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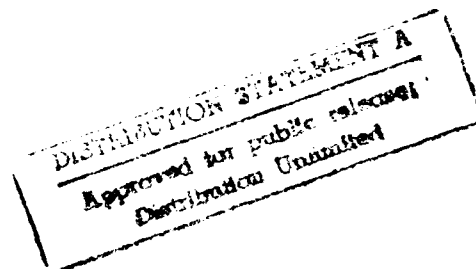
**CULTURAL RESOURCES
SURVEY OF FORT ADAMS
REACH REVETMENT, MILE 312.2
TO 306.0-L, MISSISSIPPI RIVER,
WILKINSON COUNTY, MISSISSIPPI**

FINAL REPORT

AUGUST 1993

MUSEUM OF GEOSCIENCE

Louisiana State University
Baton Rouge, Louisiana 70803



Prepared for

U.S. ARMY CORPS OF ENGINEERS

New Orleans District
P.O. Box 60267
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19. ABSTRACT (Continue on reverse if necessary and identify by block number) This report concerns a cultural resources survey of a portion of the east bank of the Mississippi River in southwest Mississippi over a total of 72.55 acres. Portions of the area are subject to bank erosion and a revetment is planned to alleviate the problem. The survey revealed two historic cemeteries near the project area: Clarksville Cemetery and Riverside Cemetery. Additionally, a site of prehistoric habitation, the Riverside midden (22WK643) was newly reported. Testing showed this midden to date from at least the Coles Creek period of prehistory. Additional archeological work is recommended for the Riverside Midden site.					
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January 21, 1993

REPLY TO
ATTENTION OF

Planning Division
Environmental Analysis Branch

To The Reader:

This cultural resources effort was funded and guided by the U.S. Army Corps of Engineers, New Orleans District as part of our cultural resources management program. The work documented in this report was a cultural resources survey of the Fort Adams Reach Revetment located along the Mississippi River in southwestern Mississippi.

We concur with the contractor's conclusion that the Riverside Midden Site (22WK643) is eligible for inclusion in the National Register of Historic Places. The proposed revetment construction, however, will not affect this site nor the Clarksville or Riverside Cemeteries. Therefore, no additional archeological work is planned.

Michael E. Stout
Authorized Representative
of the Contracting Officer

R. H. Schroeder, Jr.
Chief, Planning Division

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**CULTURAL RESOURCES SURVEY OF
FORT ADAMS REACH REVETMENT,
MILE 312.2 TO 306.0-L, MISSISSIPPI RIVER,
WILKINSON COUNTY, MISSISSIPPI**

FINAL REPORT

by

Dennis Jones
Joann Mossa
Todd Smith


Malcolm Shuman
Principal Investigator

Prepared for

U.S. Army Corps of Engineers
New Orleans District

Contract No. DACW29-88-D-0123
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Louisiana State University
Baton Rouge, Louisiana
August 1993

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In the field, Hampton Peele, Rocky Sexton, Ricky Mitchell, Malcolm Shuman, and Barry Albright aided in the actual survey and site testing. Malcolm Shuman and Karen Corkern furnished the necessary administrative support from the Museum of Geoscience. Sharon Newman assisted in the final production of this report.

Various contributions made by consultants to the Museum of Geoscience for this report were also useful and timely. Joann Mossa of the Louisiana Geological Survey wrote the section on the geomorphology of the project area. F. Todd Smith made contributions to the historical background of the report. Malcolm Shuman aided in the analysis of prehistoric artifacts. Mary Lee Eggart of the Cartographic Services Department at the Louisiana State University School of Geoscience made some excellent drawings of some of the artifacts from the Riverside Midden. Dr. Charles Pearson of Coastal Environments, Inc. provided a copy of a historic map that included the project area and shared his knowledge of archeology in the region. Dr. Robert Chabreck identified the floral remains recovered from the Riverside Midden site (22WK643).

CHAPTER I

INTRODUCTION

This report presents a description of the archeological, historical and geomorphological research for portions of the east bank of the Mississippi River in Wilkinson County, Mississippi that are to be the scene of revetment construction. The most outstanding physical characteristics of the project area are its proximity to the confluence of the Red River with the Mississippi and the presence of the loessal uplands known as the Tunica Hills. In addition to these features, streams flowing out of the Tunica Hills, westward into the Mississippi have also influenced this occupation.

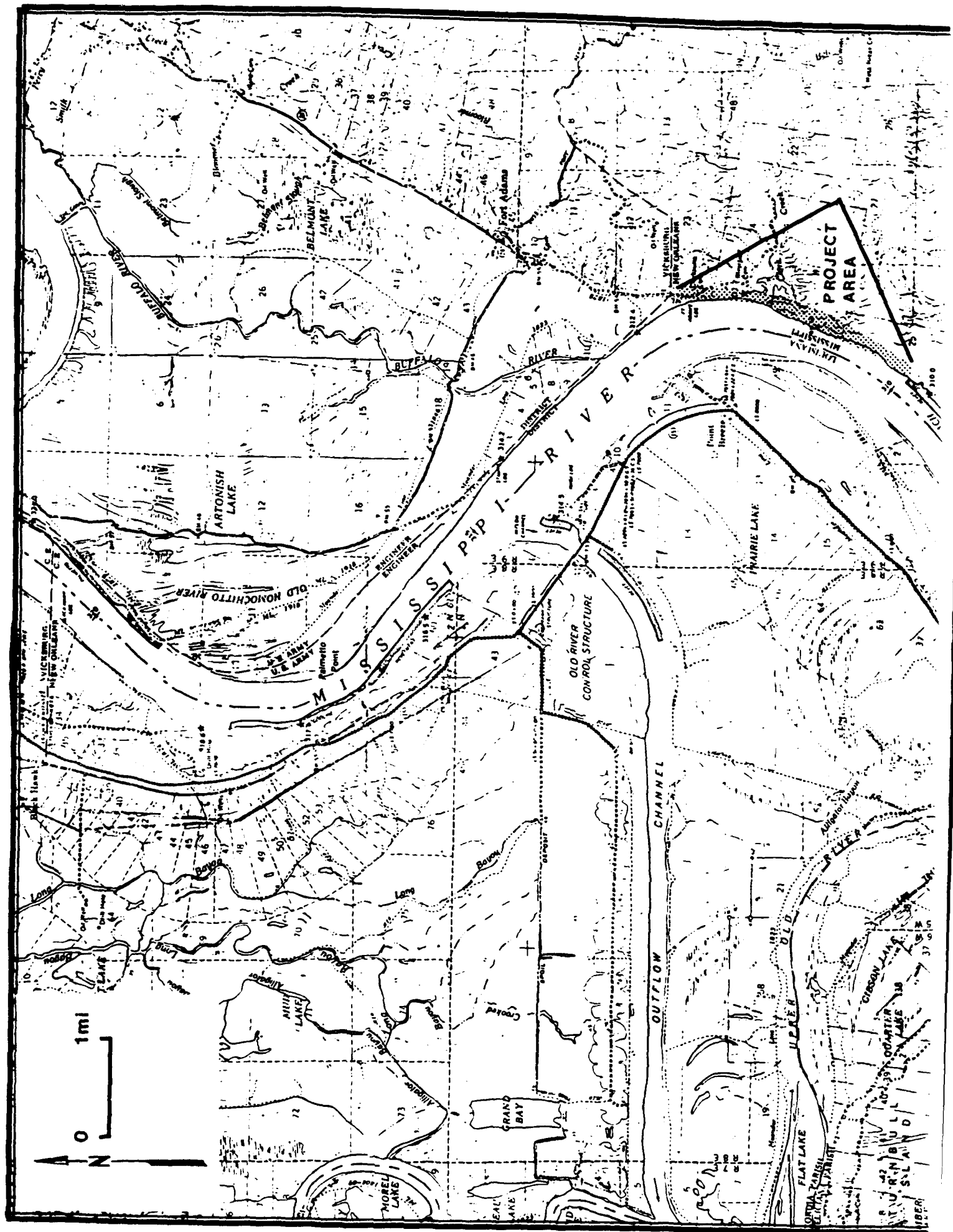
The project area is in the extreme southwestern corner of Wilkinson County, Mississippi, just a few miles north of the state line between Louisiana and Mississippi (Figure 1). The research was conducted for the New Orleans District of the U.S. Army Corps of Engineers as part of a general services contract for conducting cultural resources surveys within that district. Personnel from the former Museum of Geoscience at Louisiana State University at Baton Rouge and their consultants are responsible for all portions of this report.

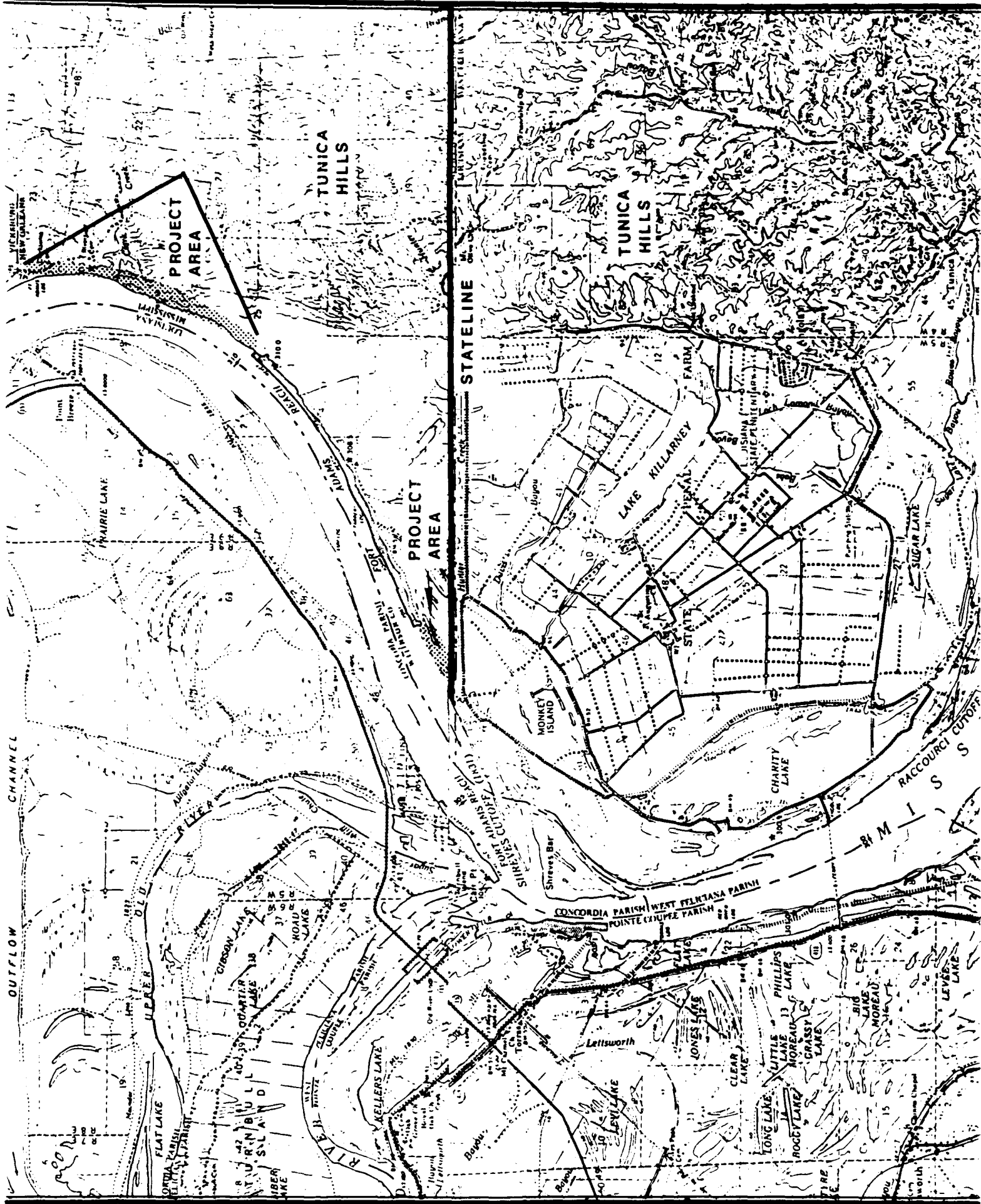
The area to be revetted is divided into two sections: an upstream section and a downstream section of an area already revetted and known as the Fort Adams Reach Revetment. The northern or upstream portion of the project area consists of 60.15 ac, while the lower portion includes 12.40 ac, for a total of 72.55 ac. The field work for this project was conducted intermittently from March through August of 1989. Artifact analysis, drafting of maps and initial report writing were done in August of 1989.

This report will be presented in the following manner. Chapter II contains a discussion of the environmental setting of the study area. This discussion includes the geomorphology of the region, as well as the flora and fauna.

Chapter III describes the general prehistoric cultural history of the region surrounding the study area. Chapter IV presents a history of the project area, with an additional account of the role of the Mississippi River within that history. Chapter V gives an account of past archeological investigation in the region around the project area.

Chapter VI contains a statement of the research design and methodology employed during the survey. Chapter VII is the results of the survey. The results include an account of all field work conducted during the project with a special emphasis on testing and analysis of a prehistoric site, the Riverside Midden (22WK643), that was newly reported as a result of the survey. Chapter VIII deals with an artifact analysis of the material found during the survey.





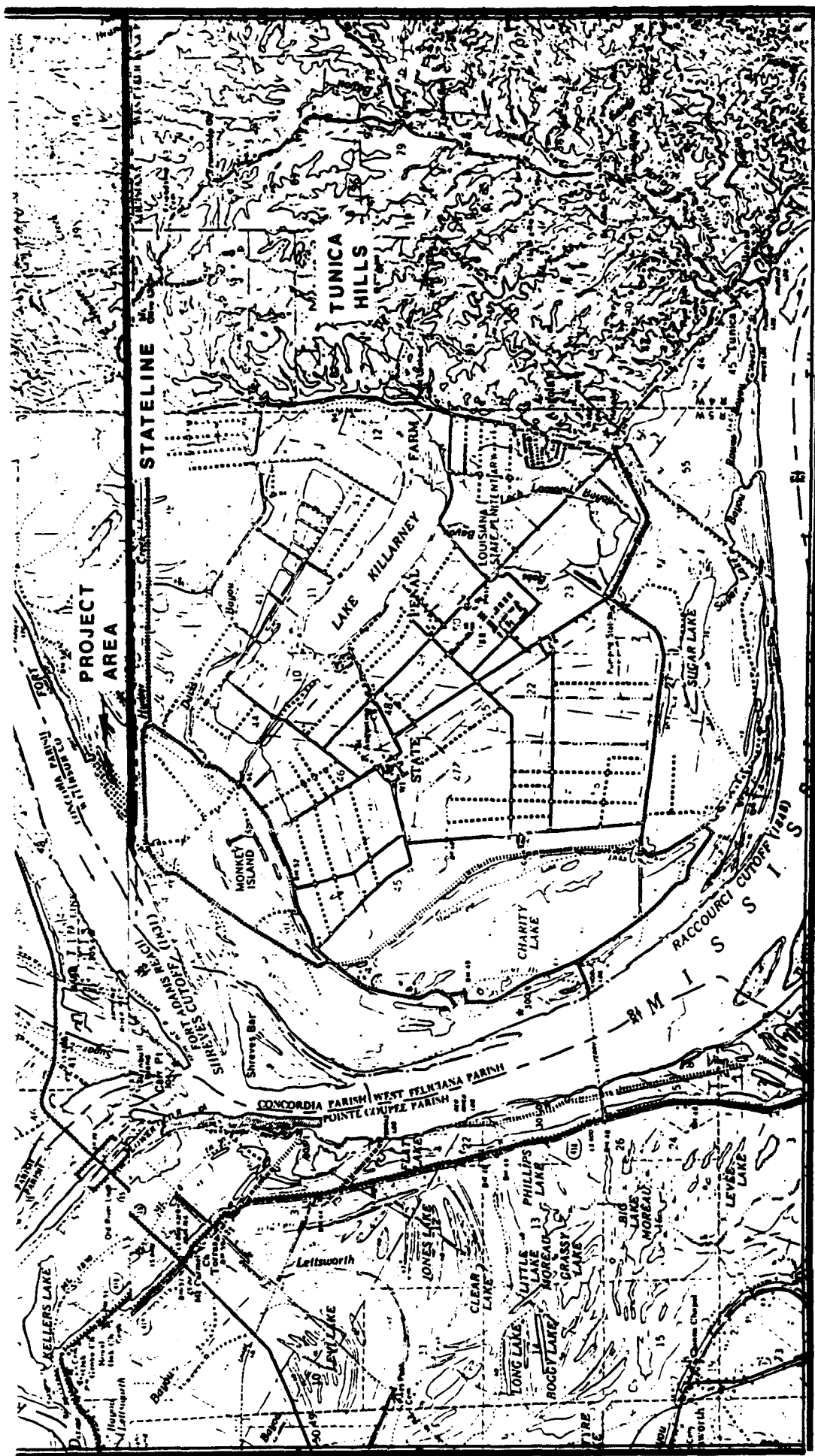


Figure 1: Location of project area.

Chapter IX summarizes the findings of the survey and makes the appropriate recommendations concerning the project area. These recommendations are made within the context of the research questions presented in Chapter VI and take into account the criteria for reporting sites to the Mississippi Division of Archives and History and nominating sites to the National Register of Historic Places.

CHAPTER II

ENVIRONMENTAL SETTING

Geomorphology of the Lower Mississippi River in the Vicinity of Fort Adams, Mississippi: Mile 312.2 to 306.0-L

Bank stabilization of the lower Mississippi River has been an important mission of the U.S. Army Corps of Engineers, particularly since improvements of artificial levees in response to the flood of 1927. These projects necessitated a program of bank protection to prevent the recession of caving banks to the artificial levees and to maintain the newly created favorable alignment of the river. This report concerns geomorphic aspects of a site being proposed for bank stabilization along a segment of the river in the vicinity of Fort Adams, downstream of the Old River Inflow Channel and upstream of Lower Old River, from mile 312.2 to mile 306.0-L AHP (above the Head of Passes) in Wilkinson County, Mississippi. Since human settlement and resource utilization are related to landform distribution and geomorphic processes, the regional and site geomorphology of this area forms an important component for more detailed assessments of the archeology and cultural resources of the proposed project area.

The lower Mississippi River basin in the vicinity of the project area is bounded to the west by artificial levees and on the east by Pleistocene bluffs, locally known as the Tunica Hills. Geologic-physiographic units in the proposed project area include the High Terraces complex, which is early Pleistocene or Pliocene in age; late Quaternary terraces that flank local streams; loesses which cap the High Terraces complex; and some late Quaternary terraces. Alluvium of local stream valleys, and alluvium of the Mississippi River Valley are also part of the project area. Since deposition, these deposits have also been influenced by reworking associated with colluvial processes. Streams that drain the Tunica Hills, such as Clark Creek and Hunter Creek, flow from these uplands into swamps adjoining the Mississippi River. Thus, their ultimate base level may vary with the stage and position of the Mississippi River. The headwaters of these rivers in Mississippi are at elevations approaching 150 m (500 ft). Elevations in the vicinity of the project area exceed 122 m (400 ft), and are less than 6 m (20 ft) in local backswamps.

High Terraces Complex

The High Terraces complex, the oldest unit found at the surface in the study area, corresponding quite closely with the area originally delineated as the Citronelle Formation by Matson (1916), is a tan to orange clay, silt, and sand with a large amount of basal gravel. Surfaces are highly dissected and less continuous than the lower terraces, and are composed of terraces formerly designated as Citronelle, Williana, and the Bentley. Most workers have considered these as one morphos: atigraphic unit, although Fisk (1944) believed that portions

of two terraces, the Williana and the Bentley, occur across this area. Nomenclature associated with this unit has been varied (Table I).

The High Terraces complex is maturely dissected and its general morphology is that of a *cuesta*. Surface elevations generally are higher than 50 m (170 ft), but the contact between this terrace and other units cannot be drawn solely on the basis of elevation. Local relief is more pronounced and slopes of this surface are generally appreciably greater than that of the lower terraces. Because of dissection and structural influence, the original geomorphic expression of the surface has been obliterated and depositional environments must be determined stratigraphically.

The depositional environments of these sediments have been variously interpreted as glaciofluvial, marine, meandering, or braided stream (Table I). The modern consensus is that the Citronelle Formation is an alluvial apron that was deposited by braided, coalescing streams. Heavy mineral analyses by Rosen (1969) indicated that these deposits are not derived from the Mississippi River as inferred by Fisk (1944). The deposits forming the High Terraces complex consist predominantly of coarse grained sediments, the source of which has been regarded to be the continental interior (Fisk 1939; Woodward and Gueno 1941); an eastern Gulf or Appalachian provenance (Rosen 1969; Cullinan 1969); or, more likely, a combination of these and possibly other sources. In the vicinity of the project area, the origin of these deposits has been attributed to an eastern Gulf or Appalachian provenance (Rosen 1969; Cullinan 1969).

The stratigraphic sequences and patterns observed in exposures reflect a high energy fluvial setting with multiple channels, several of which appear to have an appreciably greater competence than modern streams. The sand and gravel deposits commonly display medium- to large-scale planar foreset and trough cross beds, some over 2 m (6 ft) thick. Graveliferous deposits occur in thick sequences where gravel may comprise over 50 per cent by weight of individual beds. Rip-up clasts of finely-laminated purplish-red and whitish silt and clay are present in some exposures. Individual rip-up clasts may exceed 125 cm (50 in) in diameter (Smith and Meylan 1983), and clast zones as thick as 3 m (10 ft) have been measured (Mossa and Self 1986). Channeling and cut-and-fill features are common in many exposures. Multi-colored clayey sequences, possibly marginal flood basin or channel fill deposits, and exceeding 7 m (25 ft) in thickness, are also exposed in deposits of the High Terraces complex.

The sediments consist of a highly variable bimodal to trimodal mixture of sand, gravel, and clay, with sand being the dominant particle size and clay the least common (Self 1983). In the sand-size fraction, quartz is dominant and chert is common. The clay fraction of some rip-up clasts was determined as primarily kaolinite and illite with small percentages of quartz (Smith and Meylan 1983). Sediments are brightly colored and reflect staining by iron oxide minerals such as hematite and limonite.

