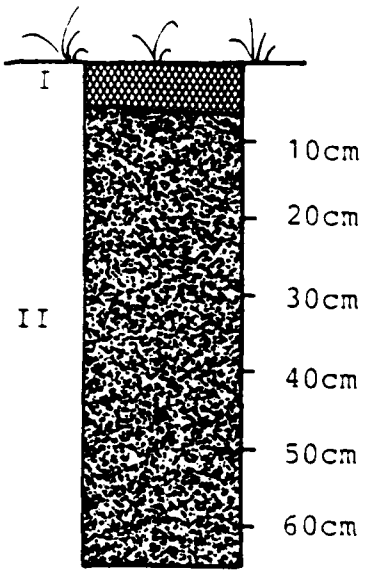
In Section 1, Stratum II (Feature 202) thickens downriver, and rests upon a series of overbank deposits. Due to the irregular



KEY

Stratum I: Dark gray (10 YR 4/1) silty clay
Stratum II: Dark gray (10 YR 4/1) silty clay
Stratum III: Brown (10 YR 5/3) sandy silt

Figure 17. Profile drawing of 16 IV 147, Auger Test No. 4.

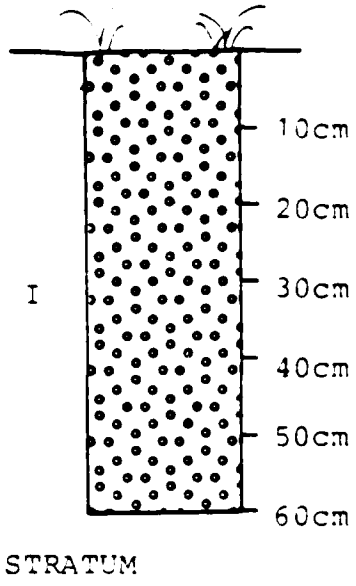


KEY

Stratum I: Dark grayish brown (10 YR 4/2) silty clay

Stratum II: Dark gray (10 YR 4/1) silty clay

Figure 18. Profile drawing of 16 IV 147, Auger Test No. 5.



KEY

Stratum I: Brown (10 YR 5/8) sandy silt loam

Figure 19. Profile drawing of 16 IV 147, Auger Test No. 6.

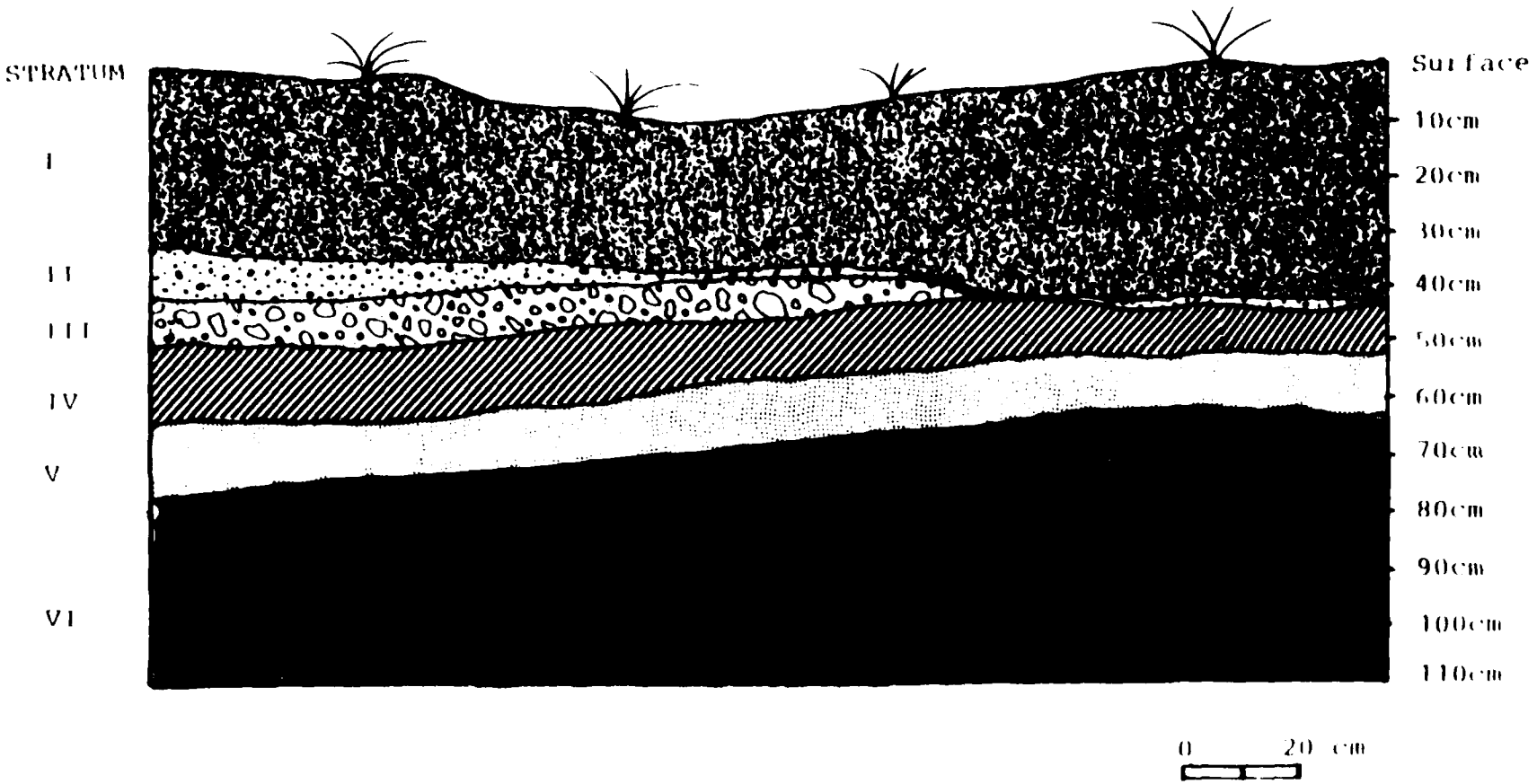


Figure 20. Bluff edge stratigraphic profile, Section No. 1, at 16 IV 147.

Figure 20, Continued.

KEY

Stratum	I:	Dark grayish brown (10 YR 4/2) mottled clay loam
Stratum	II:	Yellowish red (5 YR 5/8) eroded brick and brick rubble
Stratum	III:	Grayish brown (10 YR 5/2) sandy silt with clay inclusions and crushed brick fragments
Stratum	IV:	Brown (10 YR 5/3) silty clay loam
Stratum	V:	Light brownish gray (10 YR 6/2) clayey silt loam
Stratum	VI:	Dark grayish brown (10 YR 4/2) clay loam

formation and contour of the terraced cutbank, only Strata I-III and a small portion of Stratum IV were exposed. Because the strata designations and descriptions do not change in the remaining sections of the bluff edge profile, only the character of Stratum II (Feature 202) is described below. In Sections 2 and 3 (Figure 21 and 22), Stratum II again consisted primarily of brick fragments. In addition, scattered charcoal fragments and a few whole bricks were present. At the extreme downriver portion of Section 3, a mass of brick rubble and mortar was present in Stratum II. Finally, a portion of the intact brick alignment was cleaned in Section 4 (Figure 23). Here, two courses of brick were present, although the upper course had been severely eroded.

In sum, Stratum II of the bluff edge profile appears to represent an historic occupation surface. The brick rubble most likely derives from a former structure, perhaps that associated with the brick alignment. The area around Feature 202 is unique for the site as a whole. Here, overbank deposits have escaped the erosion and deflation that characterizes the batture elsewhere at 16 IV 147.

Test Excavation Units

Two 1 x 2 meter test excavation units were placed at Feature 202. Excavation Unit 1, located at the upriver end of the feature, was designed to expose the surface of the buried occupation surface which was observed along the bluff edge. The unit was excavated in arbitrary 10 cm levels, and the North wall stratigraphic profile is described below (Figure 24). Stratum I was a light yellowish brown (10 YR 6/4) silty clay loam with clay inclusions between 0 and 13 cm below surface and apparently represents reworked slope deposits along the batture. Stratum II, a yellowish brown (10 YR 5/4) clayey silt loam with clay inclusions and Stratum III, a dark grey (10 YR 4/1) clay loam with silt loam inclusions, also appear to represent reworked overbank deposits. Stratum III reaches a depth of about 70 cm below surface and most likely represents a facies of Stratum I of the bluff edge profile. Stratum IV is a grey (10 YR 5/1) clay loam with scattered brick fragments extending from about 70 to 85 cm below surface. Stratum V is a layer of reddish yellow (7.5 YR 6/8) eroded brick rubble, which clearly corresponds to the eroded brick stratum observed in the bluff edge profile. This thin (3-4 cm) stratum did not contain additional artifactual remains. Below Stratum V, a series of culturally sterile overbank deposits was present (Strata VI-VIII) from about 90 cm below surface to the base of the excavation unit at 110 cm below surface.

Excavation Unit 1 confirmed the presence of Feature 202 beyond the margins of the cutbank, but failed to shed additional light upon its origin or age. In part, this reflects the lack of

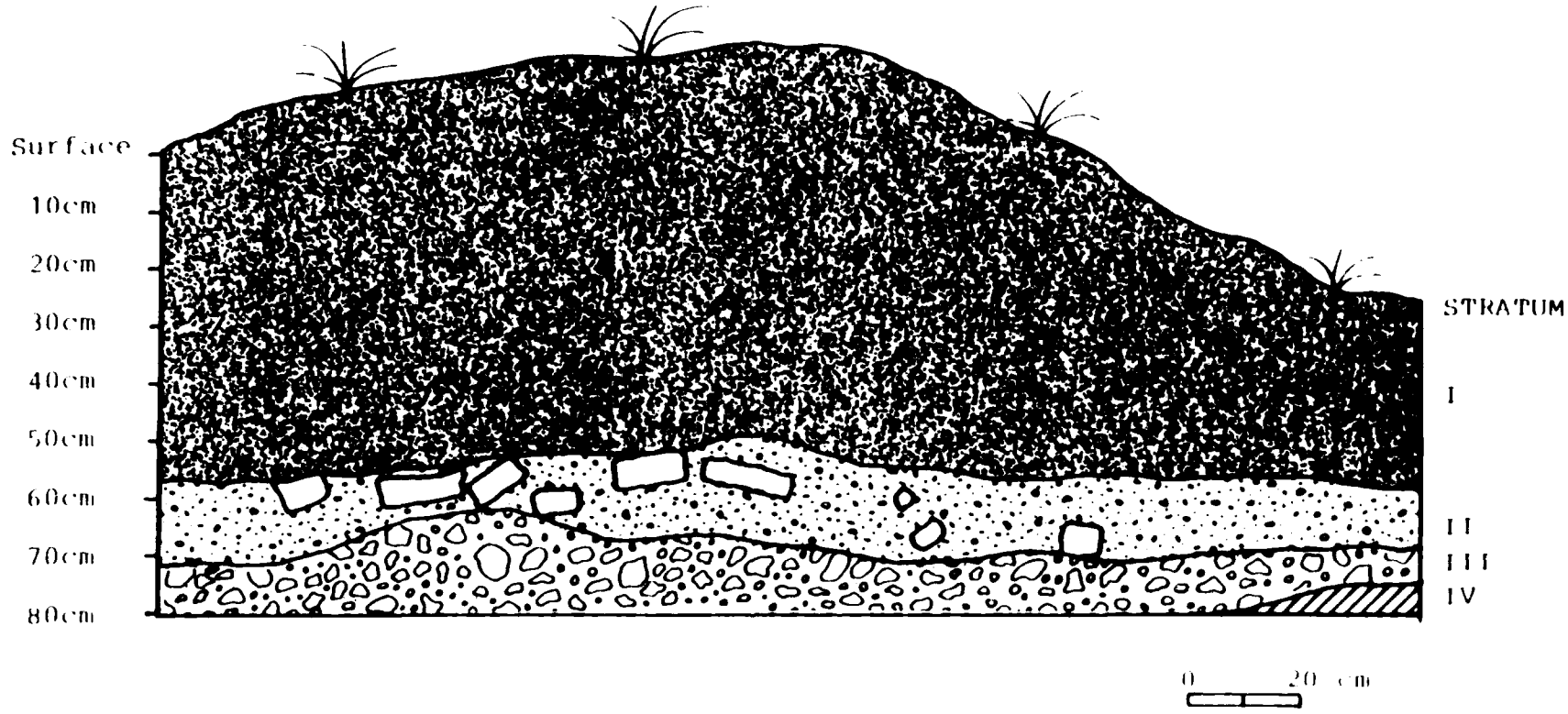


Figure 21. Bluff edge stratigraphic profile, Section No. 2, at 1o IV 147.

Figure 21, Continued.

KEY

Stratum	I:	Dark grayish brown (10 YR 4/2) mottled silty clay loam
Stratum	II:	Yellowish red (10 YR 5/8) eroded brick and brick rubble
Stratum	III:	Grayish brown (10 YR 5/2) sandy silt with clay inclusions and crushed brick fragments
Stratum	IV:	Brown (10 YR 5/3) silty clay loam

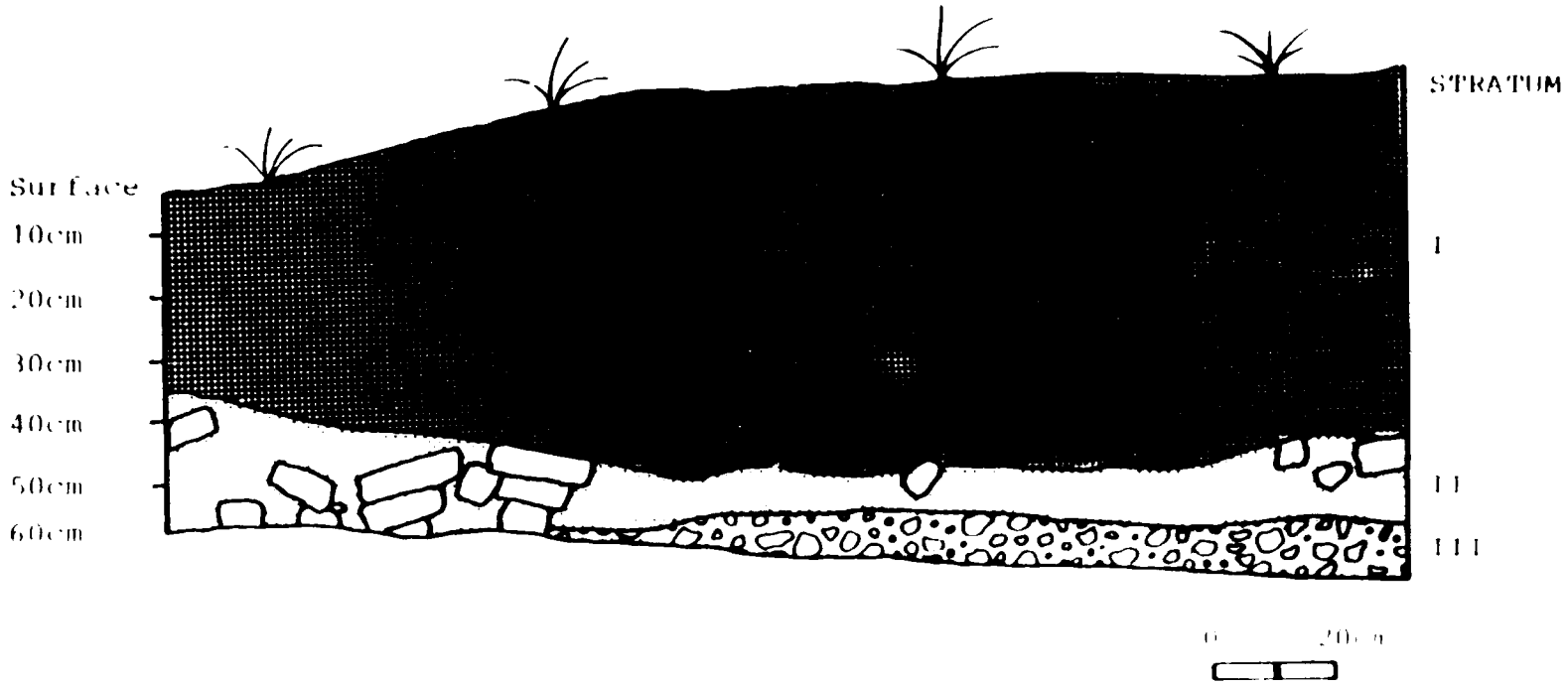
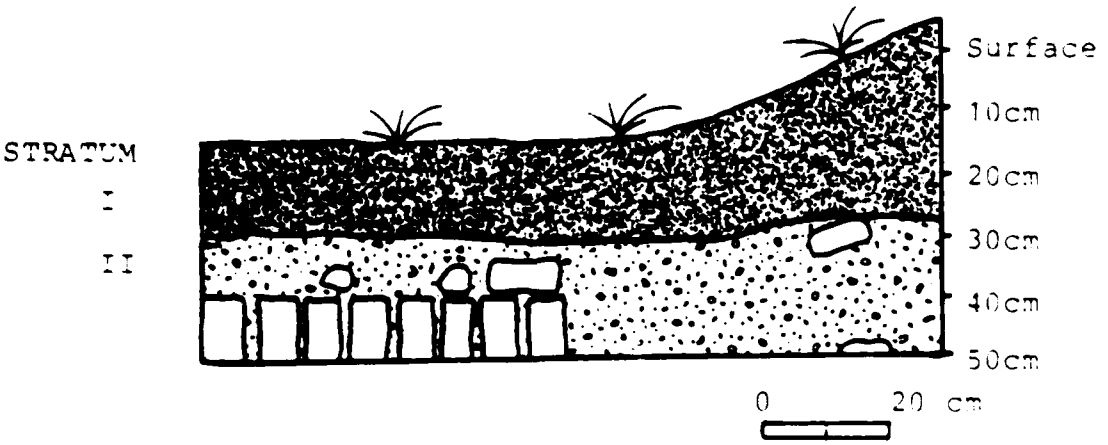


Figure 22. Bluff edge stratigraphic profile, Section No. 3, at 16 IV 147.

Figure 22, Continued.

KEY

Stratum	I:	Dark grayish brown (10 YR 4/2) mottled clay loam
Stratum	II:	Yellowish red (5 YR 5/8) eroded brick and brick rubble
Stratum	III:	Grayish brown (10 YR 5/2) sandy



KEY

Stratum	I:	Dark grayish brown (10 YR 4/2) mottled clay loam
Stratum	II:	Yellowish red (5 YR 5/8) eroded brick and brick rubble

Figure 23. Bluff edge stratigraphic profile, Section No. 3A/4, at 16 IV 147.

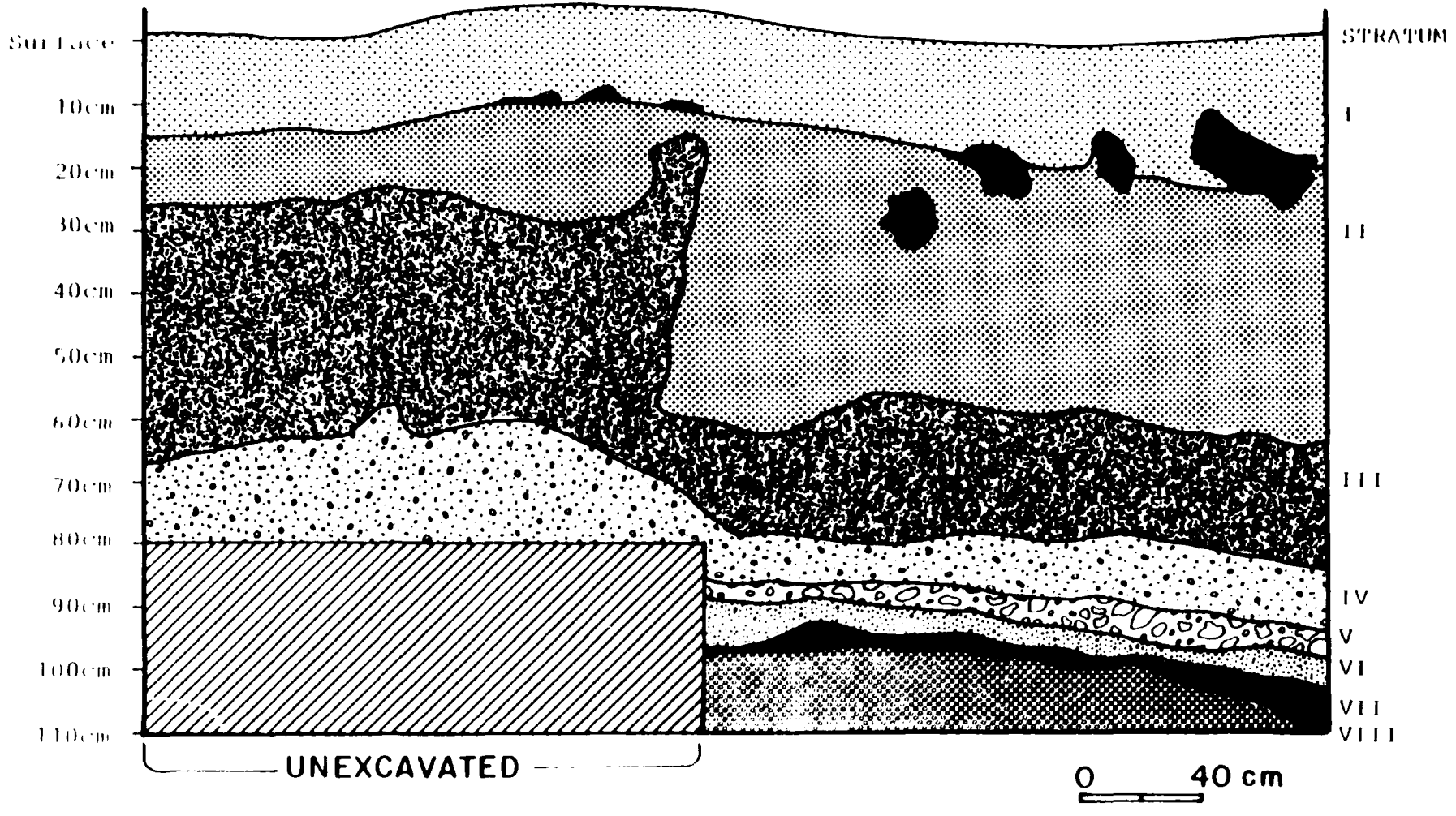


Figure 24. Profile drawing of 16 IV 147, Excavation Unit No. 1, north wall.

Figure 24, Continued.

KEY

Stratum I: Light yellowish brown 10 YR 6 4 silty clay loam with moderate plow disturbance and clay inclusions

Stratum II: Yellowish brown 10 YR 5 4 clay silt loam with clay inclusions

Stratum III: Dark gray 10 YR 4 1 clay loam with silty loam mottling

Stratum IV: Gray 10 YR 5 1 clay loam with brick fragments

Stratum V: Reddish yellow 7.5 YR 6 6 crushed brick rubble

Stratum VI: Pale brown 10 YR 6 3 silt loam with a low density of brick fragments

Stratum VII: Dark gray 10 YR 4 1 clay loam

Stratum VIII: Grayish brown 10 YR 5 2 silt loam

associated artifactual remains and the disturbed nature of the feature in this area.

Excavation Unit 2 was located normal to the brick alignment at Feature 202, and was designed to expose a larger portion of the feature, to retrieve stratigraphic information, and to obtain associated artifactual materials. Figure 25 is a plan of Unit 2 at the surface. The brick alignment is partially exposed near the center unit together with brick rubble in a matrix of clayey silt. A lens of mortar occurs north of the brick alignment and is imbedded within a matrix of burned clay. Subsequently, the silty clay overburden was removed from the southern portion of the unit and revealed an extensive mass of brick rubble (Figure 26). Some fragments clearly derive from a second coarse of bricks along the central alignment, while others derive from an unidentified structural component. The zones of burned sandy clay and burned clay in the northern one-half of the unit were cleaned and mapped, and a 50 cm x 50 cm section (Figure 26, diagonal lines) was taken down near the brick alignment. The South Wall stratigraphic profile of this unit is shown in Figure 27. Stratum I consists of yellowish red (5 YR 5/8) bricks which form the lower coarse of the brick alignment. The bricks exhibited traces of intensive thermal alteration, and were vitrified along the surfaces exposed in the profile. A dark yellow brown (10 YR 5/6) clayey sand (Stratum II) occurs immediately below the brick, between 10 and 15 cm below surface. Stratum II appears to be an artificially prepared bedding upon which the bricks were laid. Stratum III (15-25 cm below surface) is a black (2.5 Y 2.0) silty clay. The discoloration of this horizon appears to be related to the thermal event which has affected the entire feature. Stratum IV is a culturally sterile dark grey (2.5 Y 4/0) silty clay between 25 cm below surface and the floor of the unit at 40 cm below surface.

Excavation Unit 2 confirmed the structural integrity of the brick alignment at Feature 202 and revealed the depth to which the thermal activity affected the occupation surface. Unfortunately, additional intact structural features were not identified, and no additional artifactual remains, aside from bricks, were recovered. No further testing was conducted at 16 IV 147.

Summary

Aside from the substantial collection of artifactual remains recovered from the bankline, one architectural feature was partially preserved and recorded at 16 IV 147. Subsurface testing at Feature 202 suggested that additional cultural remains may be present within a small area along the cutbank and terrace of the Mississippi River. Elsewhere, this occupation surface appears to have been completely eroded from the batture. Testing at 16 IV 47