TABLE I
STRATIGRAPHIC NOMENCLATURE, INTERPRETATION, AND
APPROXIMATE STRATIGRAPHIC CORRELATION OF THE
COAST-TRENDING PLEISTOCENE TO LATE TERTIARY DEPOSITS OF
THE CENTRAL GULF COASTAL PLAIN

SOURCE	STRATIGRAPHY		DEPOSITS	
Wigard (1866, 1869) Mississippi western Florida Parishes, Louisiana	Port Hudson fm. fluvial, brackish, marine (Qpl)		Orange Sand fm. glaciofluvial (Qepl)	Grand Gulf Group (T)
McGee (1891) Atlantic and Gulf coastal plains	Columbia fm. marine, continental (Q)		Lafayette fm. marine (T)	--
Clendinning (1892) Florida Parishes	Columbia fm. basal portion - continental (Q) upper portion - deltaic, submarine		Lafayette fm. continental (LT Q)	--
Morris and Yeatch (1899) Louisiana, Mississippi	Port Hudson fm.		Lafayette fm. littoral or coastal (Tpl)	--
Nelson (1916) Louisiana, Mississippi, Alabama, Florida	Pensacola, Hammond and Port Mickey T. coastal and fluvial (Qpl)	St. Elmo T. coastal and fluvial (Qpl)	Citronelle fm. largely marine (Tpl)	--
Doering (1935) southeastern Texas and southern Louisiana	Beaumont fm. deltaic, meandering streams (Qpl)	Little fm. coalescing river-built fans possibly braided (Qpl)	Wills fm. coalescing river-built fans possibly braided (Qpl)	Fleming fm. (T)
Fisk (1938a) western Florida Parishes, Louisiana and southwestern Mississippi	Port Mickey T. deltaic, fluvial equivalents (Qpl)	Second Terrace deltaic, fluvial equivalents (Qpl)	Higher Terraces deltaic, fluvial equivalents (Qepl)	--
Fisk (1938b) Red River region western Louisiana	Prairie T. deltaic, fluvial (Qpl)	Montgomery T. deltaic, fluvial (Qpl)	Bentley T. deltaic (Qpl)	Williana T. deltaic fluvial (Qpl)
Doering (1956) Gulf coast overview	Eunice (Qpl)	Oberlin (Qpl)	Little (Qpl)	Citronelle fm. (Qepl)
Parsons (1967) western Florida Parishes, La., southwestern Mississippi	Beaumont T. deltaic plain (Qpl)	Intermediate T. deltaic plain (Qpl)	Citronelle fm. braided streams-alluvial plain, marine in subsurface (Qepl-Tpl)	Pascagoula fm. (fm-pl)
Durham, Moore and Parsons (1967)	Prairie T.	Irene T.	Citronelle fm.	Pascagoula fm. (fm-pl)
Cullinan (1969) Washington and St. Tammany Parishes, Louisiana	Prairie fm. (Qpl)		Citronelle fm.	--
Campbell (1971) St. Helena and Tangipahoa Parishes, Louisiana	Prairie fm. (Qpl)		Citronelle fm.	--
Sneed and McCullough, comp. (1984) Louisiana	Prairie terraces (Qpl)	Intermediate terraces (Qpl)	High terraces (Qpl)	Fleming fm. (fm)

LEGEND

Fm - Formation	Qpl - Pleistocene
T - Terrace(s)	Qepl - Early Pleistocene
Q - Quaternary	Tpl - Pliocene
T - Tertiary	fm - Miocene
Qpl - Late Pleistocene	

Soils developed on stable landscapes of the High Terraces complex often exhibit very thick sola, well-developed soil structure and are characterized by multiple clay skins, red hues, high percentages of nodules of plinthite or ironstone, and a vermicular fabric of contrasting highly oxidized and more reduced sediments. The more reduced zones in the vermicular fabric are generally light gray to yellow in color and appear to follow root traces and perhaps burrows. Soils of reworked sediments on less stable landscapes of the High Terraces rarely exhibit the contrasting vermicular fabric and generally have less well developed soil structure. The nature of the soils developed on the High Terraces complex is strongly controlled by the texture of the parent material and relief. The geosol developed on sediments of the High Terraces complex is readily traceable beneath the loess mantles at stable landscape positions.

The age of these deposits has been a subject of contention due in part to a scarcity of paleontological data and in part to the occurrence of these gravels overlying Tertiary deposits of varying age. Pleistocene, Pliocene, and Miocene ages have been cited as times of deposition. Many workers accept a Pliocene and Pleistocene deposition for these surficial sediments (see Table I). Other investigations, however, suggest that the high level gravels of the coastal plain may be as old as Miocene (Alt 1974; May 1981).

Reworked sediments are in some places difficult to discern from the original deposits. Landscape position is an essential key to determining the probability of reworking. This is important to archeologists because although the deposits are relatively old, cultural materials may be incorporated in the toeslope deposits which show similar lithologies to those sediments on the hillcrests and hillsides. Differentiation can generally be accomplished by examining the soil profile.

Loess

Loess is a windblown deposit found along the Mississippi Valley and in many other parts of the world. According to Bates and Jackson (1980), it is a homogeneous, commonly nonstratified, porous, friable, slightly coherent, usually highly calcareous, blanket deposit, consisting of silt with subordinate grain sizes ranging from clay to fine sand. Loess in the Mississippi Valley is generally yellowish-brown, often contains shells, bones, and teeth of mammals, and stands in steep or nearly vertical faces. Loess is transported from sparsely vegetated surfaces including alluvial valleys, outwash plains, and deserts, and is typically preserved on more stable vegetated landscapes. The noncalcareous nature of the loess away from the river is the result of a slower rate of deposition that allowed the leaching rate to exceed the rate of accumulation. Similarly, the greater percentages of clay and sand mixed with the silt where rates of deposition are slower is caused by pedogenic mixing with underlying material.

At one time, some researchers including Russell (1944) and Fisk (1944) did not accept the eolian theory of origin. They believed that it was derived from backswamp alluvial deposits by a process called "loessification," whereby backswamp deposits were

eluviated of clay content and leached of carbonates which were deposited at lower levels, and received contributions of snail shells from erosional slopes by creep and wash. It is likely that this confusion can be in part attributed to the occurrence of reworked loess throughout much of the lower Mississippi Valley. The reworked loess typically contains stringers of sand and, in some instances, small pebbles which indicates a colluvial origin. However, there are several locations in the lower Mississippi Valley where loess is not reworked and colluvial processes are insignificant. A number of researchers have pointed out such differences between reworked and *in situ* loess in their respective project areas (Spicer 1969; Kress 1979; Alford et al. 1983; Miller et al. 1985, 1986).

Loess stratigraphy has recently been used to assign minimum and relative ages to different surfaces and stratigraphic sequences. The most detailed and extensive work on loesses in the lower Mississippi alluvial valley was conducted by Miller and colleagues (Miller et al. 1985, 1986)(Table II). Near the Mississippi Valley in south Louisiana, the High and Intermediate terrace complexes are typically blanketed by Peoria Loess and an older Sicily Island or pre-Peoria loess (Miller et al. 1985, 1986). In some places in the vicinity of Fort Adams, pre-Peoria loess appears to be missing on the High Terraces complex but no definitive explanation has been proposed. The Prairie and Deweyville terrace complexes are veneered only by Peoria Loess. The older loess has been dated in Mississippi by thermoluminescence at 95,000 to 75,000 B.P. (Johnson et al. 1984) and 85,000 to 76,000 B.P. (Pye 1985). Radiocarbon dates of the Peoria Loess are late Wisconsinan, between 22,000 and 20,000 B.P., in Louisiana (Otvos 1975) and thermoluminescence dates in Mississippi range between 22,000 and 9,000 B.P. (Johnson et al. 1984; Pye 1985). Loess thickness is generally a function of distance from source which in this case is the ancestral Mississippi River (Spicer 1969; Miller et al. 1985).

Local Late Quaternary Terraces

At least two distinct alluvial terraces flank the modern streams of the Tunica Hills (Delcourt 1974; Delcourt and Delcourt 1977; Kress 1979; Alford et al. 1983). The higher surface was designated as Prairie Terraces complex and the lower surface was incorporated with Alluvium on the Geologic Map of Louisiana (Snead and McCulloh 1984). The higher surface has commonly been referred to as T2, and the lower surface as T1. Entrenchment has been a significant geomorphic process along the downstream portions of the streams in the Florida Parishes that drain into the Mississippi River. Bluffs are commonplace along the Tunica Hills streams and generally expose sections of greater height than along other streams in nearby areas. Downcutting into the Late Tertiary (Miocene) sediments of the Pascagoula Formation is evident from the bluff exposures and the resistant ledges visible in stream bottoms at low flow.

Terrace development and entrenchment in the Tunica Hills have been associated with several possible causative factors. Fisk (1938) was the first to hypothesize that entrenchment and bluff cutting took place along such places as Bayou Sara in Louisiana as the Mississippi River set the local stream base level as it migrated eastward. This caused the streams to

TABLE II
COMPARATIVE DIFFERENCES BETWEEN MODERN SOILS
DEVELOPED IN PEORIA AND PRE-PEORIA LOESSES IN LOUISIANA

Soil Characteristics	Soil Parent Material	
	Peoria loess	Pre-Peoria loess
Solum thickness	least	greatest
Thickness of A + E horizons	least	greatest
Color (Hue)	least red	reddest
Maximum clay content in argillic	least	greatest
Total clay content in solum	least	greatest
Weatherable minerals in nonclay fraction	greatest	least
Amount of smectite clay	greatest	least
Amount of micaceous clay	greatest	least
Amount of kaolinite clay	least	greatest
Interlayering/interstratification of clay	least	greatest
Fe-oxide content	least	greatest
CEC per unit of clay	greatest	least
Soil pH	highest	lowest
pH-dependent CEC and acidity	least	greatest
Extractable acidity (BaCl ₂ /TEA	least	greatest
Percent Al saturation (effective CEC basis)	least	greatest
Percent base saturation (effective, NH ₄ OAc at pH 7.0, summation of cations)	greatest	least
Exchangeable Ca/Mg ratio	greatest	least
Total and extractable P	greatest	least

Source: Miller et al. 1985.

shorten, increase their gradients, and cut through the terrace deposits. This possibility was considered plausible by Delcourt and Delcourt (1977), and Alford et al. (1983). Uplift may also be accentuating the steep gradients of these streams (Fisk 1938). Otvos (1980) believed that migration of the Mississippi River could not have caused stream downcutting on the order of 5 to 10 m within the past few thousand years, and that incision was caused by eustatic or regional factors spanning a longer period. The sediments within the terrace sequences are believed to be associated with aggradation during marine transgressions (Fisk 1938; Delcourt and Delcourt 1977; Otvos 1980). Otvos (1980) interpreted the younger terrace as a feature formed by hydraulic response to the Woodfordian marine regression. Alford et al. (1983) expressed the opinion that the causative factors of terrace development in the area are far from established.

There has been much interest and some disagreement on the number, nature, and age of the terraces and stratigraphic units in the Tunica Hills (Figure 2). Fisk (1938) was the first to describe the morphostratigraphy of the terraces in the Tunica Hills. His interpretation was that at least three terrace deposits were unconformably overlying the Miocene clayey siltstones and sands. The name Port Hickey was assigned to the lowest surface, and was correlated with the fluvial-trending Prairie Terrace of central Louisiana. Wilcox Bluff was considered part of the Port Hickey sequence and was thought to be mid-Wisconsinan in age. Lower terraces were recognized but considered as merely benches notched into the Port Hickey alluvium. Fisk recognized at least two older surfaces across the valley. The Second Terrace was considered to be equivalent to the Montgomery Terrace and was thought to be Sangamonian. The Higher Terraces complex were undifferentiated, but were considered equivalent to the Bentley and Williana. He described the sequence at Wilcox Bluff which was capped by loess or loess-like material.

Delcourt and Delcourt (1977) presented a differing interpretation. They recognized two alluvial fills. The lowest terrace, Terrace 1, was considered to be Woodfordian to Holocene in age based on a scattering of radiocarbon dates ranging between 12,740 and 3,457 B.P. The silty sediments overlying Terrace 1 were interpreted as reworked, rather than *in situ* loess. The surface associated with Wilcox Bluff was designated Terrace 2 and was interpreted as being Sangamonian because the underlying sediments contain a distinctly warm to temperate plant assemblage.

Otvos (1978, 1980, 1982) expressed a different viewpoint. Considering the silt on the low terrace (T1) to be *in situ* rather than reworked loess, he interpreted the fill as older and probably deposited during a Farmdalian high sea level stand. He obtained dates between 33,720 and 3,250 B.P., but rejected the younger dates as contaminated. Wilcox Bluff was considered equivalent to the low terraces and was assigned a Farmdalian age.

Alford et al. (1983) reassessed the terrace stratigraphy of the Tunica Hills by resampling and additional radiocarbon dating. They inferred that Delcourt and Delcourt (1977) were correct about the reworked condition of the loess because the silts lacked

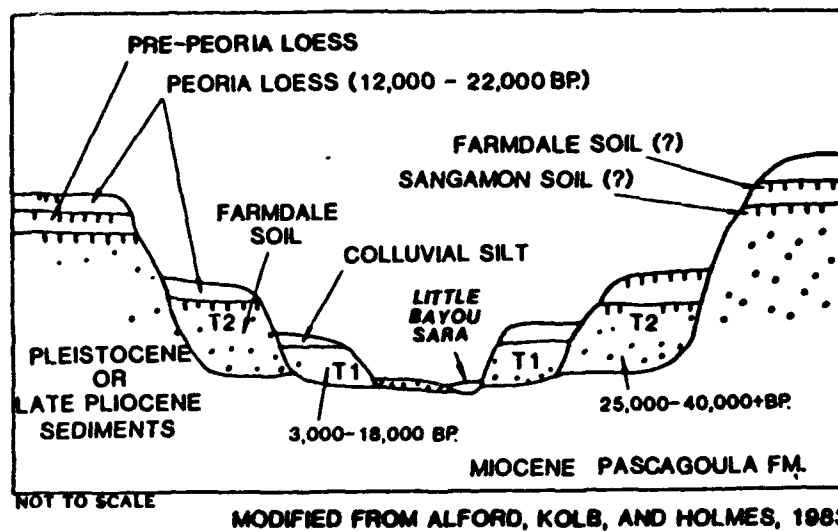
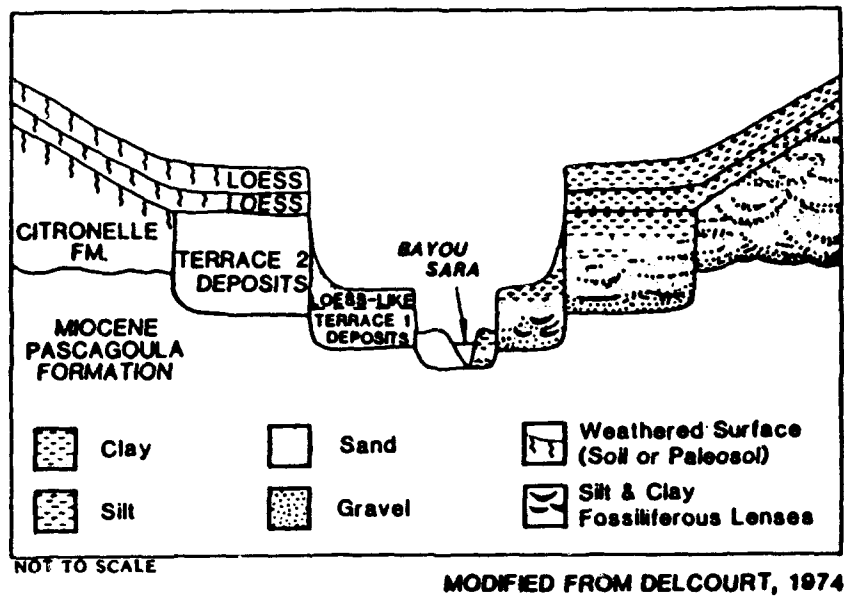
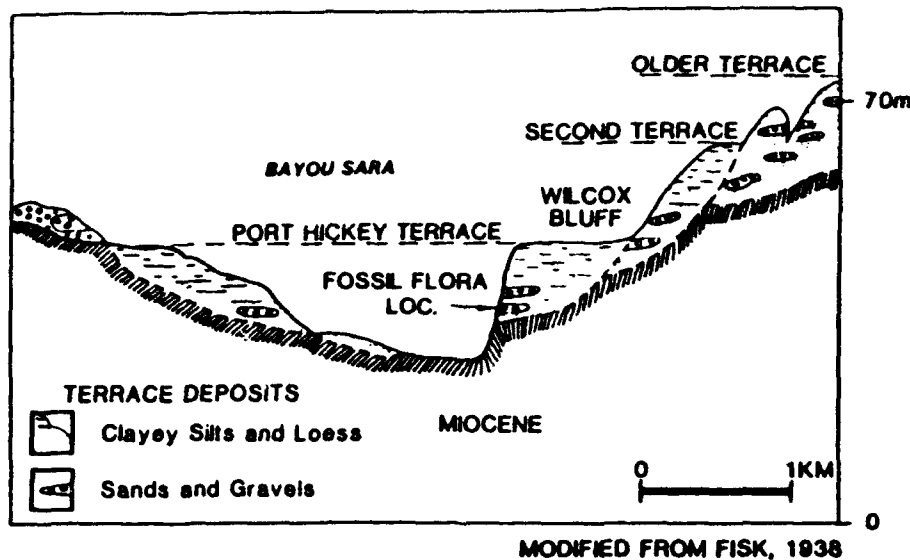


Figure 2: Contrasting concepts of terrace stratigraphy in the Tunica Hills.

primary carbonates and contained sand stringers and occasional pebbles, which indicated that the sediments were colluvial. Four organic samples collected from the low terrace (T1) near the base of the fill yielded dates of older than 38,000 B.P. They also believed that the samples collected by Otvos (1980, 1982) at other probable T2 sites that dated Farmdalian (30,775 to 25,965 B.P.) might be correlative and valid, and that the terrace was mid Wisconsinian. Only Peoria Loess was interpreted as present on T2. The loess buries a weakly developed paleosol. For these reasons, Alford et al. (1983) were reluctant to consider the Wilcox Bluff a feature with Sangamonian origins.

The late Quaternary fluvial terrace deposits in the Tunica Hills are noted for their copious fossil remains, including diverse and well-preserved plant assemblages, freshwater mollusks, and a variety of Pleistocene mammals (Brown 1938; Steere 1938; Richards 1938; Domning 1969; Lowry 1974; Delcourt and Delcourt 1977; Givens and Givens 1987). Of note among the plant fossils is the reported occurrence of typically boreal species, including *Picea glauca* (white spruce) (Brown 1938; Givens and Givens 1987), and *Larix laricina* (tamarack) (Brown 1938), indicative of cooler and possibly drier Pleistocene climates perhaps comparable to the modern Great Lakes region (Givens and Givens 1987).

Boreal and cool to temperate mammals, including *Synaptomys sp.* (bog lemming), *Microtus pennsylvanicus* (meadow vole), and *Symbos cavifrons* (extinct woodland musk ox) have also been reported in West Feliciana Parish, just south of the study area (Domning 1969; Lowry 1974). Other extinct species include sloths and armadillos such as *Chlamytherium septentrionale* (extinct giant armadillo), *Dasybus bellus* (extinct Pleistocene armadillo), *Mega lonyx jeffersoni* (extinct ground sloth), and *Myiobidon harlani* (extinct ground sloth), rodents such as *Castoroides ohioensis* (extinct giant beaver), flesh-eating mammals such as *Smilodon floridanus* (extinct saber-tooth tiger), and other large mammals such as *Elephas sp.* (extinct mammoth), *Mammuth americanum* (American mastodon), *Equus complicatus* (extinct eastern horse), *Tapirus copei* (extinct tapir), and *Tapirus veroensis* (extinct tapir) (Lowry 1974).

Local Stream Alluvium

Alluvium was frequently mapped across the width of most valleys and thus in many places includes terrace deposits older than Holocene. Topographic evidence and pedologic data indicate that several terrace surfaces, which might otherwise be considered Deweyville, Prairie, or perhaps Intermediate Terraces complex, were included in this delineation.

Local streams in the project area are incised into Pleistocene deposits. The landforms deposited by such streams are proportionately smaller than that deposited by the Mississippi. Since the local gradients are steep, the currents are generally swift through the headwaters and in the upper portion of the basin. As the creeks approach the Mississippi River or its floodplain, velocity generally decreases. Flow can be bidirectional, depending upon the stage of the Mississippi. The downstream ends of local streams will generally experience

backwater when stages in the Mississippi River are high and will flow toward the Mississippi when stages in the river are low.

Local stream alluvium is dominated by the mineralogical suites of the area it drains. In the project area, geologic units principally include the High Terraces complex, which is dominated by kaolinite and has an eastern Gulf of Appalachian heavy mineral suite, and loess which has the mineral suite of its source, the Mississippi River.

Part of the lower section exposed in the local stream bottoms is considered to be equivalent to the Miocene Pascagoula Formation in Mississippi. These sediments may have been deposited in a brackish-water deltaic (Brown et al. 1944), or a shallow marine (Cullinan 1969) setting. Other investigations suggest there are both fluvial and brackish components (Fisk 1944; Parsons 1967; Otvos 1982). Lithologies of the lower section include greenish clays, silts and sands that have muddy pebble-sized rip-up clasts. The greenish clays and silts are typically indurated.

Mississippi Alluvial Valley Deposits

The Mississippi River alluvial valley, extends from Cairo, Illinois to an arbitrary location upstream of the Gulf of Mexico where the delta plain originates. The alluvial valley contains distinctive meander belts; corresponding delta complexes; and lobes that are the product of shifts of the Mississippi River during the Holocene. Geologic environments in the Mississippi River alluvial valley and in the project area that were recognized by Fisk (1947) are meander belt deposits including point bar environments, topstratum and slough, abandoned channel environments including chute cutoffs and neck cutoffs, natural levee deposits, and backswamp deposits.

Deposition within meander belts takes place by two major mechanisms. One mechanism is by downstream migration of meander bends which builds lateral accretion topography on the floodplain. The second major depositional mechanism is vertical accretion, where the meander belt grows upward due to sedimentation associated with overbank flooding. Geomorphic features associated principally with lateral accretion of the floodplain include point bars, mid-channel islands, ridges and swales, oxbow lakes, chute and neck cutoffs, and other features. Geomorphic features associated principally with vertical accretion of the floodplain are natural levees, crevasses, crevasse splays, and backswamps.