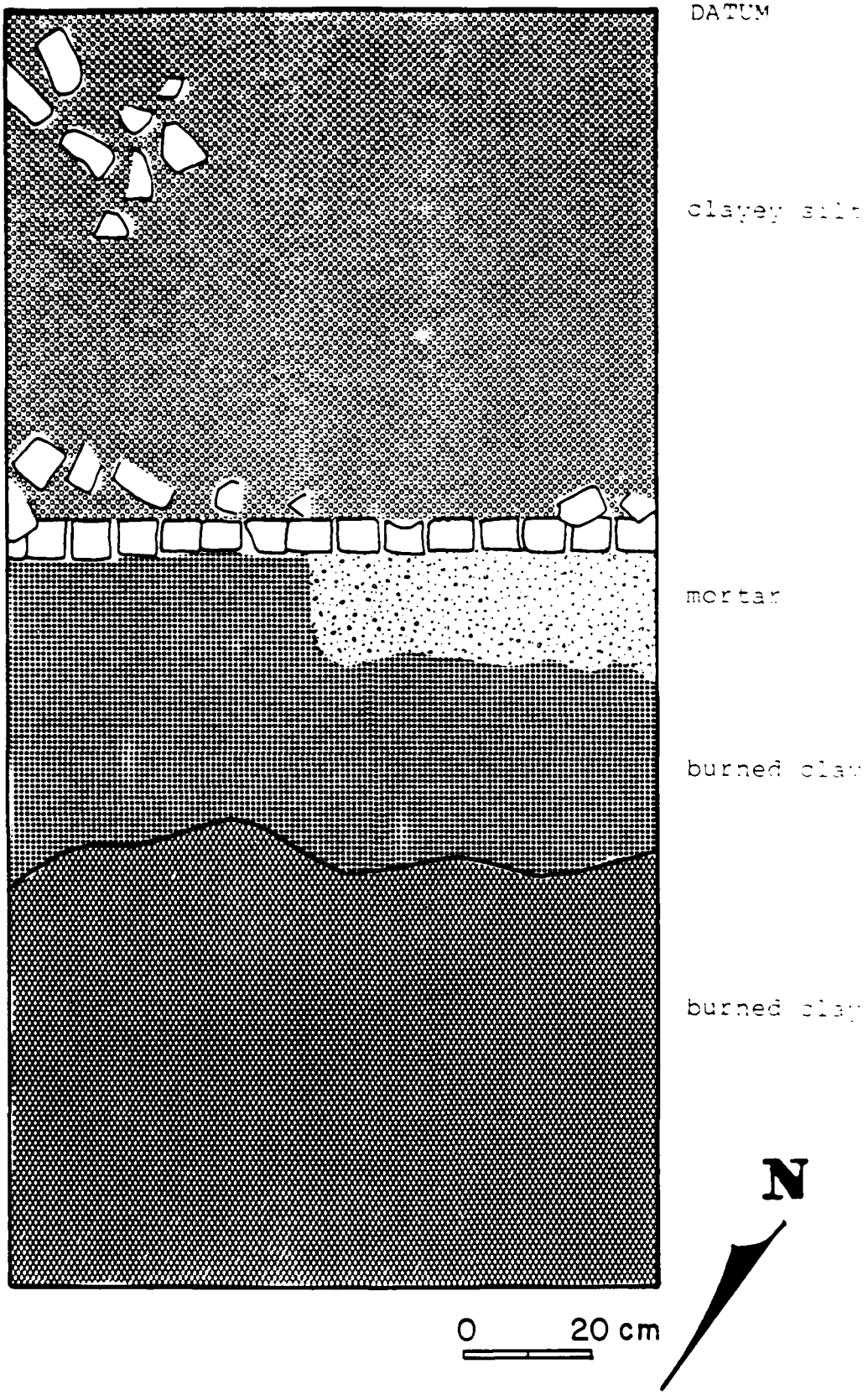
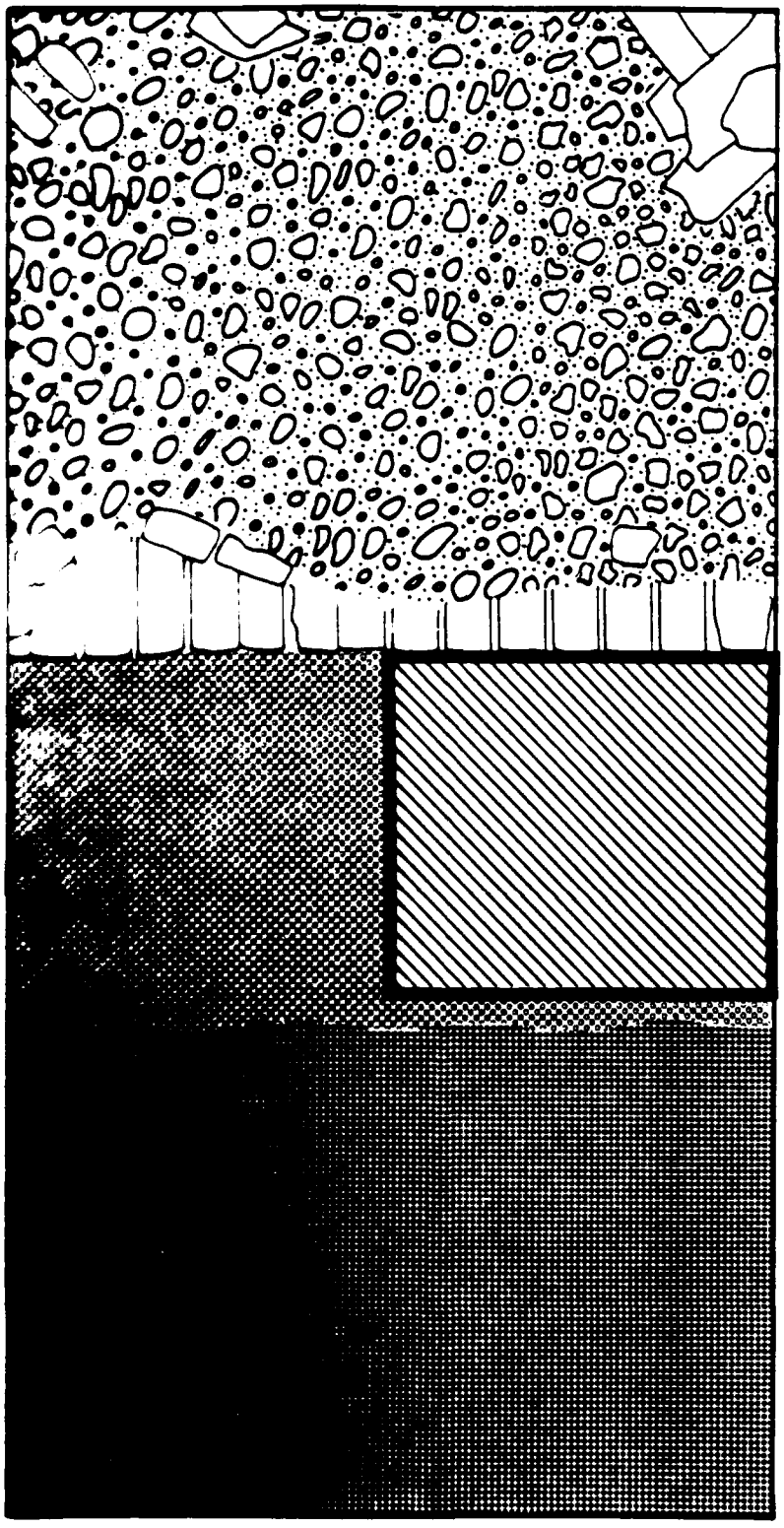
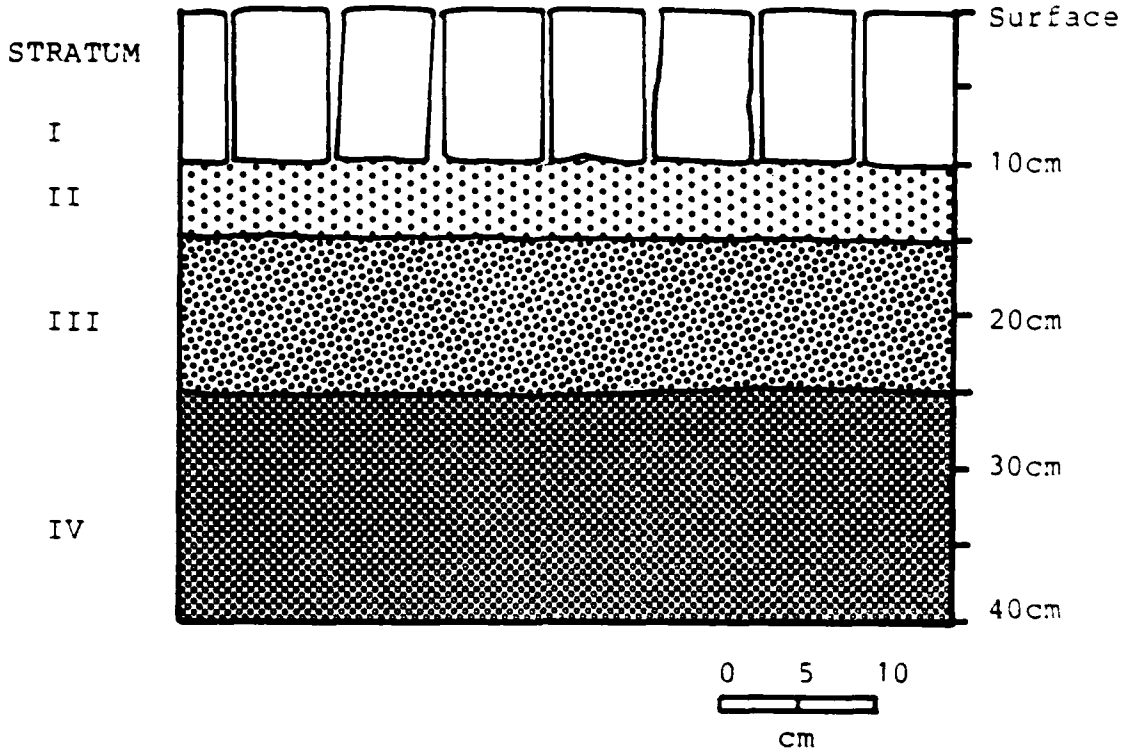


Figure 25. Plan of Excavation Unit 2 at surface.



...n Unit 2 showing the location of
...rned clay, and the 50 x 50 cm test



KEY

Stratum	I:	Yellowish red (5 YR 5/8) soft brick
Stratum	II:	Dark yellowish brown (10 YR 5/6) fill
Stratum	III:	Black (2.5 Y 2/0) burned silty clay
Stratum	IV:	Dark gray (2.5 Y 4/0) silty clay

Figure 27. Profile drawing of 16 IV 147, Excavation Unit No. 2, deep test, south wall.

failed to yield an artifactual assemblage which could be associated with the brick feature or the related occupation surface. It is entirely possible, however, that such remains may still be present at the Feature 202 locality.

White Castle Site 3 (16 IV 148)

Site 16 IV 148 is located about 1.1 km downriver from the White Castle ferry landing. It consists of two small surface scatters within an area measuring approximately 10 x 30 cm (Figure 28). Here, artifacts were present along the bankline of the Mississippi River, and consisted of a small collection of historic ceramics and glass as well as a few aboriginal ceramic sherds. No intact cultural deposits were observed along the bankline at this locality. One hundred per cent of all surface remains were collected. A total of seven shovel tests were excavated along three rays extending from the center of the concentration. No cultural remains were encountered. One auger test (Figure 29) located at the site datum and excavated to a depth of 70 cm, revealed a series of culturally sterile silty clays. In sum, no intact cultural remains were identified at 16 IV 148, and the site appears to be destroyed by the lateral erosion of the river.

White Castle Site 4 (16 IV 149)

Site 16 IV 149 is located approximately 1.2 km downriver from the White Castle ferry landing. It consists of a surface scatter of historic ceramics, glass, brick, and coal along the bankline, forming an irregular area measuring about 40 x 30 m (Figure 30). One hundred per cent of the surface remains were collected from the bankline. In addition, cultural remains were observed eroding from the cutbank (Lower Terrace, Figure 30), located about 20 m from the low water line. The bankline of the Mississippi River at 16 IV 149 is considerably eroded. However, the presence of several trees at the Upper Terrace edge appears to have impeded erosion in the vicinity of Profile A (Figure 31). Immediately landward of the Upper Terrace, a road [illegible] has been graded parallel to the river along the bluffline. This dirt access road, and the [illegible] grading and [illegible] clearing [illegible] tree removal [illegible], effectively [illegible] the [illegible]

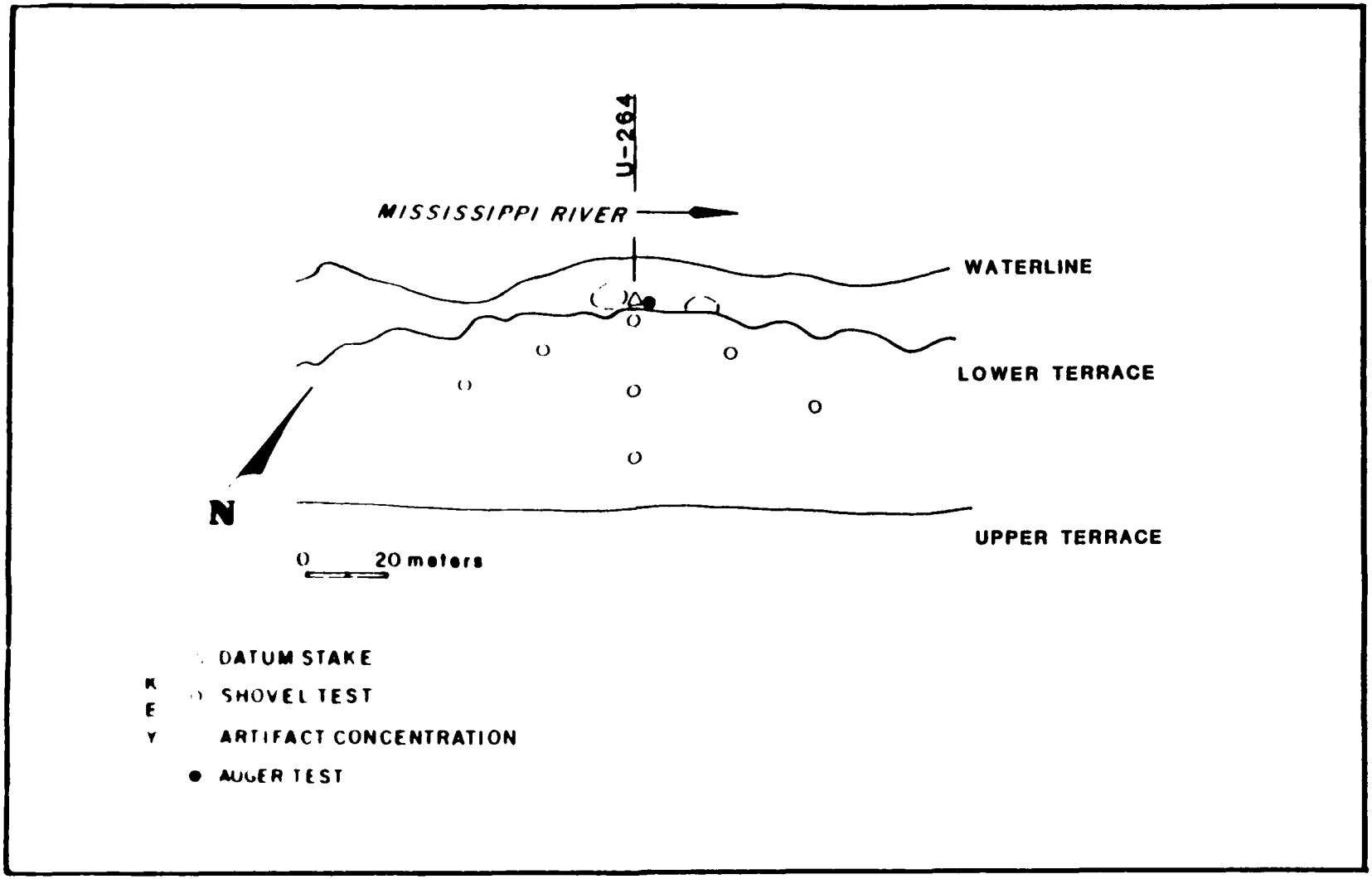
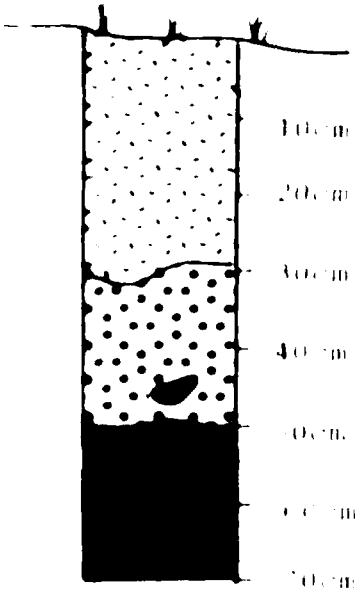


Figure 28. Site plan of 16 IV 148.



KEY

Stratum I: Dark grayish brown (10 YR 4/2) silty clay

Stratum II: Grayish brown (10 YR 5/2) silty clay

Stratum III: Brown (10 YR 5/3) silty clay

Figure 29. Profile drawing of 16 IV 148 auger test.