Lateral accretion deposits are directly related to processes associated with meander bend deposition and migration. Meander bends have a concave bank or cut bank which is steep and a convex bank or gently sloping point bar, typically formed of sandy material deposited during recent floods. The concave bank becomes further steepened by the deep scouring action of the stream in bendways and falls into the river. As the caving bank retreats, the opposite convex bank advances by accretion of sand, derived partly from upstream scouring and deposited as point bars in the slackwaters within the bend. As the

meander bend enlarges, it may form a loop which may be shortened or cut off at the neck of the loop or at a chute channel. Most point bars during low stage have a submerged arcuate ridge-like extension attached at the downstream end which separates a slackwater portion of the stream from the deep part of the channel near the opposite shore. During high water, deposition takes place on the bar area and a ridge is developed. Vegetation growth stabilizes this bar and decreases the flow velocity such that it may trap more sediment. During the following low stage the slackwater slough receives some filling of fine sediments carried in migration. As channel migration continues, sand accretion progresses and the slough may become blocked off from the river by bar growth and then becomes a lake. As the bar grows, a series of alternating arcuate ridges and intervening swales is developed. The bar ridge gradually builds to flood stage height and as the accretions become further removed from the river, the sloughs fill with fine floodwater sediments. Some mid-channel islands are separated from one bank of the river merely by a chute channel which is dry, or nearly so, at low water.

Vertical accretion deposits and geomorphic features are associated principally with overbank flooding of the channel. Partial sorting of alluvium takes place when the stream overtops its banks. As this occurs, there is a decrease in velocity and transporting capability of the water which result in rapid deposition of sediment. As the velocity of the water decreases, sand, being coarsest, is deposited initially and then is followed by silt and clay. The clayey backswamp sediment is deposited from still or slowly moving water in low area in back of the natural levees. The natural levee is typically best-developed on the outside of river bends as a low, sloping, wedge-like ridge of sediments over a mile in average width, tapering into the adjacent lowlands. These levees are constructed above the general level of the floodplain basins and are the topographic forms which cause the meander belt to stand up as an alluvial ridge. Levee crevassing and splay development generally occur on the concave part of the meander bend. The crevasse channels are in most cases incised and flow into the distal drainage networks which parallel the slope of the flood basin floor.

Other geomorphic features in the alluvial valley are associated with mass wasting or gravitational workings such as bank failures and hillslope processes. The alluvial banks of the lower Mississippi River are subject to continual erosion and migration. River bends normally tend to move downstream as the result of the progressive effects of bank erosion. Cutoffs occur as a result of the gradual erosion at and over the necks of bends. The rate and amount of bank caving in the lower river decreases as the mouth of the river is approached. The present meander belt shifts rapidly downstream if it cuts into deposits of sandy point bars which offer little resistance (Fisk 1947). It encounters more resistance when it cuts into fine-grained deposits. Fine grained bed and bank materials slow down the rate of meander migration. Bank recession of sandy deposits is a continual movement associated with a rapidly and regularly retreating bank with smooth shorelines. Fine-grained deposits recede by slumping, which results in irregularly scalloped banklines characterized by blocks tilted riverward. Hillslope processes are also active because of the steep gradients in the vicinity of the project area. Sediment is reworked by processes operating over varying timescales from millenia to days. One of the most important mechanisms for transporting sediment

from the hills is minor streams. Minor streams with steep gradients draining the local uplands have built very steep alluvial fans near the margins of the alluvial valley.

The scale of the features is a significant clue to determining rates of erosion and sedimentation in the vicinity of the project area. In the Mississippi River alluvial valley, local relief on point bars may be as much as 15 ft. Ridges within a point bar area often mark the highest point within the meander belt, rising above the level of the crest of the natural levees on the opposite side of the channel. Large swales occur within the accretion topography which marks the stages in the downstream progression of meander loops. These swales vary from 500 to 1000 ft in width, with some reaching 1500 ft. Minor swales are generally associated with point bar deposits within meander loops. The majority of these swales are 100 to 500 ft wide, with some that reach over 1000 ft. Based upon the maximum thickness of the levee and the age of the channel belt, the average sedimentation rate (the rate of levee accretion in the vicinity of the project area) has been calculated as 0.12 in/yr (0.3 cm/yr) (Saucier 1969).

Mineralogical studies of the Mississippi River alluvium indicate that smectite minerals are predominant in the clay-size fraction, with secondary amounts of micaceous clays (Brown et al 1970). Associated with these are lesser amounts of kaolinite, chlorite-vermiculite intergrade, and quartz minerals. The sand and silt-sized fractions are made up largely of quartz with a sizeable component of feldspars and weatherable minerals including biotite and hornblende. Mississippi River sediment also does not have detectable quantities of calcium carbonate when it is deposited.

Geomorphology and Geology of the Project Area

The geologic history of the project area has been strongly influenced by sea level fluctuations in the Gulf of Mexico and the shifting of the Mississippi River and its distributaries. Sea level fluctuations influenced the slopes, and therefore the load and channel characteristics, of rivers draining into the oceans. During lowering of sea level, the streams cut deep trench-like valleys; during the succeeding rising sea level, these valleys were alluviated. When sea level was approximately 300 ft (90 m) below present, during the Wisconsin or latest Pleistocene deglaciation, the Mississippi valley became deeply incised within coastal plain sediments (Fisk 1944). During the glacial maximum, between 20,000 and 17,000 years before present, the Mississippi River north of the project area had a braided pattern that may have persisted as far south as the Gulf coast, but this has not been established with certainty (Saucier 1974). Sea level began to rise after the glacial maximum, and the alluvial sequence shows an upward decrease in particle size, resulting, in part, from the progressive decrease in slope brought about from rising sea level and consequent filling of the valley. The deposits provide evidence of a gradational reduction in the carrying capacity of the master stream, according to Fisk (1947), and they reflect a great wave of alluviation which slowly spread upstream. Approximately 100 ft (30 m) of overbank clays and silts overlie an undifferentiated sand and gravel unit of late Pleistocene age. The clays

of the Holocene section are divisible into a stack of alternating poorly drained swamp, well drained swamp, and lacustrine facies (Krinitzsky and Smith 1969; Coleman 1966).

Since sea level reached its present stand, approximately 5000 years ago, there has been little effective change in valley slope and no apparent change in the size of particles carried by the lower Mississippi River (Fisk 1947). The Mississippi River has shifted to a channel with a steeper gradient every 1000 to 1500 years during the Holocene. Each major course or belt of the Mississippi River is associated with a delta complex. The early Holocene meander belts of the Mississippi River occupied courses in the western portion of the delta plain, and later meander belts have occupied courses in the eastern part of the delta plain.

Fisk (1944) identified a meandering history for the Mississippi River in the presently occupied channel belt based on orientation of ridges and swales in preserved point bars. This segment of the modern channel in the project area has been occupied for approximately 3000 years (Saucier 1974). Before then, the active channel belt was positioned along the western wall of the lower Mississippi Valley and had a poorly developed drainage network in the vicinity of the present channel belt (Fisk 1944). The shifting of the Mississippi River from the western to the eastern side of the valley is believed to be a major cause of stream entrenchment and the development of T1 as local streams adjusted to changes in base level.

Several bends in the study reach were cut off in the eighteenth and nineteenth centuries (Elliott 1932; Ferguson 1940). In 1722, in the vicinity of mile 260 to 257 AHP, a bend was cut off by natural processes to form False River, shortening the Mississippi River by 21 miles, and in 1776 the Homochitto cutoff led to the development of Lake Mary in the vicinity of mile 324 to 322 of the present channel. The land around Lake Mary has distinctive ridge and swale topography indicative of former positions of the Mississippi channel. Topographic evidence indicates that the river may have also had mid-channel islands or towheads at the time of cutoff development. The Homochitto River empties into this lake six miles from the Mississippi River (Ferguson 1940). Two other bends were artificially cut off by the state of Louisiana in 1831 and 1848. Shreve's Cutoff, in the vicinity of mile 304 to 302 AHP, was made in 1831 and the Raccourci Cutoff was finished in 1848.

Overbank sedimentation in unconfined reaches of the Mississippi River, i.e. without artificial levees, is appreciable during high discharge years. In the flood of 1973, sedimentation averaged 86 cm on point bars, 53 cm on natural levees, and 1.1 cm in the backswamp in some reaches of the river (Kesel et al. 1974). Some evidence also suggests that sedimentation in confined reaches could possibly exceed that of unconfined reaches because they are subject to flooding on a more frequent basis. Elliott (1932) noted that the levees could confine and cause deposition of the river sediment, which would reduce the cross sectional area of the flood channel within a short time. He noted that information regarding the amount and distribution of the levee battures was meager and he synthesized the results of previous studies which showed sedimentation as thick as five feet in less than

a ten-year period near Memphis and one to three feet in some other places. More recently, Saucier (1983) and Mossa (1989) have reported sedimentation of two to four feet since the seventeenth century on the batture along the lower Mississippi River south of New Orleans.

Channel changes since human occupation began in the project area have been quite extensive. Fisk (1944) reconstructed the geomorphic history a few miles south of the project area (Figure 3). In the fourteenth century, the courses of the Mississippi River and Red Rivers were close in this area. The Atchafalaya River also formed in the sixteenth century when a westerly migrating meander of the Mississippi River intercepted the course of the Red River and captured its drainage. For years it remained an insignificant distributary of the Mississippi River because it was choked on its upstream end by a log jam on the outer end of Turnbull's bend, where the Red River flowed into the Mississippi. The Atchafalaya now has numerous tributaries and flow is about one-third of the Mississippi.

Lower Old River was formed in 1831, when Henry Shreve ordered the channel at Turnbull's bend to be dug to shorten the course of the Mississippi (see Figure 3). Soon afterward, the upper portion of the meander loop filled, leaving only the lower course or Lower Old River connecting the Mississippi with the Red and Atchafalaya Rivers. The cutoff in the vicinity of mile 304 to 302 AHP, which was made in 1831 is known as Shreve's Cutoff. The artificial cutoff shortened the distance of the river by 15 mi (Elliott 1932). Shreve's Cutoff did not eliminate shoaling; it merely transferred the zone of shoaling to a new location on the Mississippi. Since 1831, Old River has been the site of almost continual trouble in the maintenance of navigation as the upper end of the old channel has closed off entirely and the lower end filled with silt and closed off at times. This separated the Red and Atchafalaya rivers from the Mississippi, and caused the Atchafalaya to become a continuation of the Red River. Had Shreve's Cutoff not been made, it is possible that the removal of the Atchafalaya raft would have been followed by diversion of the Mississippi River discharge.

Despite human intervention to maintain channel stability and the integrity of the artificial levee, the Mississippi River has migrated significantly in some sections of the project area. Figure 4 shows progressive changes of the lower Mississippi River from 1765 to 1930 near the project area that has been compiled from several different sources (Elliott 1932). The river in this reach is quite dynamic, in part due to adjustments of the cutoffs. The channel has migrated 4000 ft in places during this period and the size and morphology of a number of mid-channel islands have changed appreciably. Channel migration is locally faster where the Mississippi River is reworking the deposits of local creeks, which have introduced gravels and sand to the river. These coarse deposits have been transported downstream as far as below Baton Rouge. Clay plugs and cutoffs tend to have slower rates of migration. The Mississippi River at one time was adjacent to Fort Adams and has since migrated downstream, leaving floodplain deposits as evidence of its former position. The

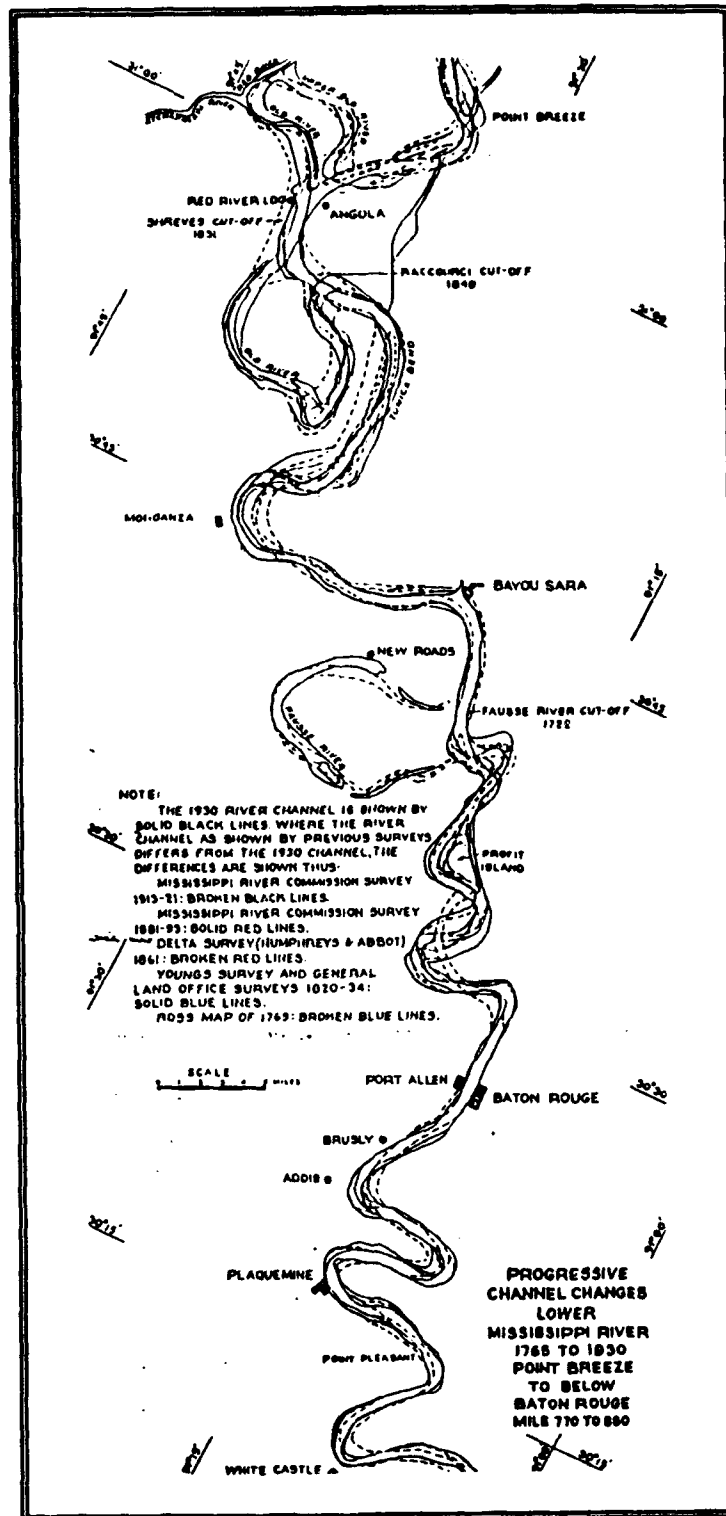


Figure 4: Progressive changes of the lower Mississippi River in the vicinity of the project area. Source: Elliott 1932.

area west of the town of Fort Adams, south of Fort Adams Road, and east of the modern Mississippi River channel was occupied by the river in the early nineteenth century (Figure 5 and 6).

Major natural events that have affected the project area include floods and earthquakes. Floods have been measured only since the late nineteenth century in the lower Mississippi Valley. Figures 7 and 8 show the most significant floods during the period of record. The New Madrid earthquakes of 1811-1812 are the most significant recent tectonic events that have influenced channel adjustments in the Lower Mississippi Valley.

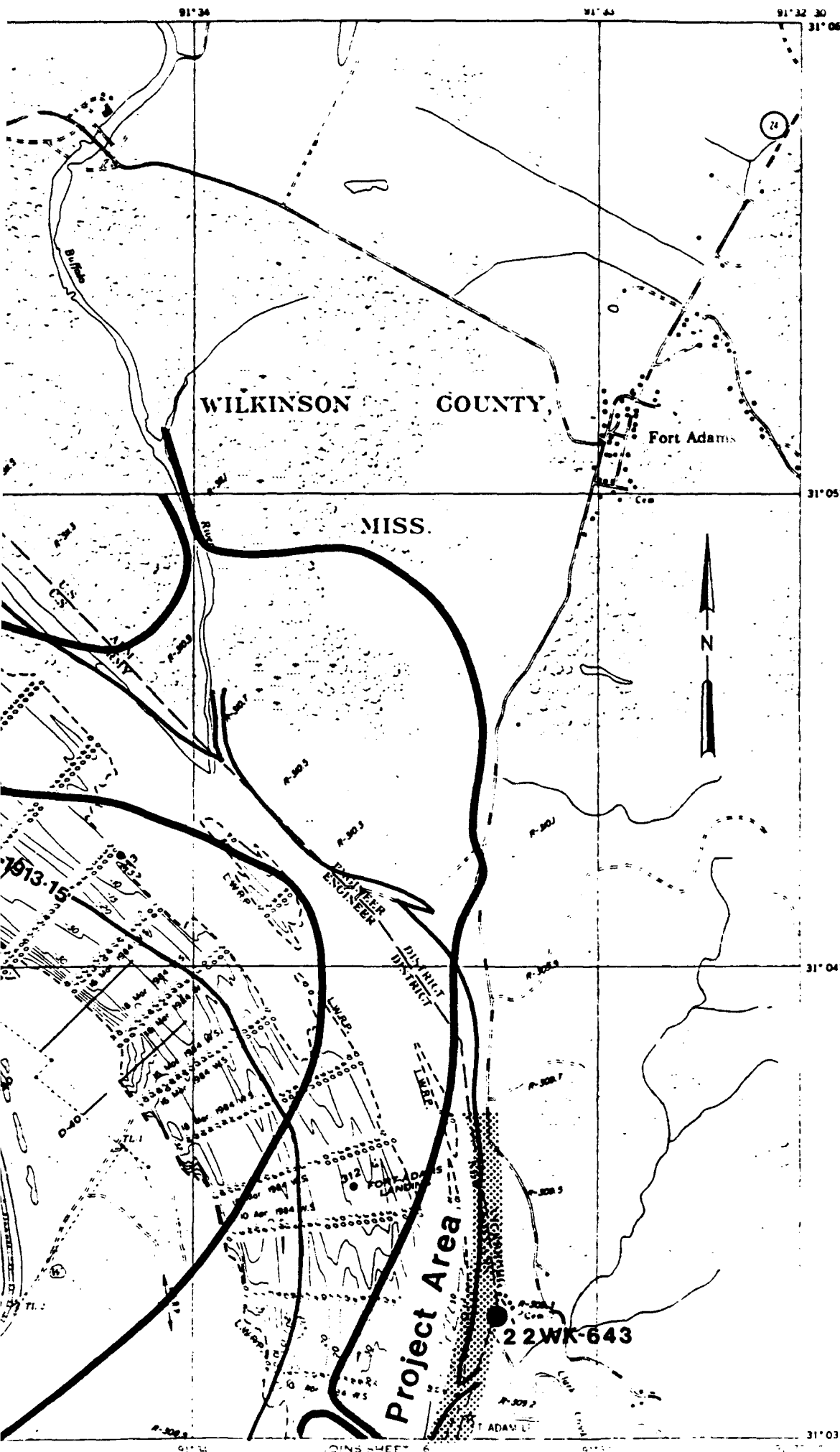
Clark Creek, the mouth of which is in the project area, drains directly into the Mississippi River. It also has several waterfalls in the upper reaches which are atypical features of the Gulf Coast region. The largest of these has about a 25 feet drop in elevation. Much of the acreage in the Clark Creek basin has been bought by the Nature Conservancy and other conservationist and governmental organizations because of the beauty of the area.

Several minor alluvial fans, ranging from about 0.5 to 2.0 square miles in surface area, are also present in the vicinity of Fort Adams, all at the heads of minor creeks which drain the loess capped Tunica Hills and terminate at the Mississippi River floodplain. The larger alluvial fans in the vicinity of the project area are at the mouths of Millbrook and Percy creeks, at Bloomer Creek, and a smaller fan is located at Fort Adams where some unnamed creeks that drain the uplands reach the floodplain.

The Flora and Fauna of the Study Area

In terms of natural vegetation, this region has a large variety of upland hardwoods. Dominant types include the sweetgum tree (*Liquidambar styraciflua*), water oak (*Quercus nigra*), cherry bark oak (*Quercus falcata* var. *pagodaefolia*), loblolly pine (*Pinus taeda*), and winged elm (*Ulmus alata*). Other flora, such as secondary growth, includes broomsedges, briars, and even rosebushes. In the floodplain portions of the study area, palmettos (*Sabal* sp.) and cypress (*Taxodium distichum*) can be found which reflect absence of adequate drainage.

Animal life is likewise diverse and past studies have shown a large percentage of the mammal species to be found in the Lower Mississippi Valley are in the project area. These include the white tail deer (*Odocoileus virginianus*), cottontail rabbit (*Sylvilagus aquaticus*), gray squirrel (*Sciurus carolinensis*), fox squirrel (*Sciurus niger*), skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), beaver (*Castor canadensis*), opossum (*Didelphis virginiana*), bobcat (*Lynx rufus*) and red fox (*Vulpes fulva*). Birds include such predators as the great horned owl (*Bubo virginiana*) and the red tail hawk (*Buteo jamaicensis*) and well as nonraptorial types such as a variety of ducks, egrets, and herons.



CONCORDIA

PARISH

Lam Point
Plantation 546.6

LA.

555.28.0

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11

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1919-15

FORT

ENGINEER

ARMY

Project Area

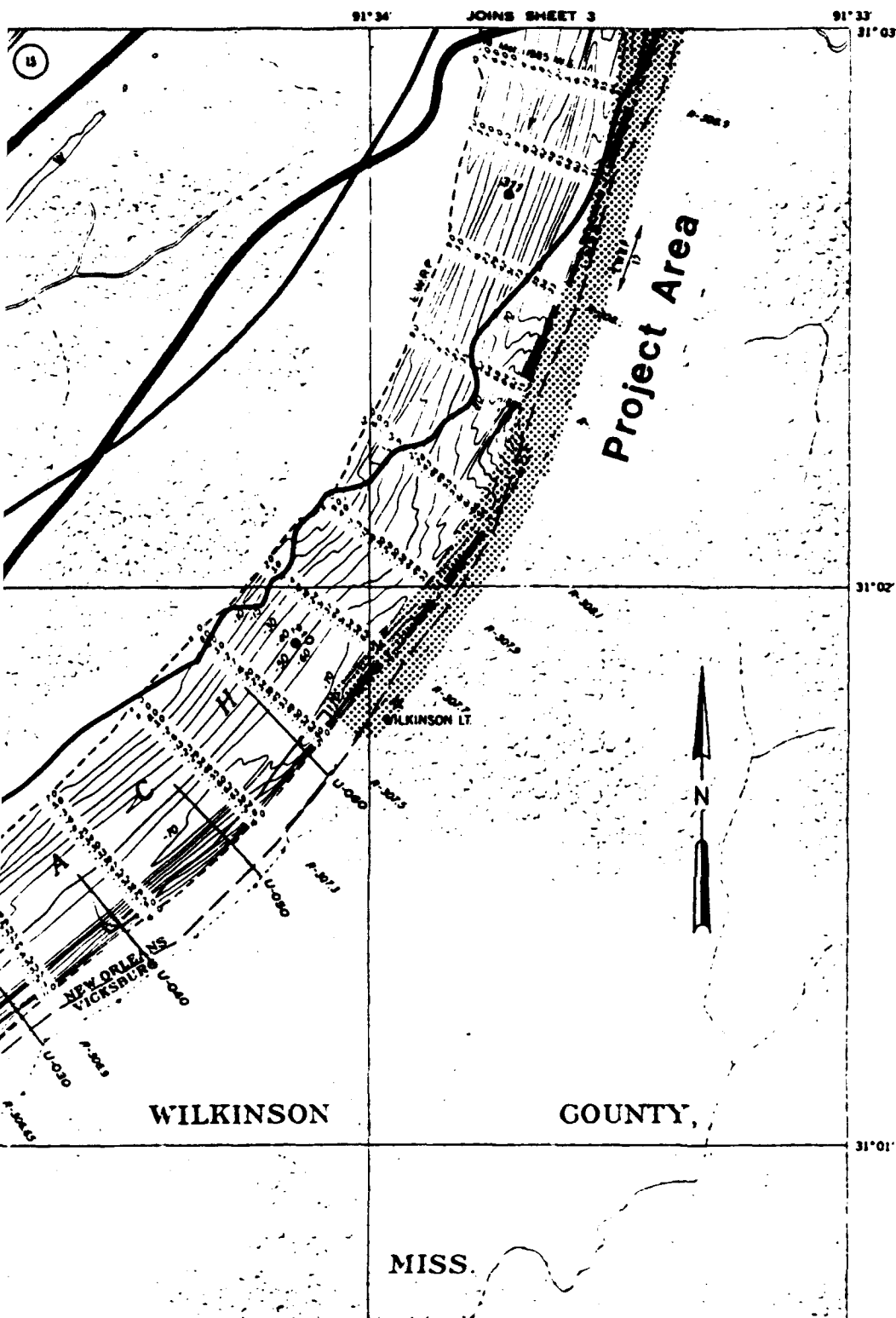
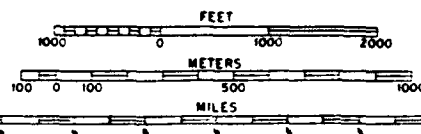


Figure 6 MISSISSIPPI RIVER
HYDROGRAPHIC SURVEY 1983-1985
BLACK HAWK, LA. TO HEAD OF PASSES, LA.
ALSO SOUTH AND SOUTHWEST PASSES
AND PASS A LOURE

SCALE 1:20,000



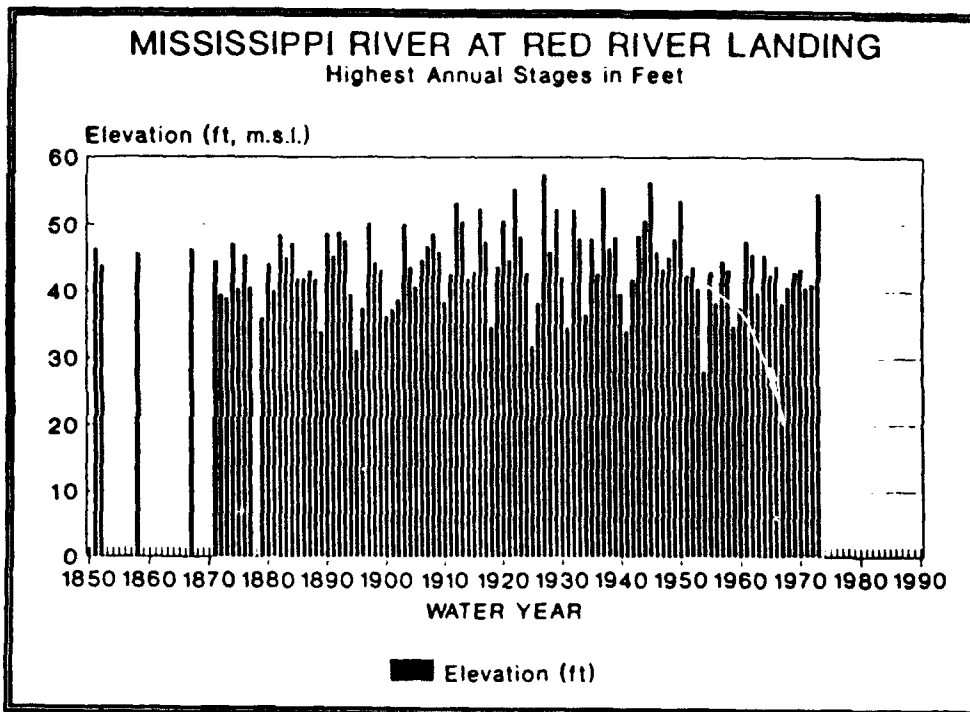


Figure 7: Maximum stages of the lower Mississippi at Red River Landing (mile 302) in the vicinity of the project area.

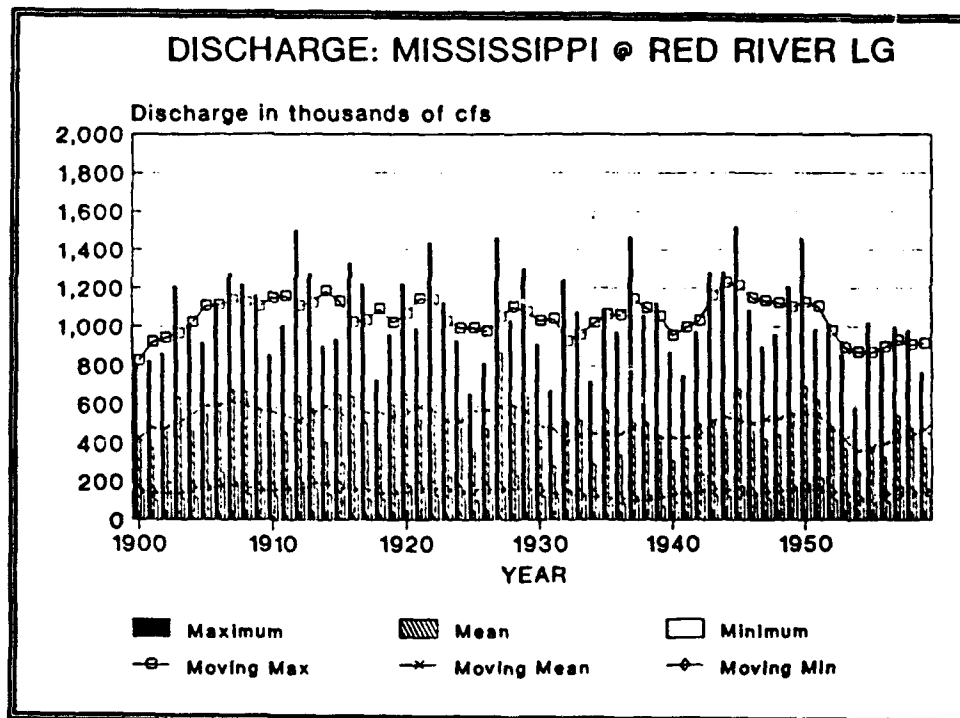


Figure 8: Maximum, mean, and minimum discharges of the lower Mississippi River at Red River Landing (mile 302) from 1900 to 1952.

Reptiles are also very numerous in number and variety in the project area. Harmless water snakes (*Nerodia fasciata*) and garter snakes (*Thamnophis sp.*) are very common as are the more dangerous water moccasin (*Agkistodon piscivorus*) and rattlesnake (*Crotalus spp.*). Amphibians such as bullfrogs (*Rana catesbiana*), snapping turtles (*Chelydra serpentina*), and newts (*Notophthalmus viridescens louisianensis*) are found in great abundance.

While parts of the study area are void of human habitation, a modern presence is definitely observable. Much of the area is under lease to hunting clubs and, as a consequence, deer stands are frequently encountered in or near the project area. Also, fishing and turkey hunting are other popular activities that have contributed to frequent human visits to portions of the study area. In general, however, it may be said that the area south of Clark Creek has very little sign of human presence, historic or otherwise, while the area north of Clark Creek, contains signs of long term human occupation.

CHAPTER III

PREHISTORIC CULTURE HISTORY OF THE REGION

Paleo-Indian Period, Prior to 8000 B.C.

The initial human occupation of Louisiana probably occurred during the late Pleistocene over 10,000 years ago. This occupation more than likely consisted of small bands of hunter-gatherers who were nomadic and possibly followed herds of now extinct mega-fauna such as the mammoth and the giant bison. The artifacts from this period are rare throughout North America and especially rare in the Lower Mississippi Valley. The most readily identifiable artifacts consist of fluted lithic spear points such as Clovis, Folsom, San Patrice and others (Justice 1987).

While Paleo-Indian sites occur in the Lower Mississippi Valley, they are not without controversy and none are located in the current project area. The so called "Natchez Man," however, a portion of human pelvis reportedly found in the mid-nineteenth century in the same context with the skeleton of extinct Pleistocene megafauna in the loess bluffs near Natchez, Mississippi, provides a possible indication of possible Paleo-Indian occupation in or near the current project area. This find, which has gone in and out of favor with the scientific community was dated by flourine content in 1895 to be the same age as the skeleton of extinct megafauna (Quimby 1956). If this first and last report of human remains in association with Pleistocene megafauna is true, the similarity of the terrain in the Tunica Hills to the loessal bluffs of Natchez provides at least for the possibility of Paleo-Indian occupation in the study area.

Archaic Period - 8000 B.C. to 1500 B.C.

A change of climate that marked the end of the Pleistocene era led to an eventual change in the flora and fauna of North American and caused an apparent change in the lifeways of the inhabitants of the continent. With the extinction of large megafauna, the hunting of smaller game and seed and nut gathering became the chief subsistence for prehistoric Indians during the so-called Archaic period. Sites of *in situ* remains from this period are rare in Louisiana and southern Mississippi (Haag 1961). The Archaic sites present in the Lower Mississippi River Valley are recognized to have a greater variety of lithic artifacts, as well as bone tools, which may reflect increasing adaptation to environmental changes brought on by the end of the Pleistocene. Although pottery is not associated with the Archaic period, steatite vessels and basketry probably served as containers.

Also, the appearance of the atlatl or dart thrower as a technology for launching projectiles is widely recognized as a diagnostic artifact of the Archaic period (Neuman 1984).

In addition to the dart points themselves, clay, stone and even shell objects known as boatstones or bannerstones are thought to be possible weights that were added to the atlatl to increase the force of the dart launched by the throwing stick (Neuman 1984:79).

While most Archaic sites in Louisiana are found in upland areas, away from alluvial valleys, this may be a product of alluvial deposition burying sites from this period rather than an indication that such areas were avoided during the Archaic (Haag 1961). A known archaic site in Louisiana, across from the current project area is an example of this probability. 16CO21 in Concordia Parish, Louisiana, is a site where two lithic projectile points, classified as Hale and Kent types, of gray mottled and yellow tan chert respectively, were found on the top bankline of an excavated outflow channel associated with the Old River Control Structure (DOA site files). Such a site in the alluvial plain of the Mississippi River indicates an occupation in the general vicinity of the study area during the Archaic; but it also illustrates the difficulty of finding such sites because they are covered by several feet of alluvium or have been removed from an *in situ* deposit by numerous events of erosion and redeposition that may have occurred since the Archaic period.

Poverty Point Period - 1500 B.C. to 800 B.C.

Out of the Archaic tradition, several new cultural developments occurred in several regions of North America. Domesticated cultigens, pottery making, and mound building are recognized as characteristics that suggest increased populations, social complexity beyond bands of hunter and gatherers, and the introductions of new technologies. In the Lower Mississippi Valley, the Poverty Point period (from around 1500 to 800 B.C.) saw one of the most dramatic such transitions from the Archaic. In Louisiana, the Poverty Point site is unique for its large mounds, concentric patterned earthen ridges, huge amount of baked clay objects, and apparent extensive trade network (Webb 1982; Neuman 1984). While dart points and boatstones are associated with Poverty Point period sites, there is increasing evidence that some horticulture may have taken place at Poverty Point.

In Mississippi, the Jaketown site in Humphreys County in the Yazoo River Basin is the Poverty Point period site that has received the most research attention. Ford, Phillips, and Haag (1955), who had realized the unique nature of the Poverty Point site in Louisiana, noted that at the multi-component Jaketown site diagnostic artifacts such as Poverty Point Objects, microliths, and mounds dominated the archeological picture. They interpreted this to mean that although later cultures had occupied the site, the Poverty Point period clearly provided the most extensive occupation of the site (Ford et al. 1955). Other Poverty Point sites also found in the Yazoo Basin are Teoc Creek, the Neill site and the Slate site (Lauro and Lehman 1982).

No verifiable sites dating from the Poverty Point period have been found in the current project area. However, LSU's Dr. Fred B. Kniffen's allusion to "74 clay squeezes" at the Angola Gate Mound (16WF3), just south of the state line may be an indication of a Poverty Point period occupation in the area (DOA site files). Unfortunately, the mound and

associated site have been completely destroyed by construction for the Angola State Prison (Kniffen, personal communication).

Tchefuncte Culture - 500 B.C. to A.D. 200

Following the decline of the Poverty Point period, the archeological record the Lower Mississippi Valley is somewhat confused. In parts of the region, the succeeding culture is the Tchefuncte, which is generally regarded as a less complex period than the preceding Poverty Point period. The Tchefuncte period did, however, exhibit one generally recognized technological achievement over the Poverty Point culture: the widespread production and use of pottery (Ford and Quimby 1945). Originally associated with the coastal regions, it has been ascertained that this culture, which essentially added ceramics to techniques associated with the preceding Poverty Point period, extended northward beyond coastal regions (Neuman 1984; Toth 1988:19-21.) Usually recognized by their ceramics, Tchefuncte sites are relatively few in number, and composed of small hunting camps that suggest a partially nomadic existence. Human remains and seed evidence, however, suggest that this period also had the rudiments of agriculture, or perhaps more aptly, horticulture (Neuman 1984; Weinstein and Rivet 1978). No Tchefuncte period sites are known to exist in the environs of the project area.

Marksville Culture - 100 B.C. to A.D. 400

The Marksville culture, with its complex type site located on the eastern edge of the Avoyelles Prairie about 20 mi west of the project area, is interpreted as a southern manifestation of the Hopewell culture. Characteristic pottery types, conical burial mounds, and elaborate earthworks all point to some sort of connection with the Hopewell in the Ohio River Valley. While WPA-sponsored excavations of the Marksville site have unfortunately gone unreported, an admirable synthesis of available data from this site has been organized by Alan Toth (1974), formerly of Harvard University. He and previous investigators have long noted that the characteristic conical mounds of the Marksville period were once in far greater number than they are today and that the sample available for archeological study is only a small fraction of what once existed. Additionally, Toth laments the focus of study of the Marksville period upon the mounds and the burial practices of this era and he feels that additional data on subsistence and settlement patterns would increase our understanding of the Marksville period (Toth 1988).

Directly within the project area, 22WK516, simply named the Clark Creek site, is described as an artifact scatter in a cultivated field that contained projectile points, flints (debitage?), and Marksville period sherds. Attempts to relocate this site were unsuccessful during the field work portion of the current project. It would not be surprising, however, that such a site would be in this portion of the Lower Mississippi Valley. Several mound and non-mound Marksville period sites are known to exist east and west of the Mississippi River in the general region.

Troyville-Baytown Period - A.D. 300 to A.D. 700

Following the Marksville period, a loosely labelled period termed Troyville, named after the type site at Jonesville, Louisiana, is generally regarded as a transitional time leading to the cultural florescence of the later Coles Creek period in the Lower Mississippi Valley.

The Troyville site originally had at least nine mounds and an earthen embankment that restricted access to most of the mounds within an area made further inaccessible by the natural boundaries of the Little and Black Rivers. James A. Ford (1951) noted differences in the ceramics at the Troyville site from those associated with the Marksville period and those of the later Coles Creek period. Later analysts, however, have proposed that the Troyville period, expanded to include Baytown ceramics from the Yazoo and St. Francis River Basins, should be considered a somewhat less than distinctive period that has many continuities stretching into Coles Creek times (Gibson 1982). Platform mound building, as opposed to the typically conical mounds of Marksville, was apparently first practiced in the Troyville period.

Coles Creek Period - A.D. 700 to A.D. 1200

The Coles Creek period is one of the most widespread and clearly defined archeological horizons in the Lower Mississippi Valley. It is recognized by several diagnostic pottery types such as French Fork Incised, and Coles Creek Incised, among others, and by the continuation and refinement of earthen platform mounds in groups or singly. Several Coles Creek mound sites are relatively close to the project area. The Greenhouse site (16AV2) is on the floodplain just east of the Avoyelles Prairie in Louisiana, approximately 20 mi east of the current project area. Even closer, and in some ways similar to the Greenhouse site, is the Smith Creek site (22WK526) which is located approximately four miles north of Fort Adams. This site consists of three earthen mounds arranged around a plaza and presents evidence of prolonged and intense occupation during the Coles Creek period (Ford 1936:193-201; Brown 1973).

In addition to these Coles Creek sites, other mound sites possibly associated with the Coles Creek period dot the floodplain landscape west of the Mississippi and the study area for the twenty miles between the Avoyelles Prairie and the Mississippi River. Before modern levee construction, this portion of Louisiana was frequently inundated by overflow from the Red River (Ford 1951). However, the existence of sites such as the Greenhouse site (16AV2); the Lake St. Agnes site (16AV26); the Lower Long Lake (16AV10); Long Lake (16AV33); among others, would seem to indicate that this same floodplain may have been less susceptible to flooding at some point in prehistoric times and was therefore habitable.

In addition to mound sites, Brain's excavations at the Trudeau Landing site (16WF25), just below the state line in West Feliciana Parish, revealed a Coles Creek occupation. The second prehistoric occupation at the site, postdating an apparently short lived Baytown

culture occupation, was a manifestation of the Coles Creek culture. Distribution of surface and excavated artifacts suggested a small village that was located at the base of the loessal bluff at the site and extended somewhat out toward the river (Brain 1982:112-113).

Plaquemine-Caddo Cultures - A.D. 1200 to A.D. 1550

Concomitantly and following the Coles Creek period, several cultural developments occurred in various portions the Southeast. The Caddo culture, which is often associated with northwestern Louisiana and the Red River, enjoyed something of a florescence and was influenced by a number of surrounding cultures, perhaps even as far away as Mesoamerica (Neuman 1984:218). Sometime after A.D. 1000, the Plaquemine phenomenon, originally defined by the Medora Site (16WBR1) on the Mississippi River below Baton Rouge, continued the mound building tradition; showed definite evidence of maize agriculture; and exhibited specific pottery types such as Plaquemine Brushed, L'Eau Noire Incised, and Harrison Bayou Incised (Quimby 1951; Phillips 1970).

Anna phase ceramics of the Plaquemine culture were reported at several sites near the project area by Ian Brown in 1973. All were village sites containing midden remains of various dimensions. An exception, however, may have been Plaquemine materials at the Smith Creek site showing a continued occupation of that mound site, although there is no evidence that the mounds were altered during that occupation (Brown 1973).

Across the river in Louisiana, sites such as the Lake St. Agnes Mound (16AV26) (Toth 1979) and 16AV22 a Plaquemine period mound site on the Avoyelles Prairie (Jones and Shuman) attest to Plaquemine period occupations in the general regions of the study area. Also, given evidence that the pottery types such as Maddox Engraved have been found at sites such as the Baptiste site (16AV25), as well as at the Prairie Lake Mound (16CO28) (Moore 1911), suggests a Caddoan presence, or at least influence, during the late prehistory of the study area (Phillips 1970:107-108).

The proto-historic stage set for entry of the Lower Mississippi Valley into the historical record indicated a fairly extensive aboriginal occupation, although probably less intense than during the Coles Creek period. Mound building, while still extant among some groups, was generally on the decline. Maize agriculture, among other cultigens, provided a subsistence base that was augmented by continued hunting and gathering. Some groups were organized into large and populous chiefdoms, such as the Natchez, with a fair degree of sedentism. Other groups were smaller, more simply organized, and more likely to be nomadic or semi-nomadic.

CHAPTER IV

THE HISTORIC PERIOD IN THE PROJECT AREA

Contact and Colonial Period (1542-1803)

Having exploited the treasures of the Aztecs in Mexico and the Incas in Peru, the Spanish were eager to believe reports of additional treasures to be found in the New World. This interest was reinforced when Cabeza de Vaca reported on the fate of the failed Navaez expedition (1528-36) in Florida and among the Indians of the Southwest.

Pondering Cabeza de Vaca's accounts of the fabled Seven Cities of Cibola, Hernando de Soto, recently appointed Governor of Cuba and military commander of Florida, reasoned that the treasures of Cibola probably existed within the territory under his authority. Having established his regime in Cuba, de Soto led about 600 men ashore at Tampa Bay Florida in 1539 in search of the fabled Cibola. This expedition spent the next three years travelling through much of present day Southeastern United States.

Thus, it was members of de Soto's expedition who were the first Europeans to see the portions of the Mississippi River within the current project area. According to Swanton (1985:56), the Spaniards, after reaching the province of Anilco, received a visit from the chief of the Guachoya tribe, who were the principal enemies of the inhabitants of Anilco. Learning that the Guachoya village was on the Mississippi, de Soto set out in that direction. The chief of the Guachoya, after initially fearing the Spanish, eventually became their ally in an attack on Anilco. Swanton places the Anilco site at Jonesville, Louisiana and Guachoya, the site of de Soto's death, near modern Ferriday, Louisiana. These and most other sites connected with de Soto's *entrada* are debated. Wherever Anilco and Guachoya were located, the remnant of de Soto's invading force wandered west as far as Texas before returning to Guachoya, building boats, and travelling down the Mississippi River, and eventually to other Spaniards in Mexico (Swanton 1985).