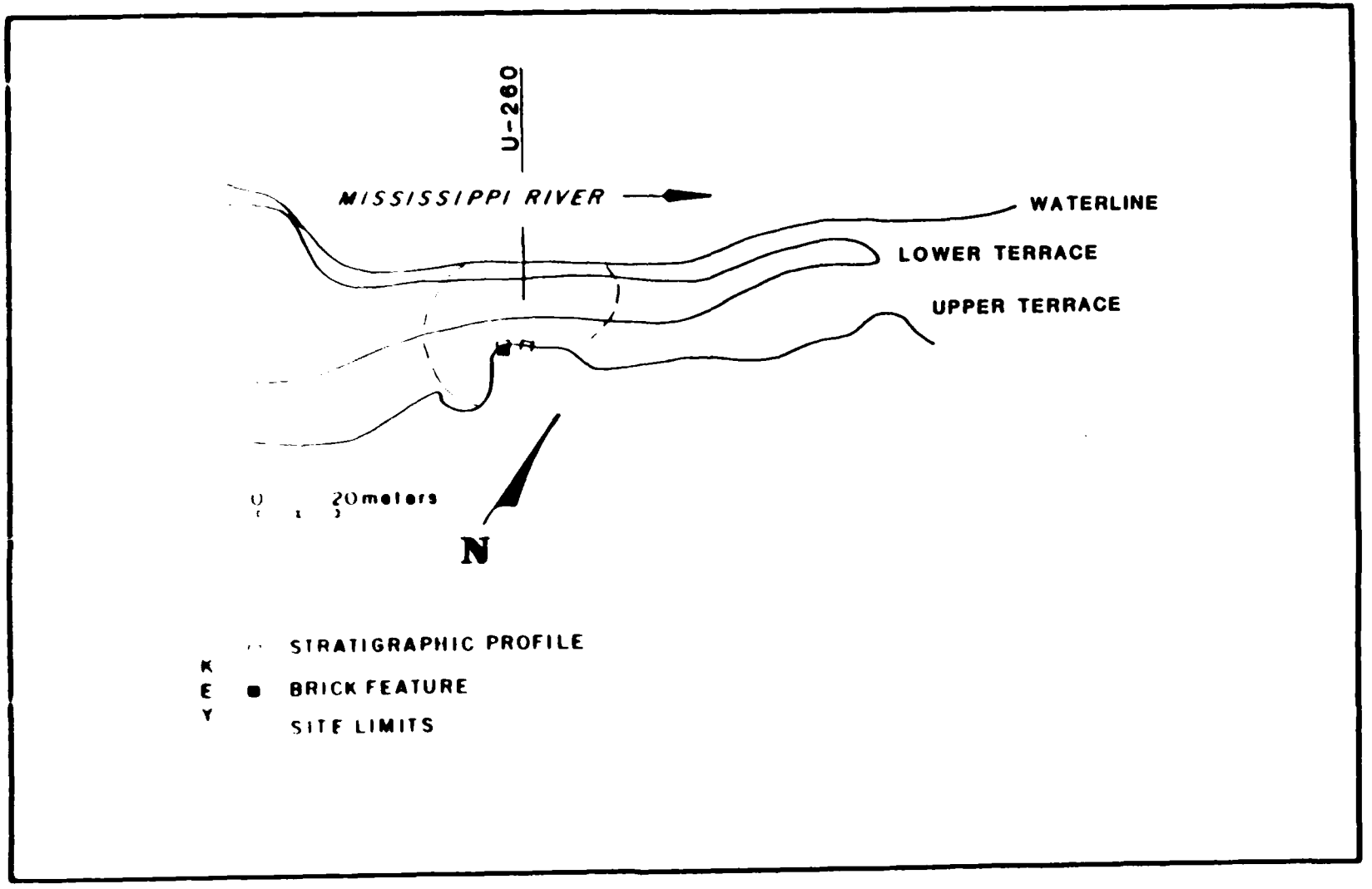


Figure 30. Site plan of 16 IV 149.

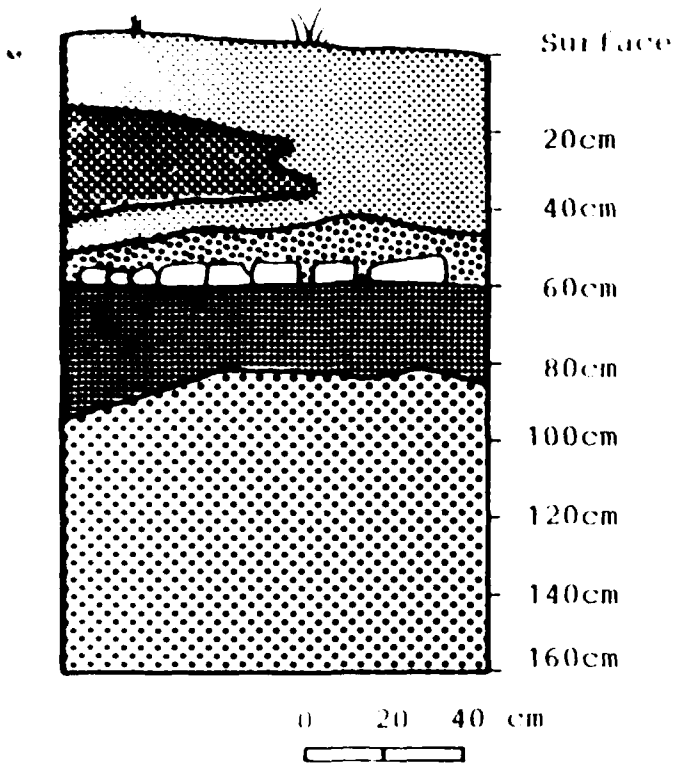


Figure 31. Stratigraphic Profile A, upper cutbank, 16 IV 149.

Figure 31, Continued.

KEY

Stratum	I:	Dark grayish brown (10 YR 4/2) silty clay loam
Stratum	II:	Grayish brown (10 YR 5/2) silty clay loam
Stratum	III:	Very dark grayish brown (10 YR 4/2) silty clay loam
Stratum	IV:	Brown (10 YR 5/3) clayey loam
Stratum	V:	Grayish brown (10 YR 5/2) clayey loam

linear strip, held in place by tree roots, and bounded on oneside by the Mississippi River and on the other by a road. For these reasons, the clearing and mapping of profiles along the cutbank was the testing modality selected for 16 IV 149. Two stratigraphic profiles were cleaned and mapped along the Upper Terrace at this locality. Profile A (Figure 31) was located at the point where a level of articulated bricks was observed. Stratum I, between 0 and 48 cm below surface, is a culturally sterile dark greyish brown (10 YR 4/2) silty clay loam. Stratum II is a greyish brown (10 YR 5/2) silty clay loam between 24 and 42 cm below surface, and appears in profile as a lens contained within Stratum I. Stratum III is a dark greyish brown (19 YR 4/2) silty clay loam between 42 and 60 cm below surface. The brick level occurred at the base of this stratum. Stratum IV is a culturally sterile brown (10 YR 5/3) clayey loam between 60 and 85 cm below surface, and it overlies a grayish brown (10 YR 5/2) clayey loam (Stratum V) from 85 cm to the base of the profile at 160 cm below surface.

After Profile A was cleaned and mapped, a small portion of the wall above Stratum III was removed to expose the brick level in plan. An intact brick floor was encountered; however, additional probe testing indicated that the floor did not cover more than about a 1 x 1 m area, at least in this area of the site.

Profile B was located about 5 m downriver from Profile A (Figure 32) where a variety of artifactual remains were observed eroding from the Upper Terrace. The profile was one meter in width and was excavated to a depth of 120 cm below surface. Stratum I, between 0 and 25 cm below surface, is a greyish brown (10 YR 5/2) silt loam containing crushed brick fragments, charcoal flecks, and fragments of coal. Stratum II, a thin lens between 25 and 30 cm below surface, is a light brownish grey (19 YR 6/2) silt loam which contains a few scattered brick fragments. Stratum III, between 30 and 38 cm below surface, contains a dense concentration of cultural remains within a matrix of dark grey (10 YR 4/1) silty clay loam. A number of brick fragments, charcoal, faunal elements, coal, ceramics, and glass were identified in this stratum. Stratum IV, between 38 and 50 cm below surface, is a dark greyish brown (10 YR 4/2) clayey silt loam containing scattered coal and charcoal fragments. Stratum V, a grey (10 YR 5/1) silty clay loam, extended from 50 to 97 cm below surface. It contained scattered charcoal and brick fragments. Stratum VI is a dark greyish brown (10 YR 4/2) silty clay loam containing large fragments of charcoal, coal, and brick fragments. Inspection of the cutbank between Profiles A and B indicated that Stratum VI correlates with the level of the brick floor cleared at Profile A. Stratum VI was located between 97 and 108 cm below surface. A culturally sterile dark grey (10 YR 4/1) was present between 108 cm below surface to the base of the profile at 120 cm below surface.

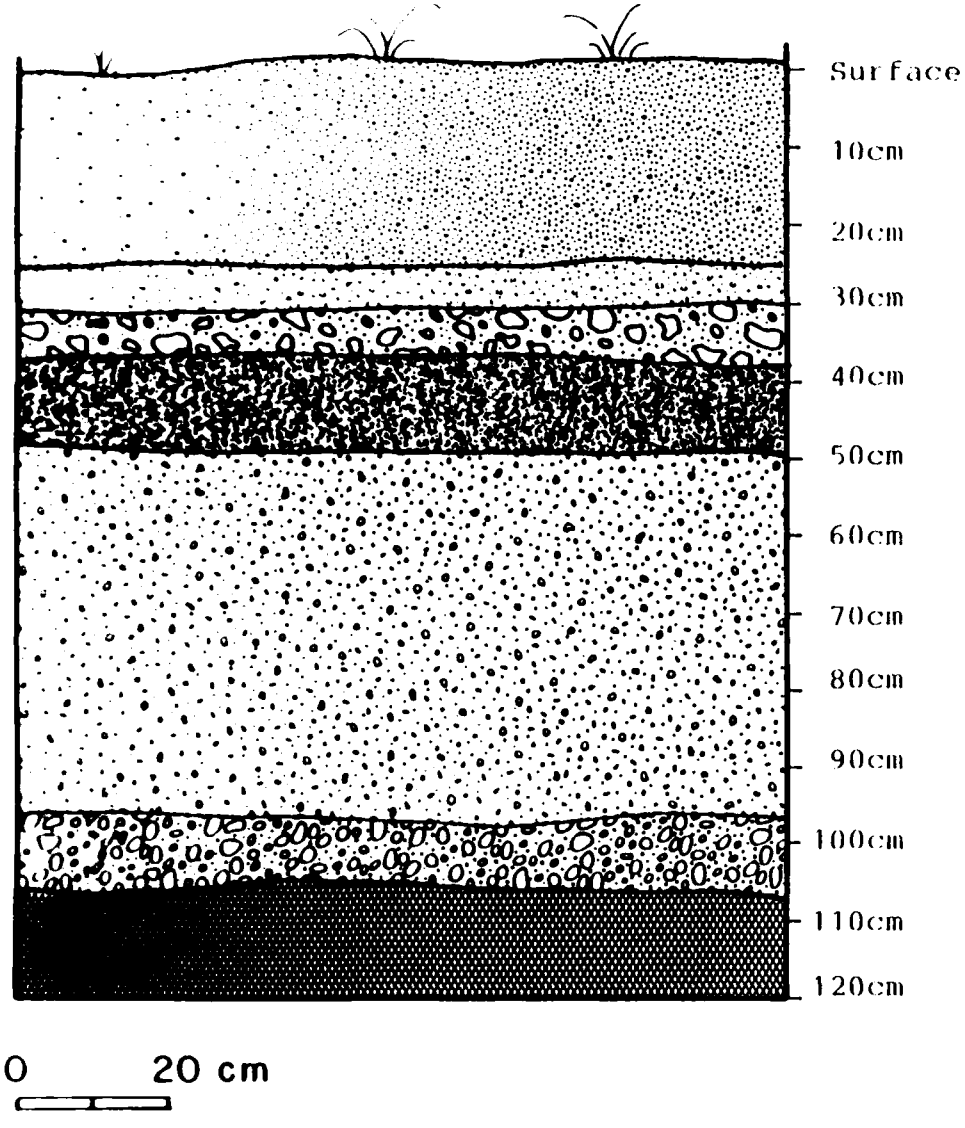


Figure 32. Stratigraphic Profile B, 16 IV 149.

Figure 32, Continued.

KEY

Stratum	I:	Grayish brown (10 YR 5/2) silt loam with brick fragments, charcoal flecks and coal.
Stratum	II:	Light brownish gray (10 YR 6/2) silt loam with scattered brick fragments
Stratum	III:	Dark gray (10 YR 4/1) silty clay loam with brick fragments, charcoal, bone, shell, coal, ceramics and glass
Stratum	IV:	Dark grayish brwon (10 YR 4/2) clayey silt loam with coal and charcoal
Stratum	V:	Gray (10 YR 5/1) silty clay loam with charcoal and brick fragments
Stratum	VI:	Dark grayish brown (10 YR 4/2) silty clay loam with large brick fragments, charcoal flecks and coal
Stratum	VII:	Dark gray (10 YR 4/1) sterile clay loam

Although much of site 16 IV 149 is considerably eroded, stratigraphic profiles cleaned along the Upper Terrace suggest that a band of intact cultural deposits may have survived; the nature and research potential of those deposits cannot be determined without additional testing. It is possible that additional structural remains and associated refuse deposits still may be present at 16 IV 149. Nevertheless, both the small size and the fragility of the site are salient factors to be considered prior to additional testing. Such testing, however limited, has the potential to destroy the last in situ vestiges of 16 IV 149, and thus knowledge of the nature of the site. This issue is discussed further in Chapter IX of this report.

White Castle Site 5 (16 IV 150)

Site 16 IV 150 is located approximately 1.4 km downriver from the White Castle ferry landing. The site consists of a small collection of historic ceramics, glass, metal, and brick fragments along the bankline and the first low terrace of the Mississippi River (Figure 33). Artifacts were distributed over an elliptical area measuring about 25 x 60 m. Bankline inspection failed to reveal the presence of intact cultural deposits from which surface material may have been derived. One hundred per cent of the surface remains were collected. A total of six shovel tests were placed within a heavily vegetated area above the cutbank, all of which proved to be devoid of cultural remains. One auger test (Figure 34), excavated to a depth of 110 cm, was located at the site datum. The test revealed a series of culturally sterile silty clay loams. Like 16 IV 148, this site appears to have been entirely destroyed through lateral erosion of the bankline.