The de Soto expedition ended Spanish activity in this portion of the Lower Mississippi Valley for more than 200 years. Renewed Spanish interest in the Lower Mississippi Valley was a response to the French colonization of Louisiana. French activity in this territory was an extension of their colonial venture in the St. Lawrence River Valley. During the 1660s officials in New France developed a plan to ensure that they dominated the fur trade of the North American heartland. They envisioned a chain of forts and trading posts on a broad arc from Quebec on the St. Lawrence, through the Great Lakes and Mississippi Valley, and terminating at a fortified trading post to be built near the mouth of the Mississippi River.

Chosen to investigate the feasibility of this plan was Rene Robert Cavelier, Sieur de La Salle. The La Salle expedition departed from the vicinity of present day Chicago in late

December 1681. Four months later, having descended the Mississippi River, La Salle's party neared the location of present day Natchez, Mississippi where the expedition encountered the Taensas and Natchez Indians. On March 31, 1682 opposite the mouth of the Red River, they passed the villages of the Houma Indians. One week later, the company reached the point where the river divided into three broad channels that flowed into the gulf. Having spent several days exploring the marshy coast surrounding the river's mouth, La Salle assembled his party on a point of dry land near the area of the Head of Passes and claimed the entire drainage basin of the Mississippi River for France, naming it Louisiana after his sovereign, Louis XIV (Parkman 1910:217-27; Woods 1980:23).

Two years later La Salle attempted to plant a colony near the mouth of the Mississippi. Misfortune plagued this expedition, and the colonization effort met a demise shrouded in mystery on the Texas coast. The French did not lose interest in this project, but a war with the English delayed renewed efforts at colonization.

After the war ended in 1697, the French selected Pierre Le Moyne, Sieur d' Iberville, to command a new colonizing expedition. His fleet arrived on the Gulf coast in late January 1699 and in mid-February he established a camp at Biloxi Bay. In early March an exploration party headed by Iberville and brother, Jean-Baptiste Le Moyne, Sieur de Bienville, rediscovered the mouth of the Mississippi River and ascended the river as far as the Houma Indian village near the mouth of the Red River on what is now Angola Prison Farm. This site was later occupied by the Tunicas. Iberville spent the night of March 20, 1699 at this village and described it and its inhabitants in remarkable detail. An example of this detail is Iberville's description of the Houma village plan:

This village is located on a hill, on which there are 140 huts. There are possibly 350 men at most and many children. All the huts are on the slope of the hill, in two rows in certain places and in a circle. In the middle, there is a village square 200 yards wide kept in good order. The corn fields are in little valleys and on hills in the vicinity. This whole region is chiefly hills of fairly good black soil (Iberville 1981:69).

Iberville was searching for a "fork" in the Mississippi that had been mentioned earlier by La Salle and Tonti, La Salle's lieutenant. This fork may have been the confluence of the Red River with the Mississippi or the then periodic flow of the Atchafalaya River out of the Mississippi. If so, Iberville was close to his goal before he returned downstream still unsure if he was on the same river as La Salle. Iberville describes how a Taensa tribesman made a map at his request of the Mississippi River to the gulf. A variety of Indian settlements were associated with the Tassenocogoula River (one name for the Red River). The settlements had names linguistically affiliated with Caddo tribes (Iberville 1981:71). The search for this fork eventually led to Iberville's journey back down the Mississippi River and the exploration of Bayou Manchac, then another periodic distributary of the Mississippi River (Iberville 1981). Iberville's second ascent of the Mississippi River in 1700 took him past the Houma village at Angola upstream to the Natchez village on St. Catherine's Creek near

present day Natchez, Mississippi. During this voyage Iberville described what surely must be Big Island now bordered on the east by Lake Mary, about six miles north of the project area. Now a cutoff lake, in 1700 Big Island was truly an island. Iberville wrote of the region he observed on March 9, 1699:

On the way up to the Nadches, 5 leagues from the Oumas' landing, I found an island about 4 leagues in circumference. I took the small channel on the right [now Lake Mary], going upstream. Three quarters of a league below this small channel is a little river, on the right side [Buffalo River ?]. Two and a half leagues from this big island there is a little one on the left. All the country I have passed through today becomes inundated 5 and six feet in many places. This land is no better than downriver-I mean the banks of the river. The land appears quite elevated 1 and 2 leagues back from the river (Iberville 1981:123-24).

The above description no doubt describes the ridge of loess hills that extends into the project area from the north and includes the region of Natchez. Iberville's description of the physical aspects of that region would still apply to the terrain around the project area:

From the river landing [at Natchez] one climbs a hill, about 150 fathoms high, a sheer bluff covered with hardwood trees. Once on top of the hill one discovers a country of plains, prairies, full of little hills, with clumps of trees in some spots, many oak trees,....According to what I have seen, it is a country of yellowish soil mixed with a little gravel.....This countryside is very much like France. (Iberville 1981:125-126).

Upon returning from this reconnaissance of the Mississippi River, Iberville selected a site on the eastern shore of Biloxi Bay for his colonial settlement. Here his party constructed Fort Maurepas. This post served as the center of the Louisiana venture for three years, but in 1702 the necessity of finding a location more conducive to agriculture prompted Iberville to move the settlement to a site just north of present day Mobile, Alabama.

While the Louisiana colony expanded slowly from its locus on the gulf coast, French-Canadian fur trappers, *coureurs de bois*, were active in the Lower Mississippi Valley soon after 1700. In addition, the Tunica Indians had moved into the region, initially living among the Houma, after being driven from their villages upstream by the Chickasaw (Swanton 1979:198). A Catholic priest named Father Albert Davion (or D'Avion) who had originally begun missionary work with the Tunica in 1699 followed the Tunica to this locale.

By 1704, Father Davion had become a familiar figure to Europeans and Indians alike in the Lower Mississippi River Valley. His mission was apparently frequently visited by travellers on the Mississippi or persons on the trails between Natchez and New Orleans (Baudier 1939:21). His mission was located on or near the bluffs of Fort Adams, Mississippi and this spot bore the name of Roche Davion or Davion's Rock for years to

come (Figure 9). M. Le Page du Pratz in his *The History of Louisiana* gives a brief account of the frustration that Davion experienced at his mission.

After several days navigation, we arrived at Tonicas on Christmas eve; where we heard mass from M. d'Avion, of the foreign missions, with whom we passed the rest of the holy-days, on account of the good reception and kind invitation he gave us. I asked him, if his great zeal for the salvation of the natives was attended with any success; he answered me, that notwithstanding the profound respect the people showed him, it was with the greatest difficulty he could get leave to baptize a few children at the point of death; and that those of an advanced age excused themselves from embracing our holy religion, because they are too old, say they, to accustom themselves to rule, that are so difficult to be observed;In other respects, they did not suffer this zealous pastor to want for any thing, but furnished him with whatever he desired (du Pratz 1975:25).

In addition to attempting to spread salvation among the Tunica and other Indian groups, Davion also kept Bienville, the French governor of Louisiana, apprised of the Indian situation in the new colony. By 1720, Davion had left the Tunica, apparently in despair over his lack of success among them, and took up residence in New Orleans where he became more directly involved with the internal politics of the Catholic Church (Baudier 1939). By 1726, he had returned to France where he eventually died.

The French occupation of the lower Mississippi Valley led to an involvement with local Indian groups beyond missionary work. Although these relations were not always amiable, as evidenced by the war with the Natchez in 1729-30, some tribes did become closely allied with the French. The Tunica tribe was perhaps the most famous of these aboriginal allies to the French, although their leaders seemed to be the consummate survivors who played the various European governors in the region against one another (Kniffen et al. 1987:64).

Archeological sites of the Tunica in Louisiana just south of the current study area such as 16WF25, 16WF2, and 16WF21, are all sites that have been excavated and shown to contain extensive collections of European trade items. Significantly, most of these items have been found in association with burials which may indicate that such items were in such surplus that their interment with the dead did not detract from the quality of life for the living. Furthermore, all these sites are located in a region that the French dubbed the Portage of the Cross where a voyage on the Mississippi could be shortened by about 30 mi.

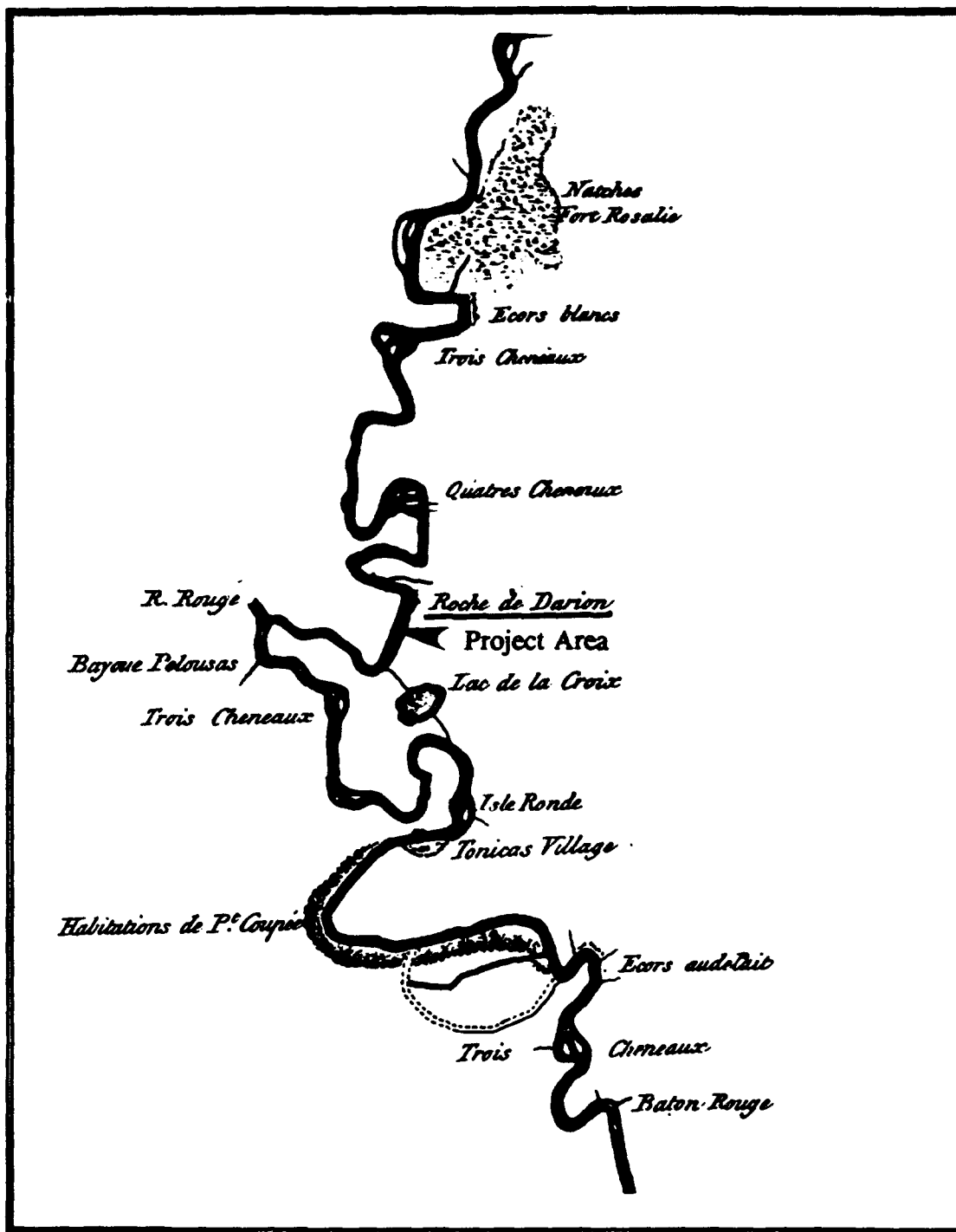


Figure 9: Detail of a chart of the Mississippi River done by Lt. Philip Pittman in 1770.
Source: Pittman 1973.

This portage and the confluence of the Red River gave the Tunica a strategic position in the early days of French colonial Louisiana, especially with French settlement increasing a few miles downstream in the Pointe Coupee area. The Tunica apparently used their strategic location to become successful traders in horses, an animal the early European colonialists were not likely to obtain from the mother country. All of this strategic location, proximity to European customers, and ties to other Indian groups with access to horses, produced the relative material wealth that is reflected in the Tunica Treasure (Brain 1988:16-18). With the cession of Louisiana to the Spanish in 1763, the Tunica's position apparently became more tenuous until they eventually migrated to their current residence in Marksville, Louisiana in the late eighteenth century (Kniffen et al. 1987).

Despite the importance of the commerce between the Tunica and the French, developments and events upstream overshadowed the course of French involvement in the Lower Mississippi Valley. As the Louisiana colony entered its proprietary period, colonial officials became increasingly alarmed by the activity of English traders in the area. To stifle this threat to French hegemony along the Mississippi, the officials of Antoine Crozat's concession sought to protect French trading interests by constructing a military post on the strategic bluffs at Natchez. This post, built in 1716, was known as Fort Rosalie. By 1720, over 100 whites had taken up residence in the Natchez country (Woods 1980:55-63).

Throughout the 1720s Fort Rosalie and the neighboring concessions remained very much frontier outposts. Racial tensions and commercial disputes frequently exacerbated what was at best an uneasy relationship between French settlers and their Indian neighbors. On November 28, 1729, the peace collapsed as the Indians, reacting to the latest in a series of rebuffs and insults from the French commander at Fort Rosalie, Captain Chepart, attacked their unsuspecting white neighbors. Before the day ended, 237 white residents of the fort and surrounding area had been killed (Woods 1980:95-96).

The Natchez Massacre sent a wave of panic throughout the colony. French officials understood the necessity of punishing the Natchez, but also realized that the task would take several years. In the process, the Natchez were driven from their ancestral home and pursued over much of northern Louisiana. Those captured were sold into slavery and shipped away and those avoiding capture eventually took refuge among the Choctaw (Woods 1980:101-109).

Later in the eighteenth century, the entire Mississippi Valley became embroiled in the colonial rivalries between France, Spain, and England. The French ceded their claims on the left or eastern bank of the Mississippi River as a result of the Treaty of Paris signed in 1763 which signaled the end of what is known in North America as the French and Indian War. The British then controlled the province of West Florida which included eastern Louisiana and much of southern Mississippi, although the control of this latter area was in dispute.

In 1764, in order to validate their territorial claims, the British sent an expeditionary force under Major Arthur Loftus to secure Fort Chartres in the upper Mississippi Valley, as well as to garrison other forts. Travelling in 10 barges that were powered by oars, he and a contingent of about 400 men went up river from New Orleans. Near Roche Davion his force was attacked by Tunica Indians, possibly supported by French settlers and their slaves from Pointe Coupee. Although his casualties were relatively light, about 15 men, he was uncertain of the size of the force that he faced. Because Loftus was also battling against the current of the Mississippi River, as well as an enemy in canoes and on the river's banks, he abandoned his expedition. Roche Davion then became known as Loftus (or Loftus's) Heights and maintained that designation until the area came under the control of the United States (Rowland 1925:256-259; Gillson 1954:52; Pittman 1973:35).

Early American Occupation and Fort Adams

Following the American Revolutionary War, the land under the control of the fledgling United States stretched beyond the original 13 colonies. A boundary dispute between the United States and Spain over portions of what is now southern Mississippi soon came to a head. In 1795 the two countries signed the Treaty of San Lorenzo (also known as Pickney's Treaty), which set the boundary between Spanish West Florida and the Mississippi Territory at a latitude of 31 degree north.

On May 26, 1797, following the orders of General James Wilkinson, Captain Isaac Guion left Fort Washington (Cincinnati) with two companies to take possession of the lower Mississippi from the Spanish who were supposedly departing. On October 22, 1797, a fort was built at Chickasaw Bluffs (Memphis) and named Fort Adams, soon to be changed to Fort Pickering. Guion's forces moved down the river to Natchez and caused the Spanish troops stationed there to withdraw on March 29, 1798 (Guion 1909:25-112).

General Wilkinson, who had been ordered to descend the river with reinforcements from Pittsburgh, reached Natchez on September 27, 1798, but, on Captain Guion's recommendation, he soon moved downriver to Loftus Heights, where he established a new post called Fort Adams in honor of the second president. This site, which Wilkinson considered the "most southerly tenable position within our limits" (Wilkinson 1816: I, 434) was about six miles above the Spanish border as defined by Pinckney's Treaty and was of strategic importance in the American occupation of the Trans-Appalachian west. It was a position from which the Spanish in West Florida and Louisiana could be observed and, with proper artillery, from which large scale military movements up and down the Mississippi could be stopped (Prucha 1977:55-56).

The fort (Figure 10) was constructed in 1799 under the direction of Major Thomas Freeman who had been working as part of the surveying project under Andrew Ellicott to define the southern boundary between Mississippi Territory and Spanish possessions (Rowland 1907: I, 728). The best description of the fort comes from Fortescue Cuming, a traveller who passed through the area in August 1809, near the final years of the fort's

Drawer 138.

Sheet 6.

Section of the rampart, battery on barbette.

Scale 20 feet to an inch.

PLAN

Proposed for the upper works of **FORT ADAMS** on the

Loftus Heights, on the

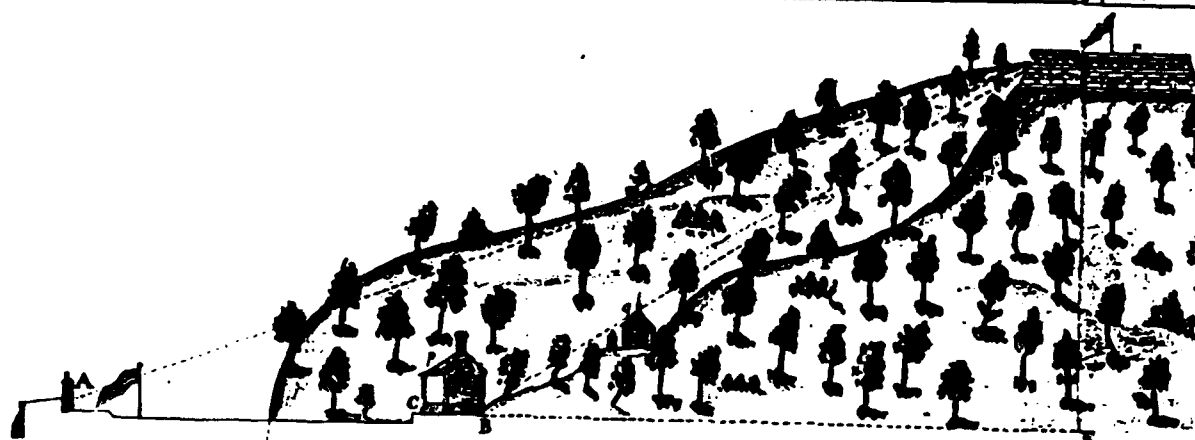
MISSISSIPPI.

by **JW Livingston**

Capt. & Adj.

Jan^y 20th 1802.

Scale 30 feet to an inch.



A Plan of projection to ascertain the height of **Mount Washington**, from a side view

REFERENCE.

in the projection represents the height in the horizontal measure from the top of the

lower Fort to the back side of the building & equals 273. 24 feet.

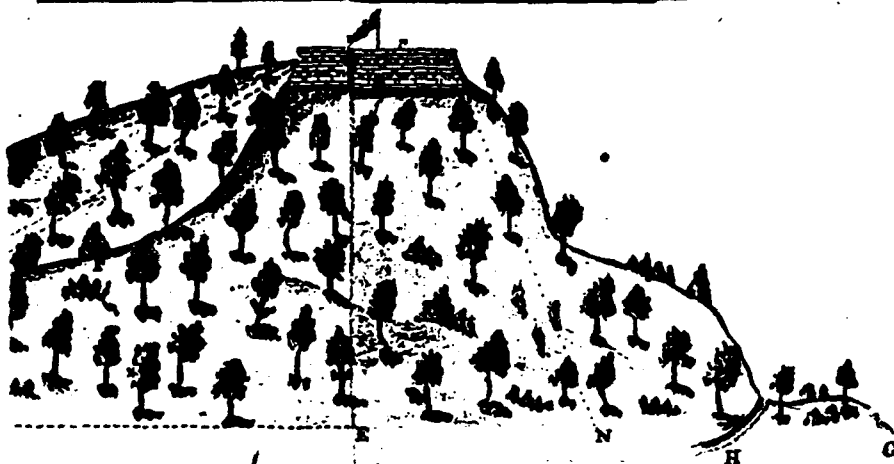
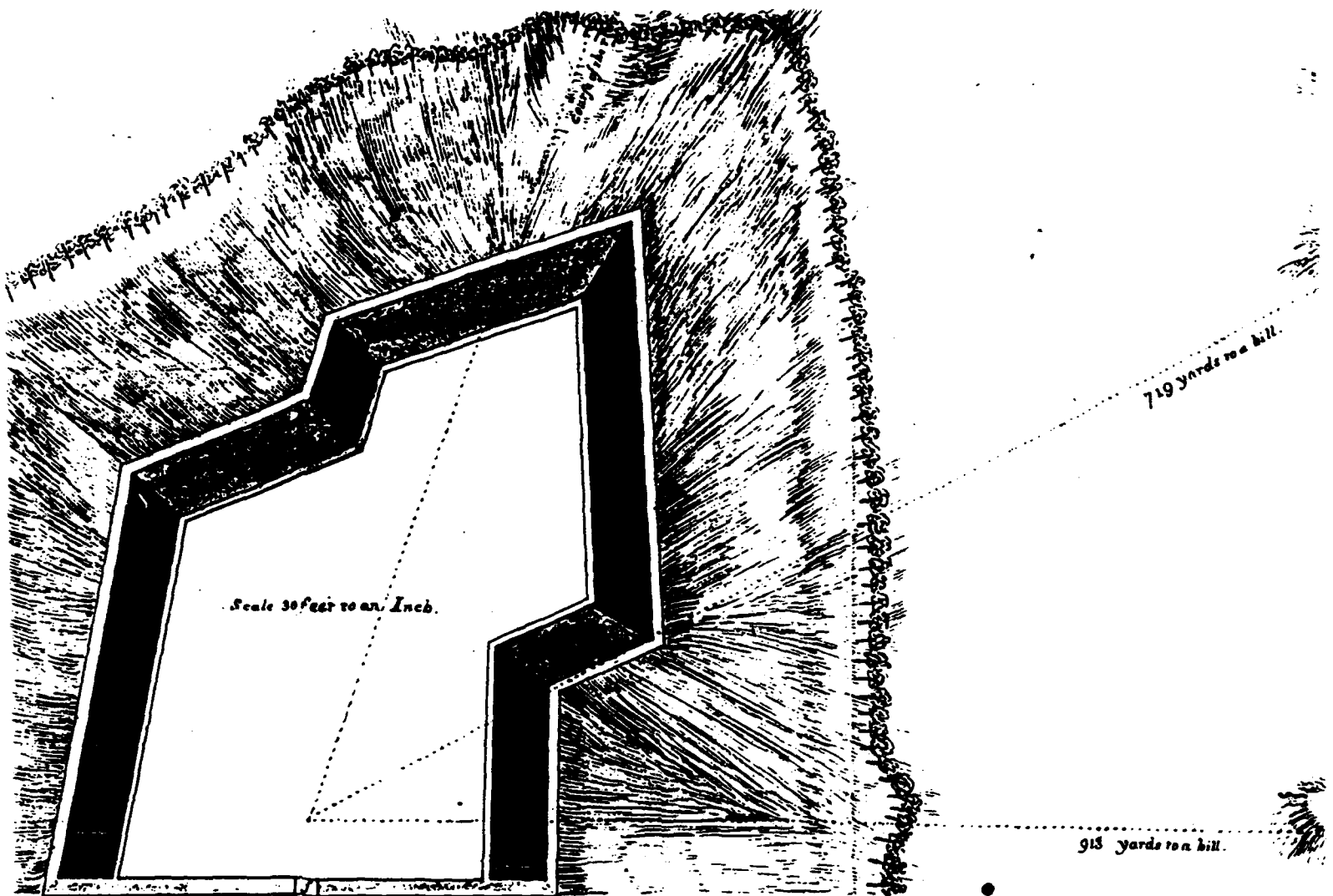
to the front of the buildings from the salient angle of the wall.

the distance from rear of the buildings to the summit of **Mount Washington**.

perpendicular height of **Mount Washington** from base AB,

the feet distance from A on top of the wall to D the summit of the hill.

Scale, 100 feet to an Inch.



Mount Washington, front & side view of the same.

REFERENCE.

BFD represents the appearance of the front of the hill at a side view at **H**.

GDG represents the appearance of the hill at a front view standing at **A** in the lower works.

The dots passing H represents the road ascending to the summit of the hill.

MN Line of pickets to connect the lower & upper works.

p. Officers barracks.

q. Magazine. *r.* Rear wall of the proposed upper works.

f. Salley port.

ington.

Scale, 100 feet to an Inch

138-6

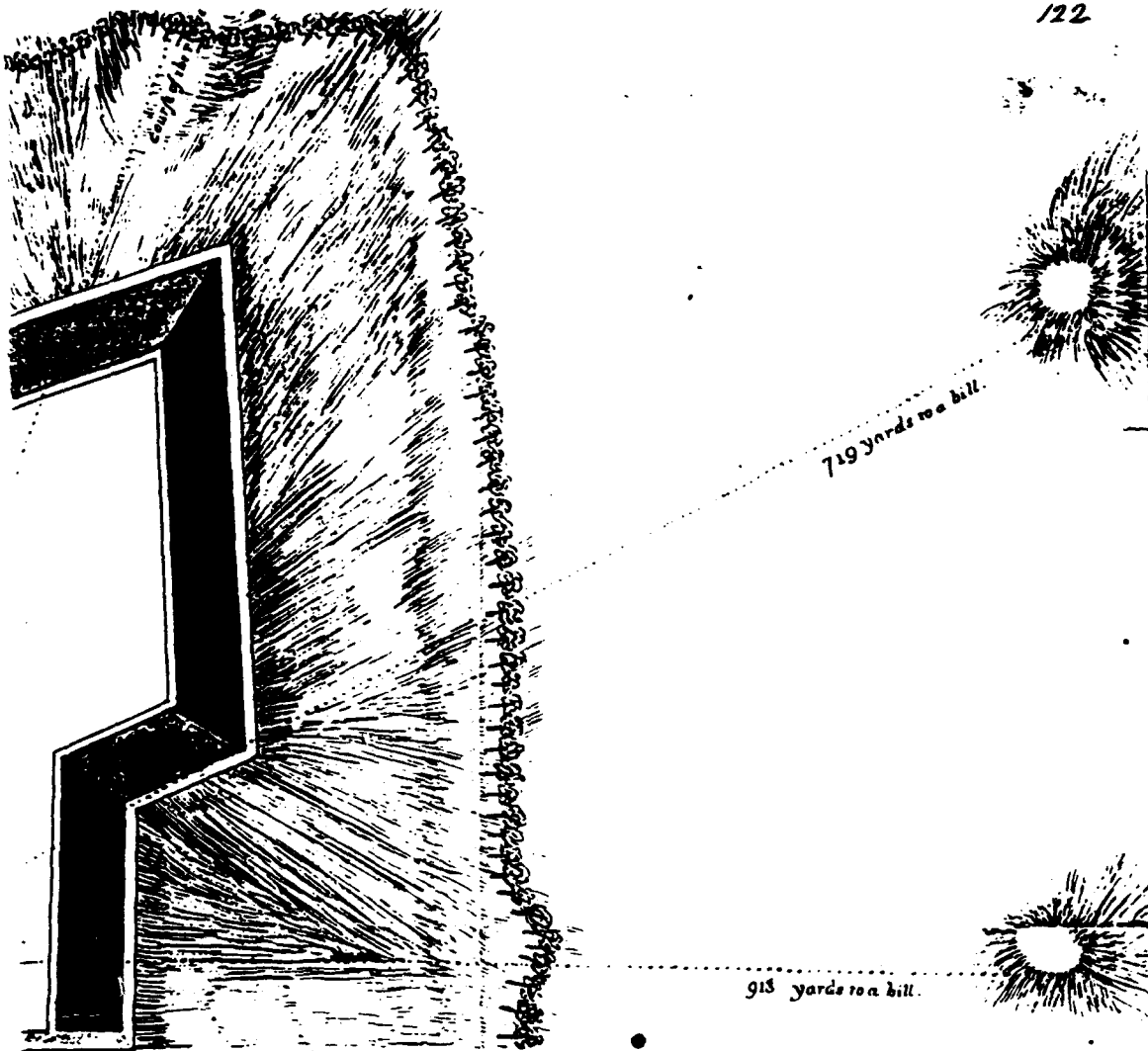


Figure 10: Plan of Fort Adams done
in 1802 by J.W. Livingston.
Source: MDAH subject files, Fort
Adams



BFD represents the appearance of the front of the hill at a side view at H.

GDG represents the appearance of the hill at a front view standing at A in the lower works.

The dots passing H represents the road ascending to the summit of the hill.

MN Line of pickets to connect the lower & upper works.

p Officers barracks. q Magazine. r Rear wall of the proposed upper works.

s Salley port.

138-6

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existence. Traveling southward on a good road, Cuming came upon a "ridge of hills called Loftus's Heights." Fort Adams was

situated on a bluff overhanging the river at an extremity of the ridge of Loftus's Heights. It is about 100 feet above the ordinary level of the Mississippi, which is no more than 300 yards wide here, so that the fort completely commands it with several small brass cannon and two small brass howitzers mounted 'en barbette' [on a platform so they could be fired above the walls]. The fort is faced with brick, has only a level superficies large enough for one bastion, with a small barracks inside, the whole of which is commanded by a blockhouse a hundred and fifty feet higher on the sharp peak of a very steep hill, which in time of war might serve as a look out as well as a post, as it commands a most extensive view over the surrounding wilderness of forests, as well as the meanders of the river several miles (Cuming 1904-07:328).

Cuming further noted that a path descended from the blockhouse toward a town of Fort Adams

along a very narrow ridge, about the middle of which is the burying place of the garrison, the graves of the officers being conspicuous by head stones with the name, rank, and time of decease. Two or three are interred here who have been shot in duels, to which barbarous custom they are much addicted in the American army (Cuming 1904-07:329-330).

In late 1801, Fort Adams was commanded by Captain Richard Sparks and contained one artillery company made up of 76 men. By January 1, 1803, there were 378 troops stationed at the fort (American State Papers, Class V, Military Affairs, Vol. I: 154 & 786 n.d.). The fort served as an armory as well, for in early 1803, the Governor of the Mississippi Territory, William C.C. Claiborne, recommended that spare arms and military stores at Fort Adams be transferred up river to Fort Dearborn. Claiborne characterized Fort Adams as a "barrier post on our extreme frontier, and consequently not in a fit position for a large military deposit (Rowland 1917:261-262)."

While Fort Adams never did figure prominently in any war, it was the sight of much important activity during its short life. In December 1801, representatives of the United State conducted talks with the Choctaw Indians in which the tribe agreed to the opening of a road (eventually known as the Natchez Trace) through their lands into Tennessee (Rowland 1917: I, 30). This treaty, called the Treaty of Fort Adams, supposedly insured the peaceful use of this road through former Choctaw territory and was signed December 7, 1801, and costing the United States "two thousand dollars in goods and merchandise, ... and three sets of blacksmith's tools (Department of War 1826: 157 in MDAH archives)."

Additionally, Fort Adams served as a post for the collection of duties on cargo as it moved up the Mississippi River from the Spanish/French territory of the Isle of New Orleans into United States waters. The only years records for this revenue collection exist are from 1801 through August of 1803. The records for the criteria for taxation on this traffic is uncertain, but it seemed that ocean going vessels were the most likely to be taxed. The amount of duties collected for the entire period Fort Adams served as a collections station was \$59,029 (MDAH subject file: Fort Adams n.d.).

The Louisiana Purchase and the transfer of this vast territory to the United States drastically altered the importance of Fort Adams. Upon receiving official word of the treaty in July 1803, Secretary of War Henry Dearborn instructed the commander of Fort Adams, Captain Edward Turner, to halt any extensive construction because the post would lose its significance with the cession of Louisiana to American control (Prucha 1977:65).

In late November 1803, Governor Claiborne began gathering militia at Fort Adams to accompany him and the regular troops stationed there to New Orleans for the official transfer of Louisiana. The entire force numbered about 500 men when they travelled down river on December 8 (Rowland 1917: I, 297-306).

By December 31, 1803, only 54 men remained at Fort Adams. A first lieutenant was in charge of one artillery company and one infantry company. The artillery company consisted of 1 corporal, 2 artificers [sic] and 20 privates. The infantry company consisted of 2 sergeants, 2 corporals, 2 musicians, and 19 privates. On October 31, 1804, there were only 4 men, 1 corporal and 3 privates, stationed at Fort Adams (American State Papers, Class V, Military Affairs: I, 175).

On May 4, 1805, William Dunbar, the Scottish born plantation owner and scientist living near Natchez, complained that "there is not at present any military at Fort Adams beyond a dozen men (Rowland 1930:149)." Later that year Dunbar would travel past Fort Adams as he led an exploratory expedition up the Ouachita River. The following year, the commander and builder of Fort Adams, Major Thomas Freeman, along with Dr. Peter Custis, led an expedition up the Red River which also embarked from the fort on April 19, 1806 (Prucha 1977:87-88).

In the next few years, with war between Spain and the United States a constant threat, the force at Fort Adams was increased. On March 31, 1809, an artillery company totalling 75 men was stationed there (American State Papers, Class V, Military Affairs: I, 2562). By the summer of 1809, when Fortescue Cuming passed by Fort Adams, he noted that "on account of its insalubrity," the post was deserted except for a platoon left to guard the post itself and prevent smuggling. The rest of the company inhabited a more "pleasant cantonment in the hills" toward the town of Pinckneyville (Cuming 1904-07:330).

Later in 1809, the final important episode at Fort Adams occurred. Fearing a new war with Great Britain (which did in fact occur three years later), about 2000 troops were

concentrated in New Orleans. When General Wilkinson arrived to take command in 1809, he found about one third of the command was sick. Although Secretary of War William Eustis ordered Wilkinson to move the troops out of New Orleans to healthier spots on the high ground behind Fort Adams or Natchez, the general set up his camp downstream from New Orleans at Terre aux Boeufs. Here the men continued to sicken and on June 22, 1809, Eustis again ordered Wilkinson to immediately remove his troops (Prucha 1977:97-98).

Wilkinson, delayed by the heat of the summer, did not move until October 1809 and sent 120 non officers to a hospital set up at Fort Adams. By October 23, 17 of these had died, and all but 20 of the men were sick. Another 14 men arrived in early November from New Orleans. Of the 134 men who were sent to the hospital at Fort Adams, 68 had died by the end of November 1809 (American State Papers, Class V, Military Affairs: I, 278).

After the outbreak of the War of 1812, the capture of West Florida, and the battle of New Orleans, the need for Fort Adams truly ended. In December 1817, Fort Adams was not even mentioned in a report detailing the strength of the army and its disposition. The following year, the fort was listed, but no troops were stationed there (American Papers, Class V, Military Affairs: I, 669, 790).

Fort Adams, because of its position on the frontier, also played a pivotal political role in the early years of the United States when the so called Aaron Burr conspiracy unfolded. General James Wilkinson, the Fort's first commander, for whom Wilkinson County was named, turned out to be a man with an undeniable record of treachery and deceit. He was sent to the "Old Southwest" to establish American control over its new territory, but he became a sort of double agent for the Spanish government, while at the same time contacting Aaron Burr, then Vice-President of the United States.

By 1804, when Burr's political and personal fortunes were at a low ebb, he succumbed to Wilkinson's ambitious and ambiguous plans to carve a new country out of Texas and parts of Mexico beyond the territories added by the Louisiana Purchase. Whether this country was to be annexed to the United States or to be a new empire under the control of men like Burr and Wilkinson is a subject that has long been debated by historians. What is clear, however, is that Wilkinson sent dispatches to both the Spanish colonial authorities and President Jefferson that can only be described as intentionally conflicting and self serving (Flores 1984:77-85).

Wilkinson was court-martialed twice in his career, but never found guilty. Fort Adams' geo-political location at what recently had been an international boundary as well as its strategic command of the river made the fort an integral consideration for any of Burr's and Wilkinson's plans. The famous nineteenth century novel *Man Without a Country* by Edward Everett Hale, was partially set in Fort Adams where the main character, Philip Nolan, was court martialled for treason for his part in the Burr conspiracy. His sentence was the enforcement of a courtroom outburst where he cursed the United States and hoped never to hear its name again. In the story he then sailed on American warships, always

away from the country, and for over 40 years never heard or read any news of the growth of the country he had so readily condemned. There was an actual historical figure in the region of Fort Adams named Philip Nolan, but his death at the hands of Spanish calvary while on an intelligence mission in Spanish Louisiana in 1801, was a decidedly different fate than that of the character in the story (Flores 1984:32-33).

Clarksville

In addition to the historical importance of Fort Adams, the small community of Clarksville, located approximately 2 1/4 mi downstream, also played some part in the early history of the region around the project area. Located on the south bank of Clark's Creek, where the creek ran into the Mississippi, this site lies directly within the study area. Many thought this particular community had great potential for substantial development.

The site was originally the plantation settlement of Irishman, Daniel J. Clark, Sr. who had commanded a Pennsylvania regiment in the British Army. After his army service, he remained in the New World and obtained land grants of thousands of acres in West Florida in 1768. One thousand of these acres was in what is now Wilkinson County, Mississippi as well as thousands more on Bayou Sara and other places. Clarksville was noted on some maps of the nineteenth century as a riverfront settlement (Figure 11).

William Dunbar, a friend of Clark, in a 1799 letter to territorial governor Winthrop Sargeant, gives the only known description of the community

be, that the first safe and commodious landing place north of the line of demarcation at 31 degrees, is for the obvious reasons, the most eligible position - Clarksville destined by nature, to become a considerable place at a future day, possesses advantages which give it a decided preference. It is the first practicable landing- place above 31 degrees, being distant therefrom about four miles. An handsome plain ornamented by seven elegant indian mounds will become the site of a great Commercial town, having a direct communication with the rich country of bayou Sara, by the only good road, which can be made from that settlement to the river within the Territory. A small but beautiful river traverses the plain, which during the annual inundation; is converted into a grand Canal capable of conveying the largest Commercial boats into and beyond the town. The mechanism of locks with lateral canals will secure advantages at all seasons of the year, to this favored spot, which it is not my business now, to insist upon; I shall only observe, that this natural Canal, for about half the year from January to June, inclusive, is a harbour of perfect security, and being distant only two or three miles from the new Fort at Loftus' heights, will enjoy the benefit of its protection.

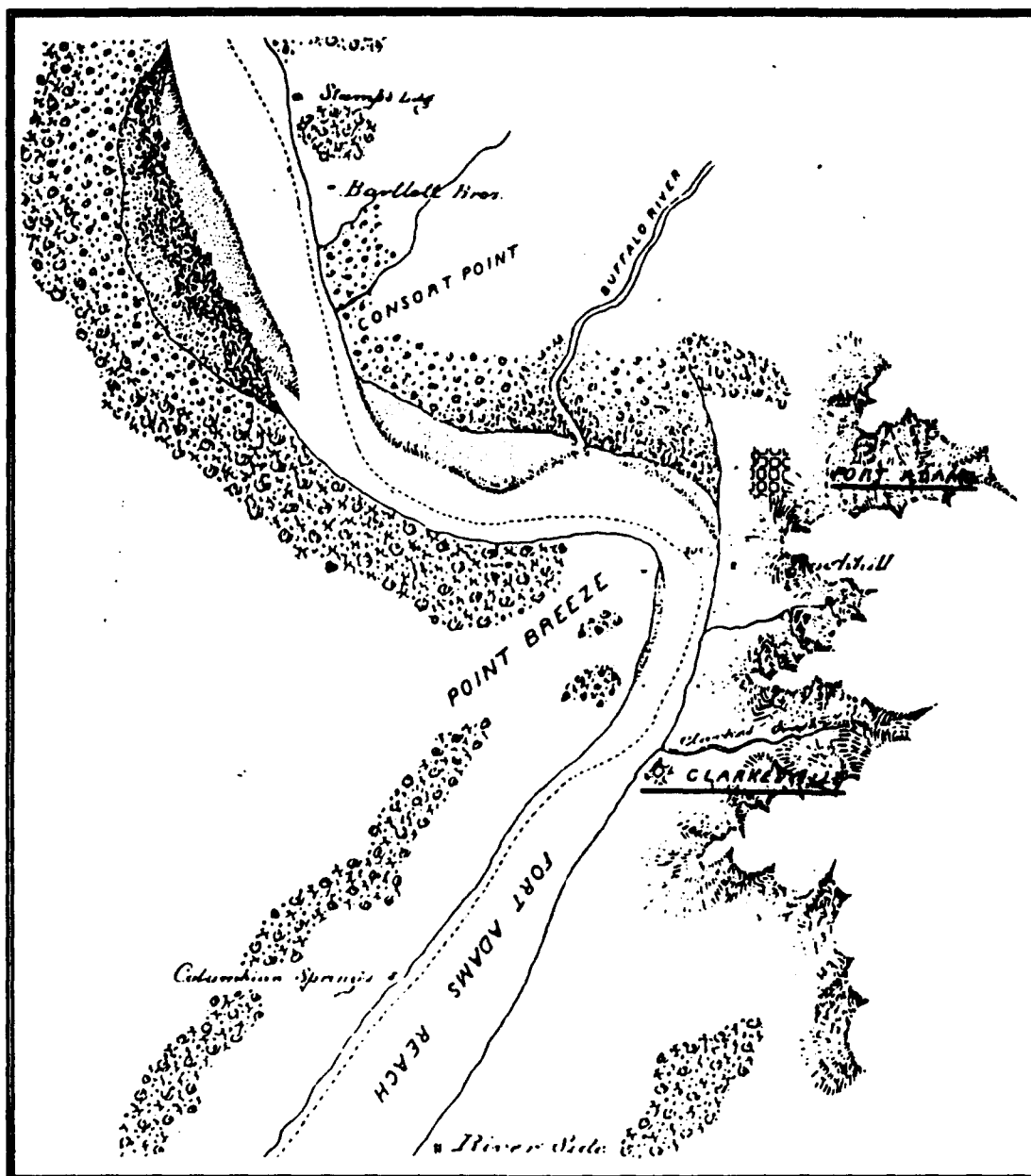


Figure 11: Detail of map of reconnaissance of Mississippi River, U.S. Army Corps of Engineers, 1874.

Several objections nevertheless present themselves which in the existing state of the territory oppose the above choice.

The country in the neighborhood of Clarksville is but thinly inhabited by persons, generally of small property; no person has as yet been induced to think the situation sufficiently advantageous, to establish a trading house at Clarksville, which is at present the seat of a private gentleman..... (Rowland 1930:102-03).

Another reference to Clarksville describes the holding as 500 acres, awarded to Daniel Clark on December 6, 1768. As of 1805 the community or site consisted of 2 white males over 21; 2 whites males under 21; 2 white females, ages not given; and 130 slaves (Gillis 1965). The date of this census is 1805. Daniel Clark, Sr. is reported to have died of fever on July 16, 1800 (Rowland 1976:I, 445-46).

Clark's holdings were inherited by his nephew, Daniel J. Clark, Jr. upon his uncle's death. This Daniel Clark, who was born in Sligo, Ireland, arrived in New Orleans in 1786 at the invitation of his uncle. Daniel Clark, Jr. became much more notorious than his uncle and was involved in a great many questionable dealings with the Spanish government, with the Mississippi Territorial government, with various Indian groups, and in the Burr conspiracy before his death by natural causes in 1813. He was even involved in a duel with the first territorial governor of Mississippi, William C. C. Claiborne, in Spanish territory near Baton Rouge, which resulted in a serious wound to Claiborne's thigh (Winter 1969:197-98). Clark's involvement with the Burr Conspiracy, the failure of which apparently sent many people back and forth across lines of loyalty, caused Clark to publish a broadside against General James Wilkinson, a former friend and ally. This document was an apparent attempt by Clark to exonerate himself from any involvement with the Burr conspiracy and fully implicate Wilkinson (Clark 1809). More recent historical investigations have pointed to possible involvement by Clark with many schemes which promoted his fortunes above those of others or above those of the United States (Rowland 1976; Wohl 1983; Flores 1984).