White Castle Site 6 (16 IV 151)

Site 16 IV 151 is located about 1.3 km downriver from the White Castle ferry landing. The site consists of a surface scatter of historic ceramics, brick, and metal along the bankline of the Mississippi River (Figure 35). In addition, a few aborignal ceramic artifacts were present at the site. The site has an irregular configuration measuring about 30 x 30 m. Bankline inspection did not reveal the presence of cultural deposits from which either the historic or prehistoric component of 16 IV 151 could have derived. A total of seven shovel tests were placed along three rays originating from a point above the cutbank landward of the surface concentration. All tests were devoid of cultural remains. One auger test (Figure 36), placed at the site datum, was excavated to a depth of 105 cm below surface. Here, a series of overbank deposits were defined, none of which contained cultural material. No intact cultural deposits appear to survive

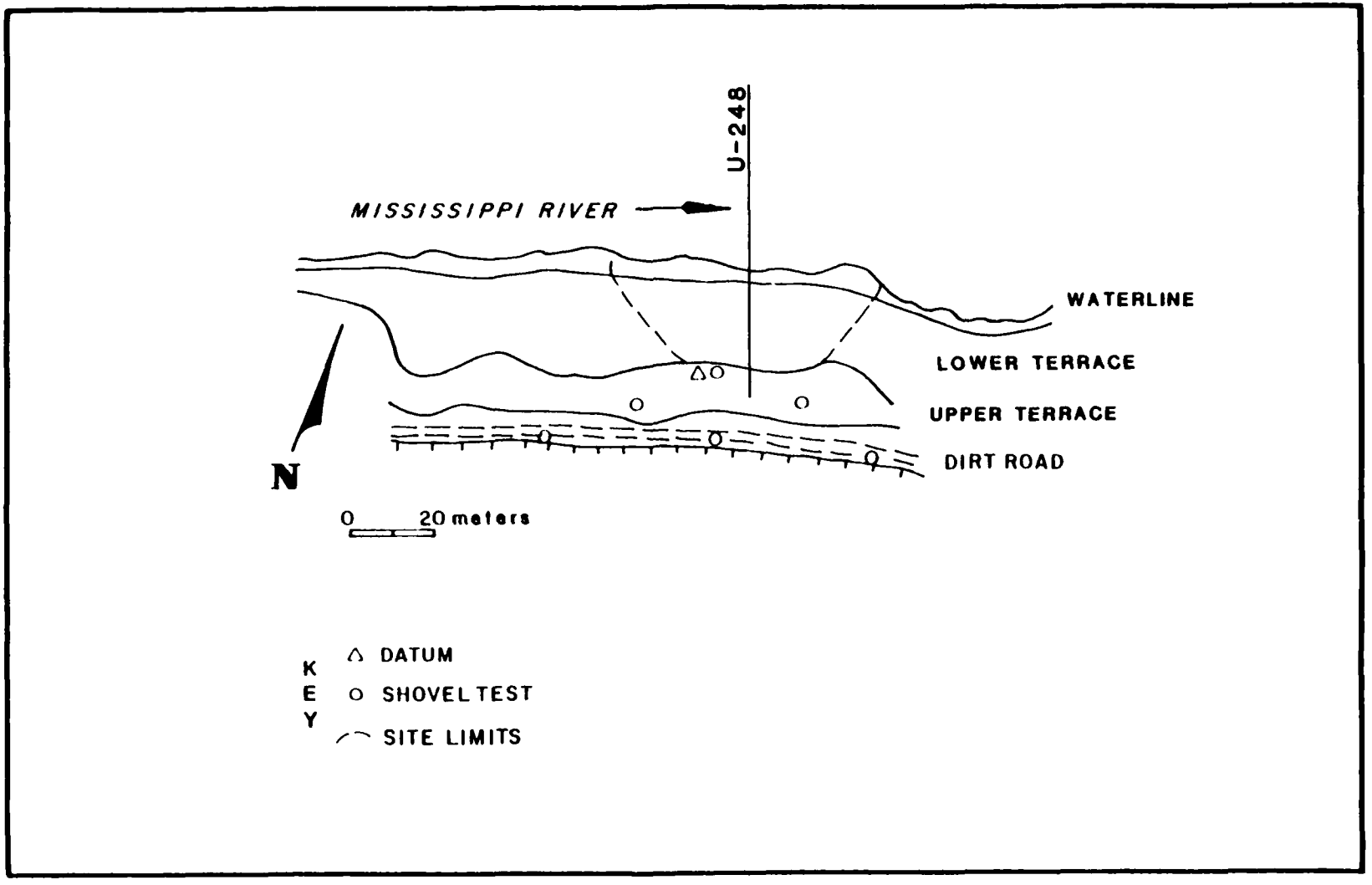
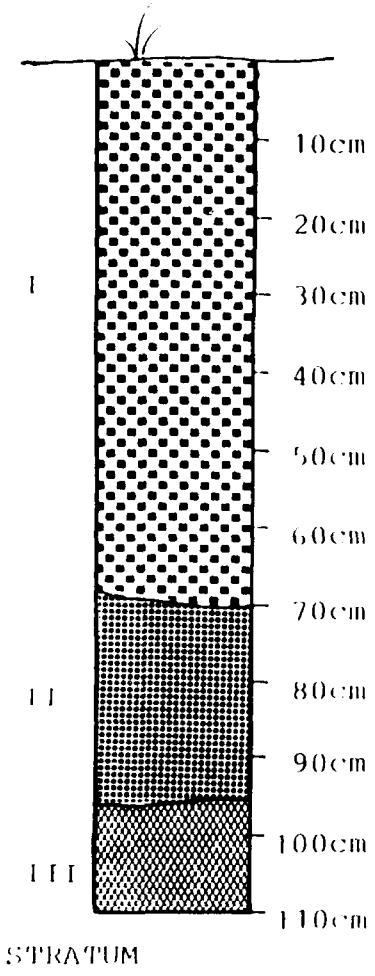


Figure 33. Site plan of 16 IV 150.



KEY

Stratum I: Grayish brown (10 YR 5/2) silty clay loam
Stratum II: Gray (10 YR 5/1) silty clay loam
Stratum III: Dark gray (10 YR 4/1) silty clay loam

Figure 34. Profile drawing of 16 IV 150 auger test.

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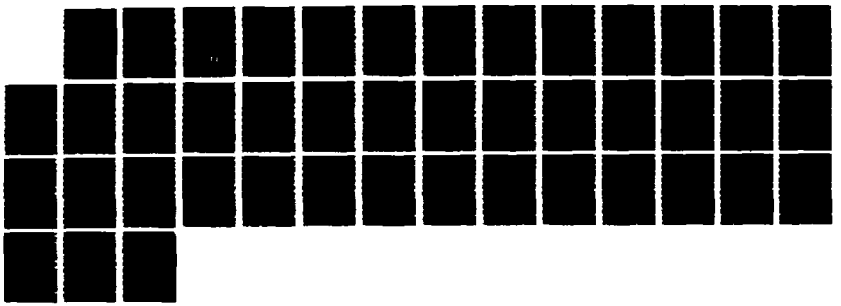


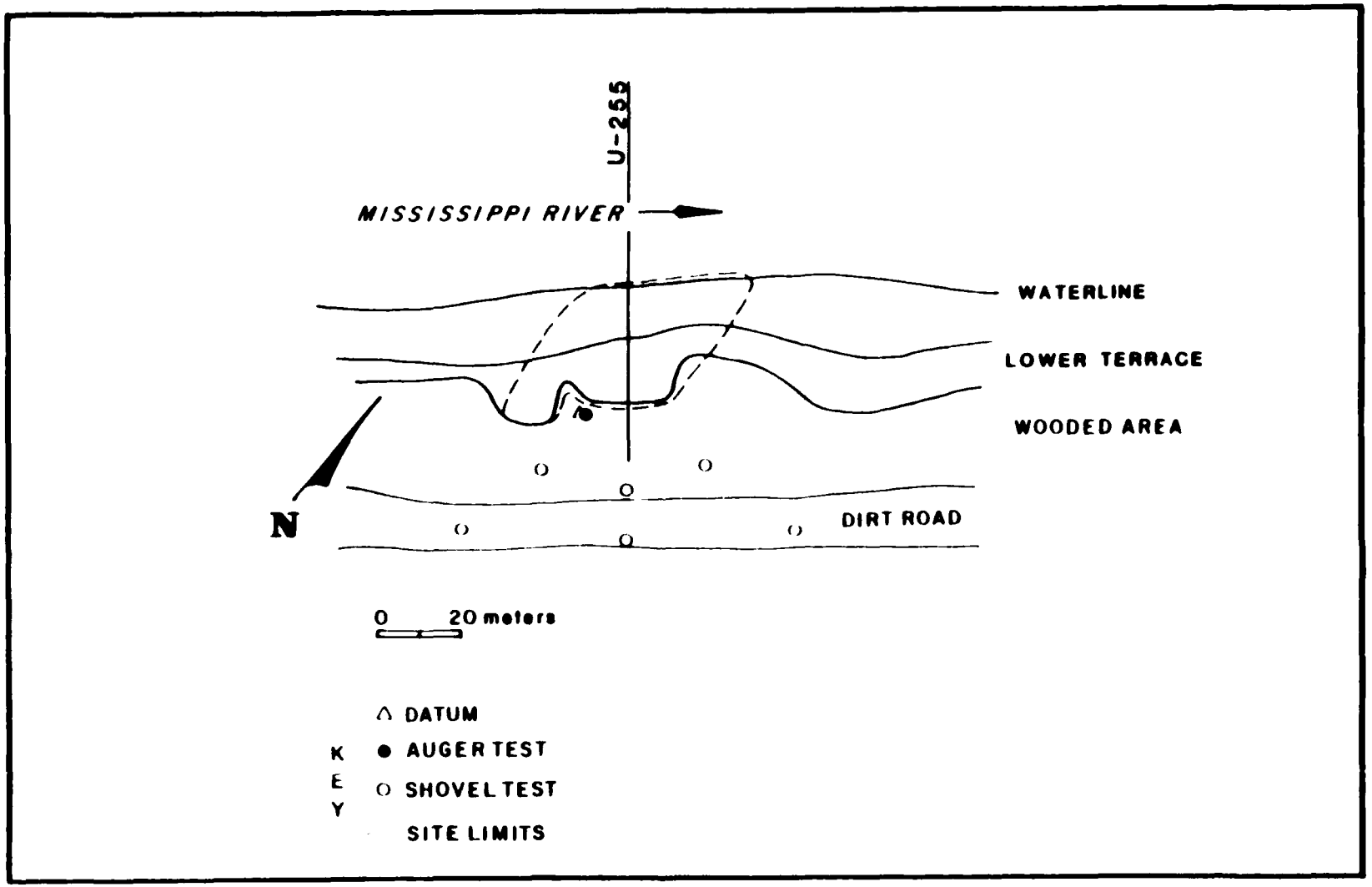
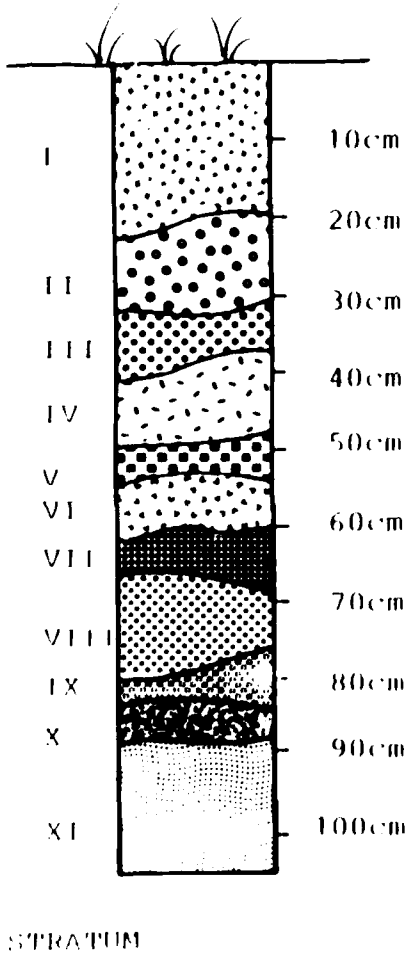


Figure 25. Site plan of 16 IV 151.



KEY

Stratum	I:	Brown (10 YR 5/3) clayey silt loam
Stratum	II:	Yellowish brown (10 YR 5/4) clayey silt loam
Stratum	III:	Dark gray (10 YR 4/1) silty clay loam
Stratum	IV:	Dark grayish brown (10 YR 4/2) silty clay
Stratum	V:	Dark gray (10 YR 4/1) silty clay loam
Stratum	VI:	Dark grayish brown (10 YR 4/2) silty clay loam
Stratum	VII:	Dark gray (10 YR 4/1) silty clay loam
Stratum	VIII:	Gray (10 YR 5/1) silty clay loam
Stratum	IX:	Dark gray (10 YR 4/1) clayey silt loam
Stratum	X:	Gray (10 YR 6/1) silty clay loam
Stratum	XI:	Gray (10 YR 5/1) clayey silt loam

Figure 36. Profile drawing of 16 IV 151 auger test.

at 16 IV 151.

Conclusions

Field investigations within the White Castle project area consisted of an intensive pedestrian survey and subsurface shovel testing program. As a result of this initial survey, a total of six sites were identified and recorded. These sites are located at or near the bankline of the Mississippi River. They consist overwhelmingly of eroded deposits of historic cultural material, although a few aboriginal ceramic artifacts were collected from three of the sites (16 IV 147, 16 IV 148, and 16 IV 151). However, at two sites, 16 IV 147 and 16 IV 149, cultural remains were observed actively eroding from the cutbank of the river. These deposits subsequently were found to contain materials dating from the historic period, and no intact prehistoric components were identified or recorded.

Auger tests, stratigraphic profiles, and 1 x 2 meter test excavation units were executed at 16 IV 147. One architectural feature was recorded and the possibility for the recovery of additional intact features and associated remains is considered likely, though not documented during the present testing effort. Two stratigraphic profiles were cleaned and mapped at 16 IV 149. These revealed the presence of one partially preserved architectural feature and associated refuse deposits. While much of the site appears to have been lost to lateral erosion, significant intact deposits may still be present.

Lateral migration of the river has destroyed the contextual integrity of the remaining cultural resources recorded during this survey, which were found eroded and deflated onto the bankline of the river. Aside from the surface collections retrieved during this study, and the associated locational data, these sites are not considered to have further research potential.

CHAPTER VII

ARTIFACT ANALYSIS

Introduction

Laboratory analyses of historic archeological remains from White Castle were designed to augment the archival, historical, and field observations in the evaluation of the present condition of the sites and their research value and significance in terms of the National Register of Historic Places criteria. In particular, laboratory analyses focused on the chronological and functional parameters of site occupation, and on the evaluation of the contextual integrity of remains recovered from subsurface testing.

Laboratory procedures and results, including summaries of analyses of ceramics, glass, metal and miscellaneous artifacts, are presented below. Artifacts were washed and separated according to type. Ceramics and glass were described using formal archeological classification. Metal and miscellaneous artifacts were identified and described wherever their condition permitted; these classes of artifacts received less formal classificatory attention than did the more time-sensitive artifact classes of ceramics and glass. Ceramics also were dated using the South's (1977) Mean Ceramic Dating method, as modified by Yakubik (Goodwin, Yakubik, and Gendel 1984).

Ceramic Artifacts

Primarily eighteenth and early nineteenth century artifacts were recovered during the White Castle survey. Although archeological classification of eighteenth century Anglo-American ceramics is fairly coherent and well developed (Noel Hume 1970), there is no comprehensive typology of nineteenth century ceramics. South (1974) presented a taxonomy of nineteenth century ceramic types; however, South's taxonomy is not especially sensitive either to technological developments or to relationships between certain nineteenth century types. Miller (1980) suggests that classification of nineteenth century ceramics should be based on decorative type and on form. However, this method obscures or ignores both variability in paste and important chronological information. Recently, Worthy (1982:-329) suggested that classification and interpretation of late nineteenth and early twentieth century ceramics should integrate technology, form, function and decoration. However, in collections with a high percentage of small sherds unidentifiable as to former function and form, this approach is not practical.

In addition, there is no comprehensive classificatory system for the late eighteenth century, non-Anglo-American ceramics found in Louisiana. Noel Hume (1960, 1970:141-142) has discussed the presence of faience on Anglo American sites, and Blanchette (1981) has examined faience from primarily Canadian sites. However, none of these studies presents a detailed discussion of decorative types. Also, a large proportion of Louisiana's late eighteenth century ceramic assemblages consist of coarse red colored earthenwares (Goodwin, Yakubik and Goodwin 1984). While Barton (1981) has conducted a noteworthy study of mid-eighteenth century coarse earthenwares from the Fortress of Louisburg, these ceramics predate the pottery found at Louisiana's Spanish colonial period sites. Then too, Du Manoir noted the suitability of Louisiana's clays for pottery manufacture as early as 1721, and in that year requested that potters and tools be sent to the colony (Cruzat 1919:166). Bricks were manufactured on the Chapitoulas coast as early as the 1720s. Thus, it seems likely that Louisiana had a tradition of local pottery manufacture by the late eighteenth century.

Because of the need for a comprehensive yet flexible formal classification of nineteenth and twentieth century Anglo American ceramics, the discussion following presents a formal classificatory description of the ceramics recovered from White Castle. The approach used here is a paradigmatic classification (Dunnell 1971:84) that is the product of the combination of unweighted classes of paste, glaze, and of decorative type (Yakubik 1980). This method provides more complete definition of ceramic types than now exists; it facilitates the handling of ambiguous and transitional ceramic types; and, it provides information concerning both chronology and social stratification. This approach has proven useful with collections from both rural and urban sites in South Louisiana (Goodwin and Yakubik 1982a; Goodwin, Yakubik and Goodwin 1983; Goodwin, Gendel and Yakubik 1983a; Goodwin, Yakubik and Gendel 1983; Yakubik 1983). In the discussion following, ceramic artifacts have been divided into groups by paste. Glaze and decorative techniques then are examined for each paste group. Ceramic artifacts from White Castle are listed by site in Table 4.

Tin Glazed Earthenware

Tin glazed earthenwares from Spain and Italy are known generically as "majolica;" those from France are called "faience;" and, those from England or Holland commonly are called "delft." Such ethnic distinctions should be avoided in those cases where the country of origin is unknown or uncertain. The paste of these ceramic types range from buff to pink or red, depending on the type

Table 4. Ceramic Artifacts Recovered from White Castle.

	16 IV 147	16 IV 148	16 IV 149	16 IV 150	16 IV 151	Total
TIN GLAZED EARTHENWARE						
Tin glazed buff colored earthenware						
Tin glazed red colored earthenware	9					9
Rouen faience (debased)	3					3
BUFF COLORED EARTHENWARE						
Buff colored earthenware, green interior glaze	2					2
RED COLORED EARTHENWARE						
Unglazed redware					1	1
Lead glazed redware	2					2
Redware, buff engobe, lead glazed interior	1					1
Redware, buff interior engobe	1					1
Redware, buff exterior engobe	1					1
Redware, buff exterior engobe, lead glazed interior	1					1
Redware, buff engobe and red trailed slip decorated, lead glazed	1					1
Redware, yellow trailed slip decoration, lead glazed interior	2					2
Redware, tortoishell glaze	2					2
Redware, dark green glaze	1					1
Salt glazed redware, grey exterior engobe	1					1
REFINED RED COLORED EARTHENWARE						
Refined redware	1					1

of clay used and its firing time and temperature. These pastes are covered with a glaze containing tin oxide, which produces an opaque, milky white color. These glazes sometimes are tinted with additional metal oxides, such as cobalt, to produce a blue opaque glaze, or copper, to produce a green opaque glaze. All of the tin glazed earthenware sherds from the White Castle survey that have been positively identified are French faience. Three sherds of "debased" Rouen faience (Noel Hume 1970:141) were recovered. This type commonly has a red to brown earthenware paste. The interior glazes of two of these sherds is a clear milky white, and that of the third sherd is tinted blue-green. The underside of debased Rouen faience vessels, however, usually was covered with an opaque manganese brown to purple glaze. Only one of the sherds is decorated. The sherd with the blue green glaze has a blue and purple hand-painted border pattern around the rim. Debased Rouen faience has been found on Anglo American sites from the time of the Revolutionary War and later; the type appears on French colonial sites prior to 1755 (Noel Hume 1960; 1970:141-2).

The remaining sixteen sherds of tin glazed earthenware also are thought to be faience. This classification is based on the thick pastes and thin glazes of the sherds, which is typical of French manufacture. All have white untinted glazes. Nine have red colored earthenware pastes; the remainder are buff colored earthenware. All of the tin glazed earthenware sherds were recovered from 16 IV 147.

Red Colored Earthenware

Red colored earthenware has a distinctive paste color ranging from a deep red-brown to orange and to pink, due to the presence of iron compounds in the clay. Color varies with the amount of impurities in the clay and with the firing temperature. Fired at low temperatures, the body is usually light and porous. Complete vitrification cannot be achieved with pure earthenware clays. As a result, red colored earthenware tends to be more fragile than stonewares or porcelains (Rhodes 1973:47).

Because of the ready availability of red-colored earthenware clays in most areas and due to its ability to be fired at low temperatures (earthenware becomes hardfired between about 950-1100 degrees C, viz Rhodes 1973:22), redware for utilitarian use was produced commercially in many regions of the United States from the mid-eighteenth century onwards. Consequently, this type is relatively undiagnostic for dating purposes. As noted above, early in the colonization of Louisiana, it was noticed that the local clays were suitable for pottery manufacture. Bricks were manufactured on the Tchoupitoulas Coast of present day Jefferson Parish as early as the 1720s, and it is likely that redware ceramics

were manufactured elsewhere in Louisiana at a relatively early date, as well. These coarse, utilitarian, locally-produced, wheel-thrown vessels may have been the ceramics that were most readily available to the early colonists in the period prior to the wholesale importation of mass-produced British ceramics. Seriation of the ceramic subassemblage from Elmwood Plantation supports this hypothesis (Goodwin, Yakubik and Goodwin 1984). Redware continued to be produced throughout the nineteenth century for utilitarian purposes.

With the exception of one unglazed sherd, all of the redware from White Castle was found at 16 IV 147. Since the ceramic is porous, it usually received a glaze on one or both surfaces to render it impermeable to liquids. Redware often was glazed with a clear lead glaze on one or both surfaces. Two sherds from White Castle had multi-colored tortoishell glazes on both surfaces. One other sherd was covered with a heavy, thick, dark green glaze. Frequently, redwares were covered with an engobe (a layer of slip used to change the surface color of ceramic body). Redwares also were found with an engobe, or slip, as the only surface treatment. Colored engobes were obtained by the addition of metal oxides (Rhodes 1973:252). Colored slips trailed onto the ceramic body constituted the only form of decoration on redware from 16 IV 147.

One extremely unusual redware sherd was recovered from 16 IV 147. The exterior was covered with a grey engobe and then salt glazed. Salt glazes are typically found on stoneware, although salt glazed redware was produced in the South between 1825-1850 (Ramsey 1947:128). The grey engobe is unusual; it appears that the potter was attempting imitate grey salt glazed stoneware.

Refined Red Colored Earthenware

Refined red earthenwares were popular during the late eighteenth century. These ceramic bodies are much finer, thinner, more compact, and free from inclusions than the coarse utilitarian redwares previously discussed. Refined redwares frequently exhibit engine-turned decoration and a clear lead glaze. Another type of refined redware is "Astbury ware," a fine, turned red earthenware with a lead glaze that has a red brown surface appearance. White kaolin pipe clay was used for sprigged decoration on this type (Noel Hume 1970: 122-123). Since it was widely copied, "Astbury," named after John Astbury, one of its manufacturers, is used as a generic term.

One sherd of refined red earthenware was recovered from 16 IV 147. This was a finely molded foot of a small bowl. The sherd was covered with a lead glaze. No other examples refined redware were recovered from White Castle.

Buff Colored Earthenware

Like red colored earthenware, buff colored earthenware is a coarse utilitarian earthenware type. The body is light and porous; consequently, it usually receives a glaze to render it impermeable to liquids. The type is not diagnostic for dating purposes.

Two sherds of buff earthenware were recovered from 16 IV 147. Both had an apple green interior glaze. The exteriors of both sherds were left unglazed.

Cream Colored Earthenware

A cream colored earthenware ceramic body was perfected by Josiah Wedgwood and Thomas Whieldon in 1759. Creamware, a type of cream colored earthenware, was perfected by Wedgwood ca. 1762. This development contributed to England's increasing control of the world ceramic tableware market (Miller 1980). Creamware consists of a refined, thin, cream colored earthenware body with a clear lead glaze tinted with copper oxide. Creamware was popular through the end of the eighteenth century and into the first two decades of the nineteenth century. It was imported to the American colonies at least as early as the late 1760s.

Although several different decorative techniques, such as mocha, annular decoration and overglazed hand-painting, were applied to creamware, it frequently was left undecorated. Undecorated creamware was recovered from 16 IV 147, 16 IV 149, and 16 IV 150. One sherd with a bright yellow glaze was recovered from 16 IV 147.

By 1779, Wedgwood had developed pearlware from creamware. Although pearlware differs from creamware in the amount of flint in the paste (Noel Hume 1969:390; 1970:128), the bodies of pearlware and of creamware are virtually identical. The major distinction between these two types is their glazes (Noel Hume 1969:395). The pearlware glaze is tinted with cobalt oxide, and it pools blue in crevices. While the copper tinted glaze of creamware gives a yellowish appearance, cobalt has the effect of whitening pearlware. Like creamware, pearlware was popular through the first two decades of the nineteenth century.

Unlike creamware, pearlware usually was decorated. Annular decoration was common on pearlware bowls and mugs. Annular decoration consists of horizontal bands of multi-colored slips. Shell-edged pearlware, or pearlware decorated with feathery

inward brush strokes in blue or green, also were popular. A similar blue and green edged pearlware type had rims embossed with garlands, leaf-like motifs, beads and a variety of other patterns. These embossed blue and green edged pearlwares were popular after 1800. Zones of swirled colored slips, usually combined with annular decoration, produced a decoration known as "finger-painting." Hand-painting, in both monochrome and polychrome colors, also was popular. Earlier examples of this latter type (ca. 1795-1815) utilized softer pastels; later examples (ca. 1815-1835) utilized directly stenciled floral patterns and bright colors (Noel Hume 1970:129).

Most frequently, pearlware received transfer-printed decoration, usually in blue. Earlier examples of blue transfer-printed pearlware have a grey cast, while later examples utilize a blue with a purple tone. The very latest examples, especially the blue transfer printing found on white colored earthenwares (see below), used lighter "washed out" looking shades. Often transfer printed pearlware sherds can be identified by rim pattern even if no maker's mark is recovered. Although plate patterns were widely copied, rim patterns for the most part are diagnostic (Cameh 1916). All of the above types were represented in the White Castle collections. No pearlware was found at site 16 IV 148.

White Colored Earthenware

White colored earthenware resulted from the introduction of small amounts of cobalt to the ceramic paste, a development that had occurred by the early nineteenth century. Over time, the body of these ceramic vessels became thicker and coarser, and the net result of these changes distinguishes white colored earthenware from cream colored earthenware. During the first quarter of the nineteenth century, this white colored earthenware often was covered with the cobalt-tinted glaze typical of pearlware (Sussman 1977:105-106). Also found during this time period are cream colored earthenwares with very lightly tinted pearlware glazes, and white colored earthenwares with a copper tinted creamware glaze. Decorative techniques and motifs typical of pearlware were used on these transitional types. One sherd of black transfer-printed white colored earthenware with a pearlware glaze was found at site 16 IV 149.

The use of copper and cobalt additives in glazes gradually was reduced, and at the end of the first quarter of the nineteenth century a ceramic type with a white colored earthenware body and with a transparent alkaline glaze appeared. This type commonly is called whiteware. A similar ceramic type developed in the mid-nineteenth century in England and in the United States has been called ironstone, stone china, or granite ware. It also has a

refined white colored earthenware body (this should not be confused with Mason's patented Ironstone China of 1813). While Worthy (1982:335-337) classifies ironstone as a white stoneware, she also states that it is "almost vitreous," which precludes it being a true stoneware since stonewares by definition are vitrified. Worthy (1982) is correct in stating that late ironstones are easily distinguishable from whitewares. However, distinctions at mid-nineteenth century are less clear. Although some practitioners (Noel Hume 1970:130; South 1977:211) distinguish ironstone from whiteware, and while it seems likely that there are sufficient differences between these types in terms of body composition, body permeability, body thickness, decoration, and color to warrant their segregation, it also is clear that these differences are poorly understood at the present time. As with pearlware and whiteware, the differences between whiteware and ironstone form a continuum rather than constituting distinct types after the time of ironstone's introduction. There is little agreement in the literature on the criteria that distinguish these types. Other authors have used a unicameral classification for them (South 1974; Nicholson 1979; Lees 1980). Barber (1902:19) states that the ceramic formula of ironstone is similar to that used in all whitewares, e.g., flint, feldspar, kaolin and ball clay. Therefore, the single classificatory unit of whiteware ironstone was used in this study for the purpose of classifying intermediate and/or indeterminate types.

Whiteware ironstone has continued in production throughout the twentieth century. Although it frequently was undecorated, as in the case of pearlware the most common decorative technique was transfer-printing. Scenic designs, both natural and romanticized, were popular until the 1850s, when undecorated ironstone came into fashion. During the later nineteenth century, floral designs were the most common transfer-printed motif on both whiteware and ironstone (Wakefield 1970:35). Black, red and blue transfer-printed whiteware/ironstone were found at sites 16 IV 149 and 16 IV 151. One sherd with overglaze decalcomania was found at site 16 IV 151. This latter type did not become popular until ca. 1900.

Ironstone, as stated above, should not be confused with Mason's patented Ironstone, which was developed in 1813. Rather, the ironstone under consideration here was developed in England ca. 1850 and it was produced at a slightly later date in the United States. Although it often is very similar in appearance to whiteware, it is helpful for chronological purposes to isolate as many true ironstone sherds as possible. Ironstone is defined as having a hard, white, often thick, ceramic body. It is not completely vitrified, but it is more vitrified than whiteware. The fractures are even and smooth. The surface of the vessels are hard and smooth, usually covered with a bluish-grey tinted glaze

which usually is opaque-looking in appearance. One sherd of undecorated ironstone was found at 16 IV 151. Undecorated ironstone was meant for durable table use, and was produced until ca. 1940.

Stoneware

Stoneware bodies range in color from a white-gray or buff to deep gray or brown, depending upon the type and quantity of impurities in the clay and on the firing temperature. Fired between 1200-1300 degrees, stoneware is smooth and stoney in appearance (Rhodes 1973:22). Stoneware first was manufactured commercially in the United States ca. 1775; after 1800, domestically-produced stoneware became very popular for utilitarian use. American stoneware generally was wheel-thrown into thick and heavy utilitarian shapes. The most common and the most attractive surface treatment of stone is salt glazing. Salt glazing is accomplished by placing the raw ceramic body in the kiln, and raising the kiln temperature until the clay matures, at which time salt is placed in the kiln firebox. The salt vaporizes and deposits on the ware (Rhodes 1973:285). The resulting glaze is thin and has an "orange peel-like" texture. Most clays can be salt glazed successfully; as noted previously, salt glaze occasionally is found on redwares. When firing was undertaken at very low temperatures, borax was added to the salt, reducing the "orange peel" texture (Rhodes 1973:286). Salt glazed stoneware frequently was undecorated, or decorated with underglaze blue hand-painting utilizing cobalt oxide. Since the salt vapors rarely reach the interior of the vessel, an Albany slip, developed ca. 1810, frequently was utilized on the interior of American made stonewares. Although other slip glazes were utilized for this purpose, the combination of salt glaze with an Albany slip is most common on nineteenth century stoneware and particularly on the grey varieties.