It is unclear when Daniel Clark, Jr. sold his holdings at Clarksville as his primary residence seems to have been in New Orleans. His 1809 publication *Proofs of the Corruption of Gen. James Wilkinson and his Connexion with Aaron Burr* alludes to many meetings and conversations with various parties, including General Wilkinson, at or near Fort Adams. It is likely, therefore, that Daniel Clark, Jr. maintained ownership of Clarksville for at least some years after his uncle's death and perhaps visited there, although he lived primarily in New Orleans.

Also, Clarksville proved to be the last base for the effort by Andrew Ellicott to survey the 31st latitude in 1799. This line was an international boundary between the Mississippi Territory and Spanish West Florida that had been decreed by the Treaty of San Lorenzo. Ellicott had been charged by United States government to survey this boundary and determine the disposition of Spanish forces in the area. Published in 1803, *The Journal*

of Andrew Ellicott describes in detail the terrain, climate, and people encountered during this survey. By the publication date, however, this boundary line had been rendered unnecessary by the Louisiana Purchase.

In 1797, however, the purchase of this land was only a dream for Thomas Jefferson and the competent survey of the 31st latitude was an important project. The previously mentioned William Dunbar of Natchez Mississippi was the "astronomer" for the Spanish to monitor or critique Ellicott's efforts (Holmes 1961:234). Ellicott's efforts to even reach the region of this boundary were met by harassment and delay from the Spanish who were reluctant to relinquish their former territory. An international "incident" arose over Ellicott raising the American flag in Natchez. Quarreling between Ellicott and General Wilkinson, the American commander in the region, further delayed the progress of the boundary survey (Ellicott 1803; Daniels 1962).

Nevertheless, on April 9, 1797, Ellicott left Natchez and arrived on the 10th at Clarksville. There he "set up the clock, and the small zenith sector, and proceeded to take the zenith distance of pollux, for five evenings successively, and the other with the plane west (Ellicott 1962:177-78)." From these observations Ellicott determined that he was "three mile, and two hundred perches [sic] too far north." Traversing with compass and measuring chain to the south, Ellicott found that it would be "impracticable to convey our instruments, baggage and stores directly from Clarksville, to the most eligible place, owing to the extreme unevenness of the country on the one hand, and the banks of the Mississippi not being sufficiently inundated on the other, to give us passage by water through swamps and small lakes (Ellicott 1962:178)." He decided, therefore to move his crew from Clarksville to Tunica Bayou via the Mississippi River and travel up the Bayou to the 31st latitude. This journey and further periods of observation lasted several days so that by May 4th Ellicott had constructed his first base camp for extensive surveying. He describes the terrain of this initial portion of the boundary line which can still be applied to portions of the Tunica Hills today.

The first twenty miles of country over which the line passed, is perhaps as fertile as any in the United States; and at the same time the most impenetrable, and could only be explored by using the cane knife and hatchet. The whole face of the country being covered with strong canes, which stood almost as close together as hemp stalks, and generally from twenty to thirty five feet high, and matted together by various species of vines, that connected them with the boughs of the lofty timber, which was very abundant. The hills are numerous, short, and steep: from those untoward circumstances, we were scarcely ever able to open one-fourth of a mile per day, and frequently much less (Ellicott 1962:181).

Obviously, the promise of Clarksville as a port of some importance failed to meet the predictions of William Dunbar. The settlement continued to appear on some maps and in records, but by the late 1800s, no more mention of the site was made.

The Territorial Government and the Project Area

With Natchez as the capital, the first territorial governor of the Mississippi Territory was Winthrop Sargent from 1799 to 1801. He was replaced by William C.C. Claiborne, a supporter of the newly elected Thomas Jefferson. On January 30, 1802, Wilkinson County was formed and became the fifth county in the Territory. It was named, of course, for General James Wilkinson, the previously described merchant, commander, and conspirator then in military control of the region. In March 1817, after several more territorial governors, Mississippi became a state within the United States. The people were now able to elect their own administrators rather than having them appointed by national administrations.

The 1810 census showed Wilkinson County to have a population of 5,068 and by 1830 its number had more than doubled to almost 13,000 people, including slaves. By 1811, Woodville was named the county seat and has remained so to this day. The county population in 1900 was 4,384 white and 17,069 black for a total population of 21,453. In 1980, Wilkinson County had 3308 white residents, 6708 black residents and 5 Indians for a total of 10,021 inhabitants. Also of interest is the fact that Woodville was one of the termini for the one of the oldest railroads in the United States. Connecting Bayou Sara on the Mississippi River in West Feliciana Parish, Louisiana with Woodville, The West Feliciana Railroad Company was built in 1831. Woodville continues to be the primary population center in Wilkinson County.

Fort Adams is currently a small community which primarily provides a settlement to supply nearby hunting and fishing camps. There is little that remains of the original Fort Adams and the Mississippi River has meandered far away from the town. During high water, however, as the floodwaters of the Mississippi come to within 100 ft of the buildings in the town of Fort Adams.

History of Property Ownership Within the Project Area

For the better part of the two centuries that Europeans have settled in southwestern Mississippi, the five surveyed sections within this project area (sections 23, 24, 25, and 26 in T1N, R4W and section 6 in T1N, R5W) have been jointly owned. The history of ownership, however, has differed significantly between sections 23, 24, 25, and 26 which are on either side of Clark Creek and Section 6, which is just above the Louisiana-Mississippi border.

Sections 23, 24, 25, and 26

In 1787, five years after Spain reacquired West Florida from Great Britain, the governor of Louisiana, Estevan Miro, granted land in the area. On February 6, 1787, Miro granted 1023 arpents of land fronting the Mississippi River to Colonel Daniel Clark (Conveyance Office Book A, Folio 311, Wilkinson County). Two years later, on January

28, 1789, Miro granted another 1000 arpents of land to Clark. In 1793, the new governor of Louisiana, Baron de Carondelet, granted Clark another 600 arpents (COB A Folio 311, Wilkinson County).

Contiguous to these grants was one of 800 arpents made on June 14, 1787 to Bartholomew Le Breton. Though difficult to pinpoint, it seems that this grant was the rear portion of what is currently section 26 in the project area and was owned by Thomas Bolling at the time of the Louisiana Purchase (COB A, Folio 311, Wilkinson County)

On November 23, 1813, Daniel C. Holliday, who had purchased Clarksville earlier from Clark, sold 3026 acres of land to one of the richest planters in the United States, Wade Hampton (COB A, Folio 311, Wilkinson County). The owner of one of the first cotton plantations in the South Carolina Piedmont, Hampton owned sugar plantations in Louisiana as well as the Clarksville Plantation in Mississippi. All of Hampton's holdings were worked by slave labor and he was instrumental in suppressing one of the largest slave rebellions in United States history in St. John the Baptist Parish in 1811 (Wall 1984:99).

The record is unclear as to how long Clarksville remained in the Hampton family. In 1835 Benjamin Young sold the plantation to John Thompson (COB M, Folio 138, Wilkinson County). Five years later, Thompson sold Clarksville plus, 53 slaves, mules, oxen, cattle, hogs, farming utensils, and crops to Thomas McMurran (COB M, Folio 139, Wilkinson County).

In 1849, McMurran obtained Riverside Plantation, just downstream from Clarksville. Riverside had been one of three plantations carved from the Clark holdings and in 1849; its 2600 acres were owned by Valentine O'Bryan (COB P, Folio 226, Wilkinson County). Seven years after acquiring Riverside from O'Bryan, McMurran sold the plantation and its 100 slaves to Andrew McWilliams and James Carson (COB R, Folio 110, Wilkinson County).

The ownership of a third plantation, Langside, does not clearly appear in title documents until 1871. In that year, the owner William S. Noble, Jr. transferred the title to his son, A. Noble. Langside was described as being located 5 mi below Fort Adams and bounded on the north by Riverside Plantation (COB V, Folio 114, Wilkinson County).

In 1886, Noble leased Langside to Abraham Williams for 500 bales of cotton. Mentioned in the transaction are a gin house, store house, and plantation house (COB EE, Folio 1, Wilkinson County). Noble sold Langside outright to Williams in 1891 (COB HH, Folio 466, Wilkinson County).

By 1873, the man who would eventually come to own all of the old Clark holdings, Louis Trager, had gained control of Riverside Plantation. On February 7, 1873, Trager leased Riverside and its remaining 12 mules and four horses to William S. Noble and Eugene H. Osgood (COB W, Folio 49, Wilkinson County).

The Trager family obtained Langside Plantation in 1895. Two years before, Abraham Williams had defaulted, and Langside was purchased by Walter C. Flower and Branch M. King at a sheriff's sale (COB JJ, Folio 174, Wilkinson County). The Tragers bought Langside on August 27, 1895 after Flower and King had failed in their endeavors (COB KK, Folio 296, Wilkinson County).

Between 1840 and 1906, the fortunes of Clarksville Plantation are obscure. On December 11, 1906, the lands owned by Louis Trager were defined by the Wilkinson County Court. These included the old Clarksville, Riverside, and Langside Plantations, and most of the property within the project area. Because of land loss to the Mississippi River, Clarksville Plantation consisted of only 350 ac, Riverside had 600 ac, and Langside was 400 ac (Court Minutes Book 4, Folio 311, Wilkinson County).

On February 5, 1910, the heirs of Louis Trager sold his entire holdings to Joseph S. Codifer (COB UU, Folio 385-386, Wilkinson County). The record of this transaction contains a map which clearly delineated the property for the first time (Figure 12).

Seven years later, Codifer sold the property to William G. Colby (COB WW, Folio 542, Wilkinson County). On April 19, 1920, Colby leased the gas and mineral rights to W.H. Boregard [sic] (COB YY, Folio 527, Wilkinson County). The days of cotton cultivation on any of this land were over.

On December 2, 1931, the Curry family obtained the land (COB 3E, Folio 396, Wilkinson County). For many years since then the land has been often leased and has passed through many different hands. On August 14, 1972, Mississippi Power and Light Company bought all the sections in the study area except section 23, which remains in the hands of the Curry family (COB 60, Folio 348, Wilkinson County).

Section 6

The first record of ownership for Section 6 in T1N, R5W was to Richard Collins who was given a land patent by the United States government in 1809 (COB A, Folio 212, Wilkinson County). It is unclear, but this area may have been previously granted to Daniel Clark during Spanish control of the area.

The land was apparently never improved or even occupied and was sold to Francis Hook at a sheriff's tax sale in 1843 (COB N, Folio 392, Wilkinson County). Hook, in turn, sold the land to one John L. Wall, a man with extensive land holdings in southern Mississippi, a few months later (COB N, Folio 392, Wilkinson County). Wall, however, sold 830 ac that included the southern portion of the project area to John C. Jenkins on November 30, 1844 (COB N, Folio 393, Wilkinson County).

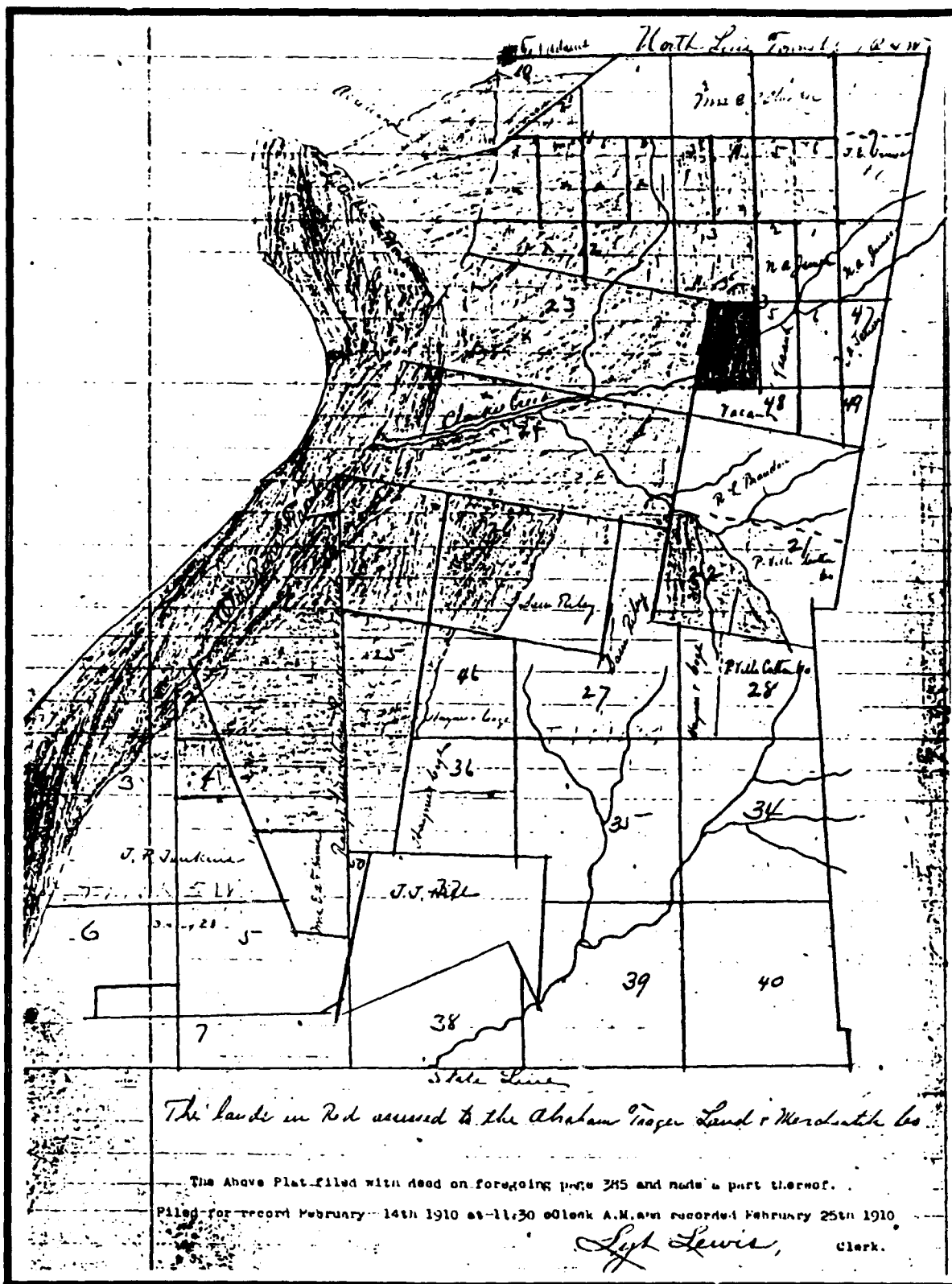


Figure 12: Plat of land ownership in project area from property transaction in 1910. Source: Wilkinson Co., Mississippi Chancery Court.

This last sale to Jenkins was apparently the first transaction which had direct results for the development of this section of land. Jenkins' holdings included land in Mississippi contiguous to Section 6, as well as land across the state line in West Feliciana Parish, Louisiana. This property became known as the Demarcation Plantation. North of this property and outside the project area was Tarbert Plantation, owned by W.D. Jenkins, and land to the east was owned by an Alici Jenkins. It could not be determined if these people were related. Also, Mississippi River Commission Maps from 1879-80 show that there were structures associated with the Tarbert Plantation (Figure 13). There is no record of any residential buildings in Mississippi associated with the Demarcation Plantation.

In 1895, Jenkins apparently encountered financial difficulty and his land was sold by Sheriff C. H. Neyland at a tax sale to the Union Mortgage Banking and Trust Company for \$6000 (COB KK, Folio 534, Wilkinson County). In October of 1901, however, John F. Jenkins had a return to good fortune and purchased his former holding and other properties from the New England Mortgage Security Company of Connecticut which was then holding the title on the land. He purchased this land for \$11,000 (COB PP, Folio 248, Wilkinson County). Throughout the late nineteenth and early twentieth centuries, this land was apparently used as crop and pasture land.

On January 8, 1907, John C. Jenkins, John F.'s son and heir, and resident of Natchez, Mississippi, sold all the land in the Demarcation Plantation to Edward R. Davis for \$6000 (COB TT, Folio 497, Wilkinson County). Davis continued to work the land, but on September 14, 1921, he sold 220.5 ac of his holdings to his wife, Mrs. M. A. Davis, for \$1000 (COB ZZ, Folio 146, Wilkinson County). This land included Section 6 and the project area. The two apparently remained married, but Mrs. Davis is listed as the primary owner of the property for the many timber and oil-gas leases during the 30s, 40s, and 50s that are listed in the records of the Chancery Court of Wilkinson County.

In 1961, E. R. Davis Jr., who had apparently inherited some of the land owned by his parents, sold it to Willie H. Davis and S. Jack Davis, who may have been his brothers (COB 4Z, Folio 450, Wilkinson County). This land included Section 6 and records show that timber and oil-gas leases continued on the property into the 60s, 70s and 80s.

S. Jack Davis died on November 15, 1987 and willed his holdings to his son and heir, Sidney J. Davis Jr. (Will Book 18, page 237, Wilkinson County) Mr. Davis is the last recorded owner and he continues to use the land for cattle pasture. No residential structures are known to currently exist on the property.

History of the Mississippi River around the Project Area

Because the Mississippi River has directly influenced the project area and the history of the surrounding region, a discussion of the river and specific places related to it are in order.

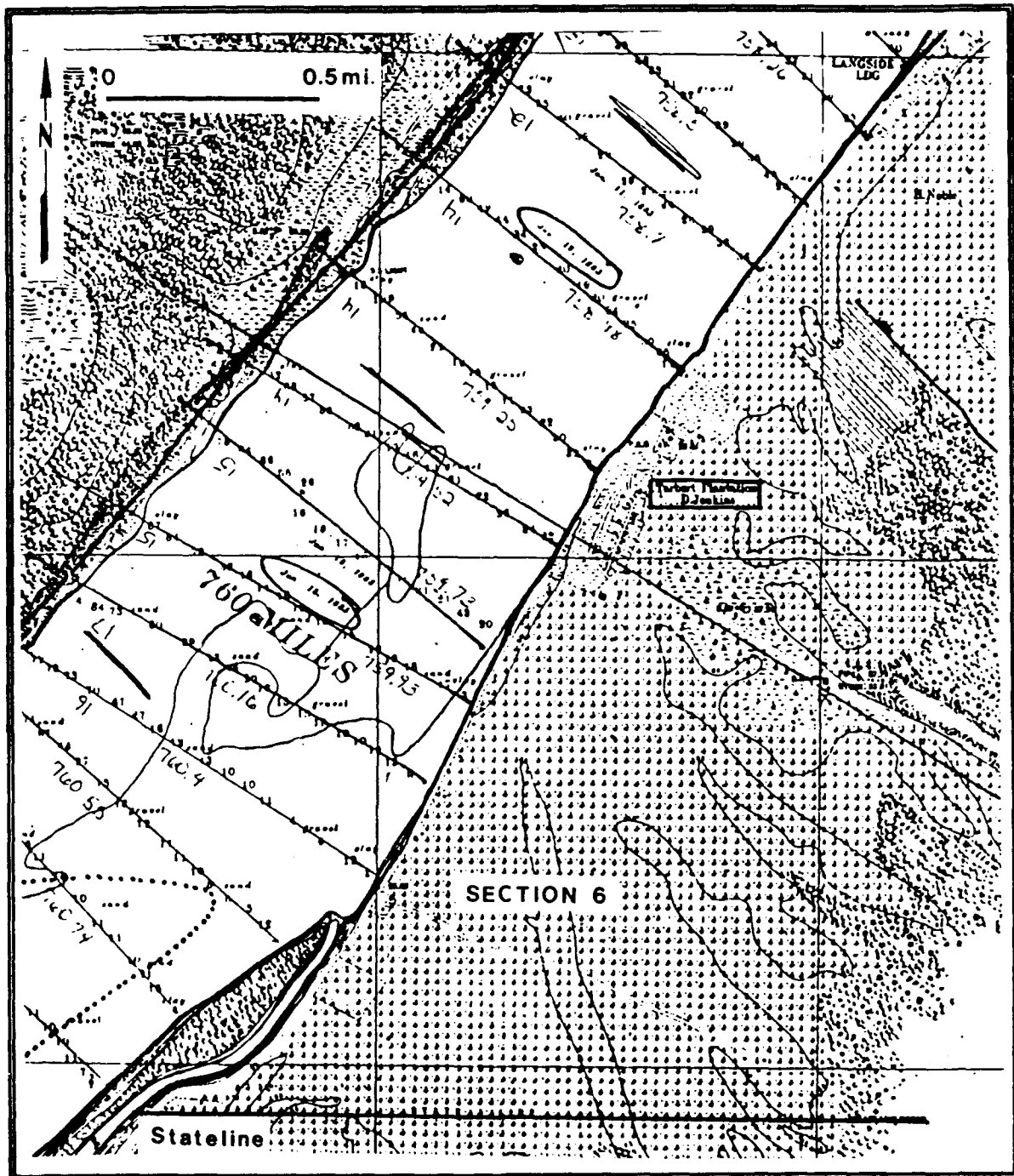


Figure 13: Detail of Mississippi River Commission map, 1879-80 which shows Tarbert Plantation and portion of project area.

From prehistoric times through the earliest days of European exploration, and into the twentieth century, the Mississippi River has served as a major artery for the travel of men, goods, and ideas. Before the invention of the steam engine, however, most of this travel was understandably downstream. Trails or traces served as one means for river travelers to return upstream to their points of origin. The most famous of these traces was the Natchez Trace which played an integral part in the settling of the Lower Mississippi Valley in the late eighteenth and early nineteenth centuries.