Five sherds of grey salt glazed stoneware were found at 16 IV 147. All of these had received a iron oxide slip prior to salt glazing, which produced a mottled brown surface. One of the sherds had a pink interior engobe.

Porcelain

Hard paste porcelain and soft paste porcelain will be discussed together because of the frequent confusion between the two pastes. Hard paste porcelain first was produced by the Chinese in the eighth century, and over time Oriental porcelain came into such great demand that by the eighteenth century Chinese potters were producing porcelain solely for export. Canton

porcelain, exported to the United States in large quantities during the first three decades of the nineteenth century, has a green-gray surface appearance, with sloppily executed blue hand-painted designs.

As a result of many Western attempts to copy the Oriental ware, soft paste porcelain was developed. The lack of technical expertise and of sufficiently plastic kaolin sources hindered production of hard paste porcelains in England and France during the eighteenth century. Soft paste differed from hard paste porcelain in the use of a number of fluxing agents, such as frit (ground glass), which lowered the firing temperature of the clay. In 1800, Joseph Spode formulated a soft paste porcelain from kaolin and bone ash. Still produced today, it is commonly referred to as bone china. Soft paste ranges in color from white to pale buff. The body is completely vitrified, but the paste is somewhat granular in texture. In cross section, there is a clear division between paste and the glaze. It is often less translucent than hard paste.

In 1709, a German at Dresden (Meissen) named Bottger produced the first western hard paste porcelain (Wynter 1971:33), and several German factories produced true hard paste porcelains during the eighteenth century (Miller and Stone 1970:90). A few English and French potteries were producing hard paste porcelain between 1768-1770 (Wynter 1971:170-174), and several Parisian factories began producing hard paste during the same time period (Wynter 1971:110-115). Many French and English factories, such as Limoges and Sevres in France, and W. T. Copeland and Sons, and Minton, both at Stoke-on-Trent in England (Kovel and Kovel 1953:171-178), acquired the expertise to produce true hard paste porcelains during the nineteenth century. The French potteries, in particular, exported large quantities of porcelain to the American market during the second half of the nineteenth century. The popularity of French porcelains in America was largely the result of the efforts of the Haviland family, and their factory at Limoges produced porcelain specifically for the American market (Ray 1974:86-87; 118-120). Relatively inexpensive undecorated porcelains also were manufactured in France for the American table; these provided competition for English and American undecorated ironstones. The first commercially successful hard paste porcelains made in the United States were not produced until ca. 1880 (Ramsey 1947:156).

Hard paste porcelain is very white, vitrified, and translucent. Made from kaolin and petunse (feldspar - potassium aluminum silicate), it is fired at a high temperature (1300-1450 degrees) and approaches glass in composition. The hard paste porcelain body has a tendency to fuse with the transparent feldspathic glaze due to the high firing temperature. Fractures

are smooth and glass-like, unlike fractures of soft paste porcelains. Barber (1902:20) suggests that distinctions between American manufactured hard and soft paste porcelains may be "arbitrary" and the two form a continuum "since the degrees of differences are often so slight that it is impossible to determine where soft paste porcelain commences and hard paste ends." Two sherds of undecorated porcelain were recovered from sites 16 IV 147 and 16 IV 149.

Glass Artifacts

At the end of the eighteenth century, the majority of glassware was blown, and the resultant product was referred to alternately as free blown, hand-blown, or as off-hand-blown glass (Lorraine 1968:35). This glassware is characterized by an asymmetrical shape and by the lack of mold seams. As an alternative to free-blown glass, bottles also could be blown into a one piece dip-mold, which shaped the body of the piece, while the shoulders, neck, and lip of the vessel were hand finished, and thus tended to be asymmetrical. Both free-blown and dip-molded bottles had to be held by some method while the bottle was finished; this was accomplished using a pontil. While the bottle was still attached to the blow pipe, the pontil rod was attached to the base with molten glass. The bottle then was struck off the blow pipe, and the lip and neck of the vessel were finished. When the pontil rod was removed, it left a pontil scar on the base. There are basically three different types of pontil scars. The first, the rough pontil, is characterized by bits of broken glass adhering to the base from where the glass-tipped pontil was broken off. The second pontil scar type is from a blow pipe pontil; it is characterized by a rough ring of glass on the bottle base. This results from using the blow pipe as the pontil rod. When the bottle is removed from the blow pipe, a ring-shaped molten neck remnant adheres to the blow pipe. This remnant then creates the ring-shaped pontil scar when the blow pipe pontil is broken off the bottle base. One bottle base with a blowpipe pontil scar was recovered from site 16 IV 149 (Table 5). The third, the sand-tipped pontil scar, resulted from the use of a glass-tipped pontil rod covered with sand; this produced a rough scar, often with sand adhering to the base (Jones 1971).

Within the first two decades of the nineteenth century, hinged molds that shaped the shoulders and the necks of the vessels as well as the body came into widespread use in the United States and England. The three-piece hinged mold had a dip mold body and a two piece, hinged section, which served to form the shoulders and the neck. Bottles molded in a three-piece hinged mold have a seam horizontally around the shoulder and a vertical seam up the neck from the shoulder seam. There is no base seam.

Table 5. Glass Artifacts Recovered from White Castle.

	16 IV 147	16 IV 148	16 IV 149	16 IV 150	16 IV 151	Total
Clear glass	1					1
Clear bottle base, blowpipe pontil			1			1
Dark green glass	1			1		2
Green pane glass					1	1
Green case bottle base, two piece mold, improved pontil		1				1
Opaque black bottle base, improved pontil			1			1
TOTAL	2	1	2	1	1	7

A second type of hinged mold was the two-piece hinged bottom mold. Occasionally utilized in the United States after 1810, these two-piece molds were hinged at the base. Therefore, the resultant bottles had a single vertical seam that ran down the neck and body of the vessel, across the base, and up the other side. However, if a pontil rod was utilized during the finishing of the bottle, the base seam may be obliterated by the pontil scar (Baugher-Perlin 1982:263). By the mid-1840s, two-piece molds began to replace three-piece molds (Lorraine 1968:40). During the 1850s, the two-piece mold was improved and made more stable by the use of cup bottoms and post bottoms (Haskell 1981:62). In the former, a rounded seam encircles the base of the vessel, rather than crossing the bottom. In the latter, the side seams run over the base of the vessel to meet with a basal circular seam. The base of a case bottle manufactured in a two piece mold was found at 16 IV 148.

In the late eighteenth and nineteenth centuries, bottle lips were cut off with shears while the glass was still soft. This process was known as a sheared lip, and it is characterized by an abraded, plain cylindrical top. Midway through the nineteenth century, two other lip finishing techniques came into general use. The first was the technique of applying a ring of glass at or below the neck opening. This technique, called "laid on ring," is distinguished by irregularities of the lip itself. The second technique, called an applied lip or tooled lip, employs the use of what was known as a lipping tool. This consisted of a central piece which was placed within the bottle neck and an external arm which, when rotated, formed an even lip of soft glass applied to the neck of the vessel. It should be mentioned that during this process of applying the lip and finishing the vessel, the neck seam had a tendency to be obliterated as a result of reheating the neck. Consequently, the seam only went partially up the neck.

New techniques for holding bottles during finishing also were developed in the mid-nineteenth century. The improved pontil, or the bare iron pontil, came into general use around 1840. The scar from this type of pontil is smooth, and exhibits both an iron oxide residue and a distorted kickup (White 1978:65). One bottle base exhibiting an improved pontil scar was found at 16 IV 149. During the 1850s, the snap case was introduced. This device had four curved and padded arms, which were clamped around the bottle so that it could be held during finishing. Bottles held in a snap case have no pontil scar on the base. Use of a snap case almost entirely replaced use of the pontil rod by the 1870s (Haskell 1981:30).

After the War Between the States, there was a tremendous increase in the number and kinds of pharmaceutical bottles

produced in the United States. New shapes appeared in the early 1860s, such as the paneled flask and the French square. Embossed lettering on bottles became popular at this time and remained popular until the 1920s. A slug plate inserted into a standardized mold enabled inexpensive personalization of bottles. The pharmaceutical bottles that were not embossed had recessed panels for the application of labels.

Turn molds were introduced about 1870. The interiors of these molds were covered with paste, which allowed the bottle to be turned in the mold. This process resulted in the removal of vertical seams, but left horizontal striations on the bottle body.

During the 1880s, manganese oxide began to be utilized to eliminate the natural color of glass. Because of the presence of manganese, such glass tends to become amethyst colored when exposed to the sun. The use of manganese oxide to clarify glass continued until the outbreak of World War I. Between 1916 and 1930, selenium also was utilized as a decoloring agent. Selenium tints the glass a light amber with exposure to the sun (Munsey 1970:55).

At the end of the nineteenth century, the semi-automatic bottle machine was developed, and used to produce wide mouth jars. Jars manufactured by this process have seams running up to, but not over, the lip (Lorraine 1968:43). A fully automatic bottle machine was developed and patented by Michael Owens in 1903. All hand labor was eliminated with this process; the glass was drawn into the mold by suction. Bottles manufactured by this process have a ring seam around the base, and the side seam is continuous up to and including the lip. By 1920, the change to automated production of bottles was complete.

Prior to the late 1820s, glass tableware only was decorated by cutting. In 1827, the glass pressing machine was patented in America. The device consisted of a plunger, which pressed the molten glass into a mold. Because vessels produced by this method had to be wide mouthed, it was used to produce tablewares. From the time of its introduction until the 1840s, stipled, so-called "lacey," patterned pressed glass was popular. This technique gradually was replaced by pressed glass patterns which imitated cut glass.

A total of only seven glass sherds were recovered from the White Castle sites. Of these, only three exhibited diagnostic morphological traits (Table 5).

Metal Artifacts

Ten metal artifacts were recovered from the White Castle sites. Three of these were square cut nails (Table 6). Square cut nails were first produced in 1790, and continued in production throughout the nineteenth century. One rose- headed wrought nail was recovered from 16 IV 149. Other metal artifacts included a buckle, a small key, two horseshoes, a spike, and a bullet that had been partially whittled.

Miscellaneous Artifacts

Miscellaneous artifacts included four kaolin pipe fragments and seven bricks. Two bone fragments were recovered at both 16 IV 147 and 16 IV 149. Miscellaneous artifacts are presented in Table 7.

Prehistoric Ceramic Artifacts

Three sites identified in the project area possessed prehistoric ceramics. All remains were recovered during surface collection; thirty-one artifacts were recovered in all (Table 8). Analysis of the collected ceramic sherds involved typological classification to enable determination of their cultural affiliation and chronological placement. However, due to the paucity of artifactual remains, estimates of age and assessment of cultural affiliation could not be done with any degree of precision for any site.

Ceramic artifacts are classified below following the type-variety system. Information derived from this type of classification is valuable primarily for broad descriptive purposes. Although the system was designed to provide temporal and geographic control over the prehistoric sequence, its limitations are particularly obvious with small collections dominated by plain or undecorated sherds. Sites 16 IV 147, 16 IV 148, and 16 IV 151 produced thirteen artifacts of the Baytown Plain type. Baytown Plain has at least a millenium of duration, and is generally considered undiagnostic. Baytown Plain var. Thomas, found at site 16 IV 147, is considered to be Marksville period or later (Phillips 1970). Baytown Plain var. Baytown, found at site 16 IV 147, is considered to be of the Coles Creek period. This site also contained sixteen ceramic sherds classified as Tchefuncte Plain var. unspecified. From this limited sample, it would appear that the prehistoric component at site 16 IV 147 dates from sometime during the Tchefuncte-Coles Creek periods.

Sites 16 IV 148 and 16 IV 151 did not contain any clearly

Table 6. Metal Artifacts Recovered from White Castle.

	16 IV 147	16 IV 148	16 IV 149	16 IV 150	16 IV 151	Total
Square nail	3					3
Rose head nail			1			1
Spike				1		1
Bullet, whittled		1				1
Key	1					1
Horseshoe		1			1	2
Buckle	1					1
TOTAL	5	2	1	1	1	10

Table 7. Miscellaneous Materials and Artifacts Recovered from White Castle.

	16 IV 147	16 IV 149	Total
Kaolin pipe stem	2		2
Kaolin pipe bowl	2		2
Brick	5	2	7
Bone	2	2	4
TOTAL	11	4	15

Table 8. Prehistoric Ceramic Artifacts Recovered from White Castle

	16IV147 Zone A	16IV147 Zone B	16IV148	16IV151
Tchefuncte Plain var. unspec.	7	9		
Mazique Incised var. unspec.			1	
Baytown Plain var. Thomas		1		
Baytown Plain var. Baytown	1			2
Baytown Plain var. unspec.			9	
Unidentified incised	1			
Total	9	10	10	2

diagnostic artifacts that would allow a tentative cultural affiliation. Site 16 IV 148 contained one sherd of Mazique incised ware but the variety could not be specified. The temporal range for Mazique incised is Coles Creek through the Mississippi period (Phillips 1970).

CHAPTER VIII

INTERPRETATIONS

White Castle Site 1, as noted previously, was a highly disturbed scatter of bricks located immediately downriver from the White Castle ferry landing. Archival research indicated that Belle Grove's warehouse formerly was located in this area (Figure 6). Previous research (Goodwin, Yakubik, Stayner, and Jones 1984) has demonstrated that plantation warehouses provide little in the way of artifactual remains, and the survey results appear to confirm this observation. In addition, virtually none of the site remains intact, and the bricks have been incorporated into recent fill near the ferry landing at White Castle. The precise origin of the bricks is unknown, and it is impossible to conclude that the lack of associated artifactual remains reflects a similar absence at the time this structure was abandoned. Because of the uncertainties introduced due to the lack of contextual integrity, and due to the absence of associated cultural remains, the site does not possess further research potential, and cannot be considered eligible for the National Register.

Site 16 IV 147 yielded a collection of habitation debris consisting primarily of historic ceramics, although glass, bone, and aboriginal ceramics also were recovered. The historic ceramics from Zone A provided a Mean Ceramic Date of 1779.7 (n=39), and a Mean Ceramic Date of 1792.1 (n=12) was obtained from ceramics collected from Zone B. These dates suggest that the site represents the remains of a Colonial Period Acadian farmstead. As noted above, this property was granted to Athanasse Dardenne in 1774 (Lowrie 1834:272); however, further archival research of Colonial documents is necessary to provide additional historic background on this site.

Field investigations demonstrated that much of the site has been lost to the river through bankline erosion. However, one partially preserved architectural feature was present and recorded at the site, and subsurface testing suggested that a portion of the batture may still contain intact cultural deposits. Therefore 16 IV 147 may have the potential to yield additional data pertinent to the archeology of the Colonial Period and of the Acadian settlement of Iberville Parish. For these reasons, further testing is required in order to determine the full significance of the site in terms of National Register of Historic Places criteria. In particular, these investigations are necessary to determine the extent to which additional intact architectural features and associated artifactual materials occur at 16 IV 147.

Site 16 IV 148 yielded a small collection of aboriginal ceramics dating from the Coles Creek period, one bullet that had been whittled, and one green case bottle base. The latter dates from ca. 1845-1880. No intact lenses or cultural deposits were observed or recorded from which these artifacts may have been derived, and it is possible that they were redeposited at this location from elsewhere upriver. Site 16 IV 148 is, therefore, heavily disturbed, and does not possess further research potential.

Site 16 IV 149 yielded a small collection of habitation refuse consisting primarily of historic ceramics. A Mean Ceramic Date of 1815.96 (n=26) was obtained, suggesting that the site represents an early nineteenth century Acadian farmstead. During the early nineteenth century, Joseph Orillon owned the parcel on which site 16 IV 149 is located (Lowrie 1834:228).

The artifact collection from site 16 IV 149 derives entirely from the surface, and much of the site appears to have been lost through bankline erosion. However, as was the case at site 16 IV 149, stratigraphic profiles cleaned and mapped along the cutbank indicate that portions of the site remain intact. In the case of site 16 IV 149, one architectural feature was identified, and associated refuse deposits were observed in cutbank profiles. The level of effort required to determine the full nature and extent of these deposits was beyond the scope of the present study; however, the cultural strata appear to contain rich accumulations of historic artifactual and ecofactual remains. Based on the results of this survey, 16 IV 149 may have the potential to yield additional data pertaining to Acadian farmsteads in Iberville Parish. Additional testing is required in order to determine National Register eligibility status of this site.

Site 16 IV 150 yielded a small collection of habitation refuse consisting primarily of ceramic artifacts. A Mean Ceramic Date of 1798.7 (n=6) was obtained, although the small sample size suggests that this date may be unreliable. On present evidence, the site appears to date from the late eighteenth century, and the artifactual remains probably derive from an Acadian farmstead. As noted above, Joseph Landry owned this parcel of land during the early nineteenth century (Lowrie 1834:242). Artifactual remains from 16 IV 150 occurred entirely as a small surface scatter along the bankline, and no intact cultural deposits were observed or recorded. As a result of the lack of integrity of subsurface deposits and the small assemblage of associated artifacts, the site does not possesses further research potential.

A small collection of habitation refuse was recovered from 16 IV 151. The majority of artifacts were historic ceramics; these yielded a Mean Ceramic Date of 1854.4 (n=12). Pane glass, a

horseshoe, and a few aboriginal ceramics also were recovered. Site 16 IV 151 undoubtedly represents the remains from the Celeste Plantation great house complex. However, bankline inspection failed to reveal cultural strata from which either the prehistoric or historic components of the site may have derived. Therefore because of the possibility of secondary deposition of remains, the lack of contextual integrity, and the small size of the artifactual assemblage, site 16 IV 151 does not possess additional research potential.

CHAPTER IX

CONCLUSIONS AND RECOMMENDATIONS

This report has presented the results of archival research and cultural resources survey of the White Castle Revetment project area in Iberville Parish, Louisiana. Archival and map research documented historic occupation and land use within, and in proximity to, the project area. This research also identified natural and anthropogenic processes that changed the physical configuration of the Mississippi River batture at this locality during the historic period. Fieldwork at White Castle consisted of an intensive pedestrian survey and systematic shovel testing program. Subsequent site recordation techniques included a combination of surface collection and shovel and auger testing; where appropriate, stratigraphic profiles were mapped and 1 x 2 m test units were excavated. Laboratory analysis focused on identification and classification of artifacts, and on the determination of chronological position and functional history. The results of archival research, archeological field investigations, and artifact analyses were used to evaluate the nature, and to assess the research potential of the sites recorded during this study.

Two National Register of Historic Places properties occur in the vicinity of the White Castle revetment area: Nottoway Plantation House and Tally-Ho Plantation House. These properties will not be affected in any way by the planned revetment construction, since they are located several miles upriver from the project area.

The majority of archeological remains recorded during this survey effort were recovered at or near the bankline of the Mississippi River, in conditions of good surface visibility. Extensive sections of the project area contained dense secondary vegetation, particularly in low-lying borrow areas. Although surface visibility in these locales was poor, there is little likelihood that cultural resources survived extensive borrowing. Systematic shovel testing was implemented to overcome this limitation; however, this technique provided negative research results. The accumulation of recent overburden along the batture indicates that subsurface shovel and hand auger tests away from the shoreline are inadequate to detect the presence of deeply buried cultural resources. It is noteworthy that no subsurface cultural materials were identified through shovel testing. For the above reasons, it is probable that ideal, or one hundred per cent, coverage of the project area was not achieved. Nevertheless, good coverage was obtained in areas where older deposits currently are exposed at and near the shoreline of the Mississippi.

A total of five sites were recorded during the field survey of the White Castle Revetment Item (16 IV 147, 16 IV 148, 16 IV 149, 16 IV 150, 16 IV 151). The remains from 16 IV 148, 16 IV 150, and 16 IV 151 consist entirely of surface finds; no in situ cultural deposits were observed or recorded. Erosion and redeposition represent the dominant site destruction processes. A sixth site, defined probatively in the field (White Castle 1) subsequently was determined by the Louisiana Division of Archeology not to comprise an archeological site, due to the absence of artifactual remains. Thus, it was not assigned a site number.

The nature and range of materials observed and collected from the three sites with only surface expression, are not unique for historic period occupations along the Mississippi River in southeastern Louisiana. Generally comparable, larger, and more representative assemblages have been identified during the course of previous cultural resource investigations of the Mississippi River batture (Goodwin, Yakubik, and Gendel 1983a; Goodwin, Gendel, and Yakubik 1983b; Goodwin, Yakubik, Selby, and Jones 1985). Furthermore, because of the low frequency of observed and collected materials, the artifactual assemblages do not comprise statistically reliable populations for further chronological or functional analysis. Therefore, none of these three sites are likely to yield information important in history [36 CFR 60.4(d)]. These sites also lack depositional integrity, and do not possess sufficient archeological context for further research or comparative analysis. The lack, therefore, of intact subsurface deposits, and the paucity of artifactual remains, precludes a recommendation of eligibility for the National Register of sites 16 IV 148, 16 IV 150, and 16 IV 151. No further work is recommended at these sites.

Fieldwork conducted at 16 IV 147 and at 16 IV 149 demonstrated that at least portions of these two sites are preserved along the Mississippi River batture. Artifact analysis of surface materials collected from sites 16 IV 147 and 16 IV 149 suggests that the sites represent the remains of two Colonial Period Acadian farmsteads. Site 16 IV 147 (Zone B containing features 201 and 202) yielded a mean ceramic date of 1792.1 (n=12), and 16 IV 149 yielded a mean ceramic date of 1815.96 (n=26). As noted in Chapter V, Acadian settlement of Iberville Parish was identified as a theme significant to the history of the project area. Few Acadian Colonial Period sites have been identified in southeastern Louisiana (Smith et al. 1983). Archeological data from such sites can be utilized to address questions concerning the material culture, subsistence, and settlement patterns of this ethnic group. Furthermore, the mean ceramic date for Site 16 IV 149 suggests an occupation during the formative period of sugar agriculture in the area. It may be possible, therefore, to document changes in the material record associated with the advent

document changes in the material record associated with the advent of cane cultivation and the development of large plantations in this area, particularly when compared with material from site 16 IV 147, a slightly earlier occupation.

The significance of each of these two sites is further enhanced when evaluated within the larger context of the project area. For comparative purposes, the two sites may be viewed as a multicomponent locality, offering the possibility for studying changing land use patterns and activity areas across the vicinity. Thus, if additional intact cultural deposits are present, these sites have the potential to address questions relevant to two of the major themes significant to the history of the area [36 CFR 60.4(d)]: the Acadian settlement of the parish and the development of the antebellum sugar industry.

A similar site, 16 SJ 40, was recorded in the Vacherie Revetment project area located in St. James Parish, Louisiana. Initially most artifacts collected there had eroded from the face of the river terrace and redeposited on the beach. Some artifacts also were found on top of the terrace. Stratified cultural remains were still exposed in the erosionary face of the river terrace and included a relict levee road which provided a known **terminus ante quem** (1917), domestic habitation refuse, agricultural structures, and domestic structural remains. Agricultural features included eight cypress plank rice irrigation flumes ante dating 1888. Domestic structures included four cypress plank privies. Because of these in situ features and the stratified, datable cultural refuse deposits, the entire site area was viewed as a significant cultural resource with the potential to illuminate the historical and archeological understanding of settlement and economic development in St. James Parish.

As discussed in Chapter VII, a number of very early and unusual artifacts were collected from 16 IV 147 and 16 IV 149. Three sherds of Rouen Faience (debased) were found at 16 IV 147, as were a number of 18th century cream colored earthenware and pearlware sherds (see Table 4). As noted previously, one extremely unusual redware sherd was recovered from 16 IV 147. The sherd appears to represent a potter's attempt to imitate grey salt glazed stoneware (see Chapter VII). The sites, therefore, are likely to have the potential to yield information on changing patterns in the material culture of the region and of the ethnic group, from the early 18th century perhaps into the 20th century.

Feature 202 at 16 IV 147 consisted of a brick foundation and an associated occupational surface buried beneath more recent overbank deposits. Limited test excavations failed to yield a substantial artifactual assemblage. Rather, most artifacts from

16 IV 147 were recovered from the beach where they were redeposited following erosion and collapse of the cutbank. Thus, the ability of the site to contribute to the understanding of history [36 CFR 60.4(d)] still is unclear. Although the apparent period of occupation is one that may be readily associated with important themes in the history of the region, the actual research potential of 16 IV 147 necessarily is contingent on the presence of additional intact structural remains and/or artifact-bearing strata that would enable data from the site to contribute materially to knowledge of the regional history. Although the presence of an in situ brick foundation indicates a possibility that archeological contexts containing information important to history may be present, test excavation and auger testing adjacent to the brick feature failed to provide tangible proof of such remains. Furthermore, the brick feature alone is not of sufficient archeological importance to warrant a recommendation of the site's significance, pursuant to the National Register criteria. Therefore, a definitive assessment of the significance of the site is contingent upon the presence of additional intact deposits; the existence of such deposits only can be verified by larger scale excavations. For these reasons, it is recommended that additional testing be conducted at 16 IV 147 in order to ascertain the presence or absence of additional archeological deposits that possess the quality of significance, and the quality of integrity, as defined by the National Register Criteria (36 CFR 60.4).

Similarly, limited excavations at 16 IV 149 revealed that portions of the site remain intact, including architectural features and associated refuse deposits. The latter appear to contain both artifactual and ecofactual remains. Again, the chronological placement of this site assemblage indicates an association with important themes in the region's history. However, the nature and significance of archeological resources at 16 IV 149 have yet to be delineated precisely. A recommendation of significance for this site must be contingent upon the recovery of intact cultural deposits that have a demonstrable capability to illuminate historical understanding. As noted above, the limited testing undertaken during this project reflects the fragility of the site, as well as its small size. Therefore, while it is recommended that additional testing be conducted at 16 IV 147 in order to permit full evaluation of the significance of this site, it also is important that such testing recognize the potential of archeological excavation to destroy the last vestiges of the site.

A major consideration in selecting a methodology for future work must be the archeological and geomorphological fragility of the sites. Geologically, Sites 16 IV 147 and 16 IV 149 are located within the Convent Series of soils which generally characterize the natural levees on both sides of the Mississippi River. This

series is characterized by fine sandy loams, silt loams, and grey clays. The soils are poorly drained with slow to medium runoff; they are moderately permeable; and they have a high water capacity (United States Department of Agriculture 1973:12-13). These soil types are visible in the cut banks at 16 IV 147 and 16 IV 149. Basal soils correspond to the characteristic grey clays. These are fine textured soils that usually form hard lumps or clods when dry, and which are quite plastic and sticky when wet (Olson 1976). The subsoils are generally silty clay loams to clayey silts. Surface deposits consist of grayish brown clay loams.

The most detrimental effect to these soils are riverine processes. The Mississippi River is constantly causing erosion and slumping along the bankline, and ultimately the destruction of cultural resources along the river ridges. Figure 2 illustrates the massive amount of land removal that has occurred over the past 100 years. These processes threaten both 16 IV 147 and 16 IV 149. The sites originally were located because of the presence of large surface scatters along the bankline of the river and of several structural features eroding from the river cut bank. As this erosion continues, more remnants of the sites will be disturbed and washed out of their original contexts.

Ideally, an investigatory regime that minimizes site destruction should be selected. Even relatively small scale testing should be undertaken within the context of an explicit research design. Furthermore, ample analytical time should be allotted for study of collections from sites of similar age and cultural association. Knowledge of comparative collections could provide a context for interpretation of the site and its features during excavation. These data also will be germane to the assessment of site significance. In this manner, the sites' assemblages may be more accurately characterized and recorded, assuring both definitive assessment of significance and preservation of the data base.

Insofar as field methods are concerned, additional testing should involve a purposive subsurface investigation that includes both systematic subsurface examination using either shovel or auger tests at tightly spaced intervals (two to three meters) across the sites, and rigorously controlled unit excavations. The former testing regime should precede test unit excavation; it should recover the locations of both additional structural features and artifact bearing deposits, and it should enable preliminary assessments of the integrity and relative condition of those deposits. Once features or artifact bearing strata have been identified and compared, 1 x 1 or 1 x 2 meter excavation units can be opened in order to determine definitively the nature of the remains, and to recover a sufficient analytical sample for

assessment of the sites' significance in comparative perspective. The combination of these two testing modalities will minimize unnecessary excavation, and thus the amount of soil matrix removed from the site. This, in turn, will reduce possible impacts to the resources, while still permitting the identification of potentially significant features.

Again, and especially at 16 IV 149, even limited excavation may test the site out of existence. For this reason, it is suggested that the results of purposive systematic testing be fully collated and interpreted before test unit excavation is begun. It may be possible to minimize test excavation at the assessment stage, depending on the results of the systematic testing process. Other testing modalities, such as mechanized testing, areal stripping, or large scale balked excavation, should be rejected at the testing stage because of their likelihood to remove all extant archeological data.

In summary, both of these sites (16 IV 147 and 16 IV 149) require further archeological investigation in order to accurately define correlations between artifacts and features, as well as to measure the research potential of the resources pursuant to 36 CFR 60.4 (d). Therefore, it is recommended that further research, in the form of a purposive subsurface inspection followed by limited hand excavation, be conducted to locate and to permit assessment of other features and of associated artifactual remains. As noted above, that research and testing effort requires careful implementation in light of the fragility of these two sites. Finally, because of the apparent relationship of these sites, in both the cultural and chronological sense, future testing of both sites should be undertaken as part of the same study. This will enable comparative research, enhancing the accuracy and utility of testing, from both the scientific and compliance perspectives.

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