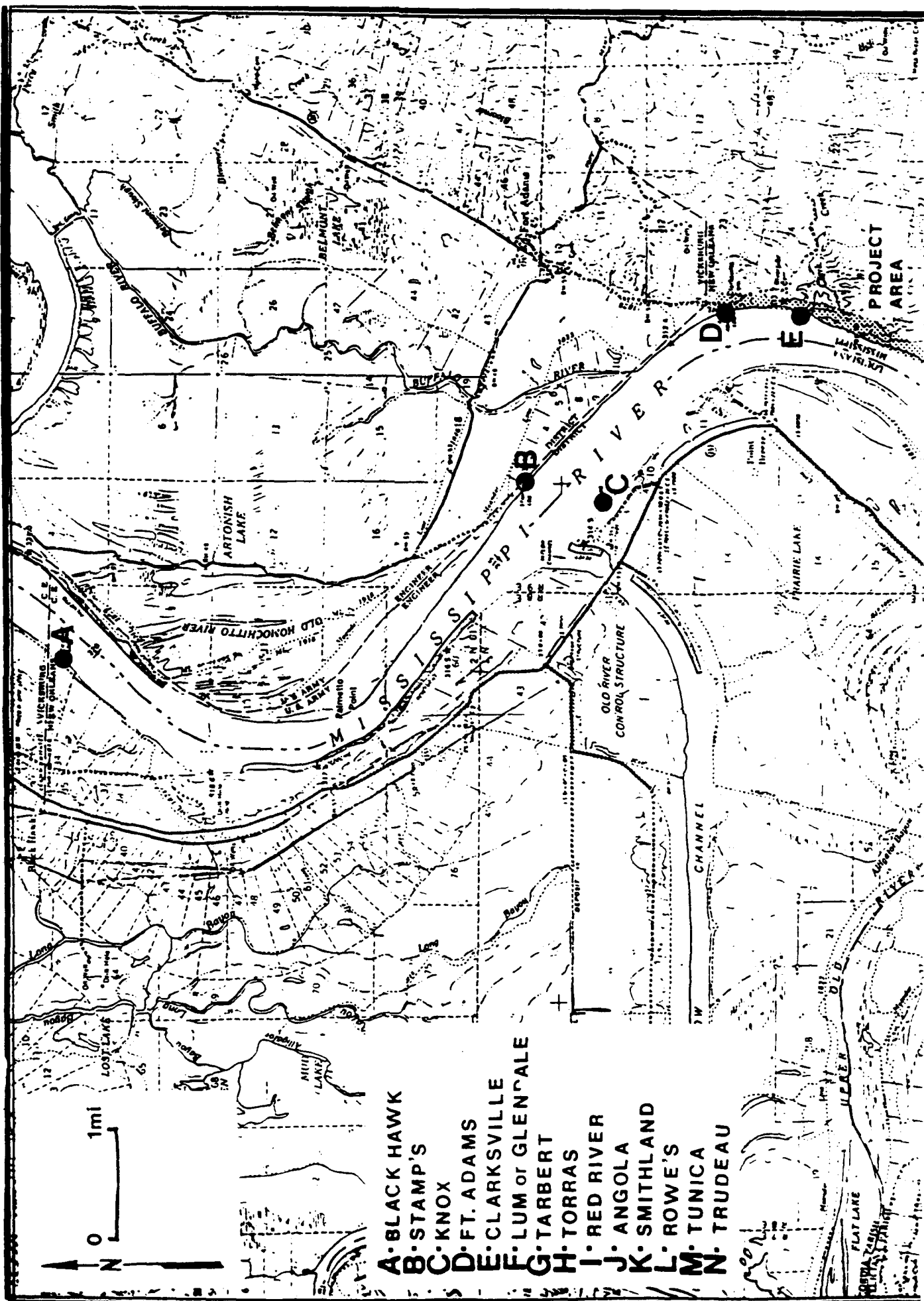
Along the river, however, aside from the ports to be found at large river cities like St. Louis, Memphis, and New Orleans, many landings sprang up to provide access to the river and allow the on and off loading of people and products. These landings were associated with smaller towns which may have been somewhat back from the river to avoid flooding, rail heads, or even a single plantation. Some landings consisted of ramps, wharfs, storage structures, and well maintained roads, while others had nothing but perhaps a rutted track to distinguish them from the lines of vegetation seen along the river bank while traveling on the Mississippi.

In the project area, several landings are noted on historical and current maps on the west bank of the Mississippi. Figure 14 notes the location of these as close as can be determined on the current channel of the river. It should be understood that because the channel has changed in portions of the study area (see chapter II) many of the original landings and attendant features have long been washed away.

In fact, none of the landings in figure 14 have any features at their sites to indicate their existence at all. The Fort Adams Landing would fall very close to the northern boundary of the study area, but there is no sign of structures or artifacts that may have been associated with a river landing. Historically, as previously pointed out, the river once flowed much closer to the site of Fort Adams and no doubt a landing once existed where there is now a floodplain. Also, Tarbert Landing is located in an area that has been revetted for many years. Any indications of a landing that may have served Tarbert Plantation have long been eliminated.

Other landings noted on recent and historic maps are Lum Landing in Concordia Parish, Louisiana. This landing was also referred to as Glendale Landing. It served the nearby Glendale and Lum plantations. Also, Stamps Landing is located upstream from the project area on the east bank of the river. Finally, although it is not on any recent map, there are historic documents, as noted above, to indicate that the Clarksville settlement, where Clark Creek ran into the Mississippi, must have been the site of a river landing.

Another indicator of past historical activity at the landings in the study area is the number of recorded shipwrecks. Several are known to have taken place, most in the nineteenth century, at some of the landings in or near the project area. Table 3 below provides the details of the shipwrecks from the mid-nineteenth to the early twentieth centuries when steamboat travel was greatest.



DOWN CHANNEL

**PROJECT
AREA**

TUNICA HILLS

TUNICA HILLS

STATELINE

CONCORDIA PARISH WEST FELICIANA PARISH
POINTE CHAUPEE PARISH

203

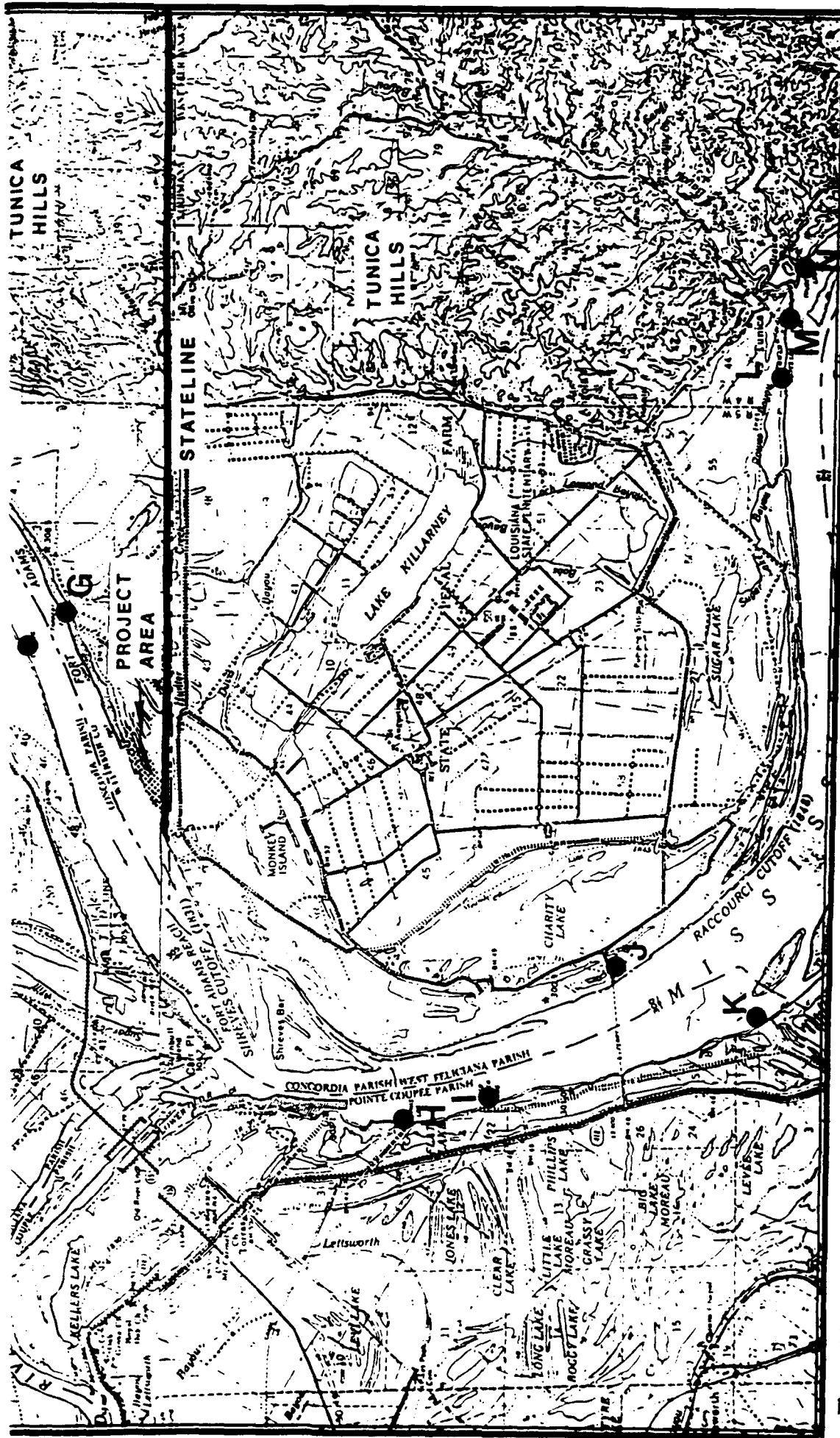


Figure 14: River landings near project area.

TABLE 3
RECORDED SHIPWRECKS AT LOCATIONS IN OR NEAR PROJECT AREA

YEAR	SHIP NAME	CAUSE	LOCATION	CASUALTIES
1826	Eclipse	Snagged	Black Hawk, La.	0
1830	William Tell	Exploded	Torras, La.	5
1837	Swan	Snagged	Angola, La.	0
1837	Ben Sherrod	Burnt	Black Hawk, La.	72
1841	Clarksville	Snagged	Red River Cutoff	2
1841	Creole	Burnt	Torras, La.	34
1842	Baltic	Collided with Maid of Kentucky	Fort Adams, Ms.	0
1845	Reindeer	Snagged	Angola, Ms. (?)	0
1848	Marengo	Collided with Harry Hill	Clarksville, Ms.	3
1853	W.A. Violet	Burnt	Torras, La.	0
1854	John L. Avery	Snagged	Fort Adams, Ms.	40
1854	Gipsy	Burnt	Torras, La.	5
1854	Princess	Burnt	Fort Adams, Ms.	2
1857	Planter	Snagged	Fort Adams, Ms.	2
1866	Mary A. Bruner	Burnt	Mouth of Red River	0
1868	General Quitman	Snagged	Angola, La.	0
1877	Charlie Durfee	Collision	Mouth of Red River	0
1878	Ella Hughes	Snagged	Mouth of Red River	0
1880	Charmer	Burnt	2.5 mi above mouth of Red River	0
1887	Peninah	Snagged	Red River Landing	0
1888	John S. Baird	Snagged	Smithland Landing	0
1890	T. P. Leathers	Burnt	Point Breeze	19
1909	Leo	Snagged	Near Angola	0
1910	F.C. Loxley	Foundered	Carr's Point	0
1912	Wm. Edenborn	Snagged	Old River at T & P Bridge	0

Source: Berman 1972; Lytle 1952; WPA 193**

CHAPTER V

PREVIOUS ARCHEOLOGICAL INVESTIGATIONS IN THE REGION OF THE PROJECT AREA

The region around the project area has witnessed significant scientific archeological investigation since at least the early twentieth century. Some of this research was conducted by eminent researchers whose work and interpretations have contributed significantly to the directions of archeology in North America. Also, several cultural resource surveys have been carried out, and have contributed to the record of human occupation in the region. Figure 15 presents the locations of all reported archeology sites in the regions of the project area.

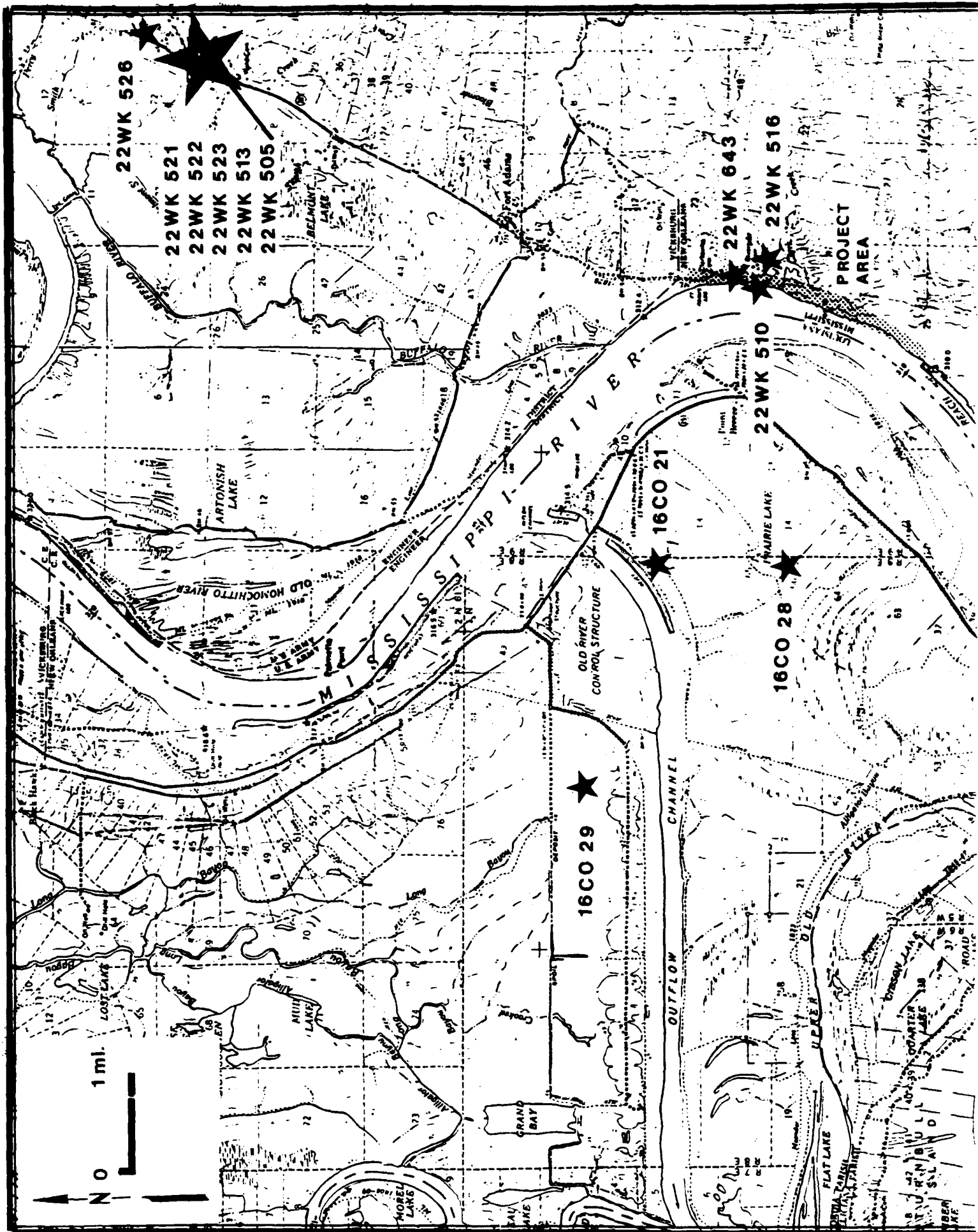
Academic Affiliated Research

The first scientific archeological investigator in the region of the survey was Clarence Bloomfield Moore. Moore was the scion of a wealthy Philadelphia family whose voyages along rivers throughout the southeast in his private steamboat, *Gopher*, contributed significantly to the archeology of the day. While Moore's orientation to mound sites and his excavation techniques may be criticized by modern archeologists, he was conscientious about publishing his reports quickly. In addition, he made a record of many sites that have since been destroyed or greatly altered (Moore 1909, 1911, 1912, 1913).

In 1910 and early 1911, Moore investigated aboriginal sites along the Mississippi River traveling upstream from New Orleans to Wilson, Arkansas. Moore's research primarily focused on mound sites, although one of the first spots he investigated on this particular journey was a site which did not have a mound: Trudeau Landing in West Feliciana Parish, Louisiana.

This locale, approximately seven miles due south of the project area, eventually became the site of the so-called Tunica Treasure, but Moore's investigations revealed nothing of the number and quality of artifacts that were to come to light 60 years later (Moore 1911: 376). He did report on various objects of iron and steel and "debris" from dwelling sites, by which he probably meant pottery sherds. No graves were found by Moore and, because this was a primary focus of his research, the impression from his report is that he was rather disappointed with the site. It is ironic that the Trudeau site (16WF25), turned out to be a site renowned for its burials and associated artifacts (Brain 1979).

During the same journey, Moore also visited a prehistoric mound site near the Glendale Landing in Concordia Parish Louisiana directly across the river from the project area. He reported on fifteen burials, gave the measurements of the mound, and presented a photograph of a small bowl that was found in association with a burial in the mound. The



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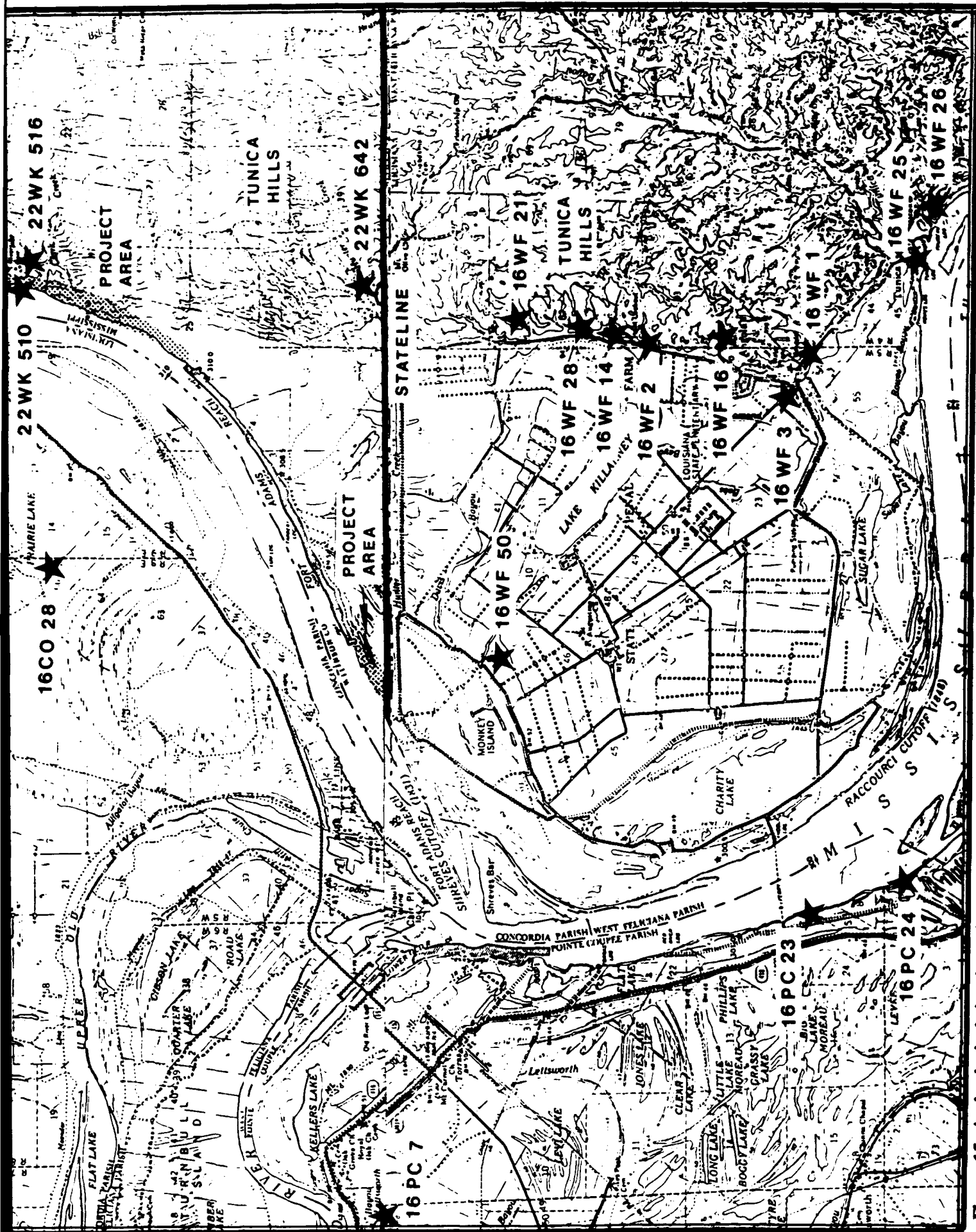


Figure 15: Archeological sites in region of project area.

site, while adequately described using the methodology employed by Moore, appeared not to receive as much attention from Moore as other sites where many more artifacts were recovered.

Moore reported that the mound was roughly circular in outline with a basal diameter of 100 ft. He estimated that the height of the mound was about four feet. Furthermore, he thought the mound contained "many burials, as eight trial-holes came upon seven interments, and in the removal of these eight more were discovered (Moore 1911:376)." He went on to report that none of the graves were deeper than two feet below the surface of the mound and that only one item of burial furniture found, was from the grave of a child. This vessel, which is a flat bottomed bowl, was collected by Moore and presented in his 1911 report. While a photograph cannot always allow an undisputed classification of an aboriginal vessel, the markings on the bowl suggest a Maddox Engraved type.

Moore also reported that several burials in the mound were accompanied by masses of red pigment or yellow ochre. He noted that ceramic sherds were found in the fill of the mound during his excavations for burials, but he apparently did not think any of these were worth noting. He also found a "slender barbed arrowhead of flint (Moore 1911:377)."

There was an apparent hiatus of over 25 years before there was any further archeological investigation in the region. In 1936, James A. Ford, then affiliated with Louisiana State University, published the results of surveys and surface collections for sites in both Louisiana and Mississippi (Ford 1936). He reported on several sites on the east bank of the Mississippi at the base of the Tunica Hills in the general region of Angola Prison Farm in Louisiana. He reported on the Angola Farm site, now designated as 16WF2, and noted that this was a Houma and later a Tunica village visited by Iberville in 1699. He also apparently worked at the Tunica Mounds (16WF1), that were just outside the gates of the prison, but did not include any information from this site in his 1936 report (Ford 1936; DOA site files).

Sometime in the 1930s, the Angola Prison Gate Mound site (16WF3), was completely levelled by the construction of the hospital at the Prison. This destruction did not occur before Dr. Fred B. Kniffen of the Geography and Anthropology Department at Louisiana State University investigated the fill from the site and reported that there were many burials, some historic, and that there were also 74 "clay squeezes" or Poverty Point objects (Louisiana DOA site files; Jones and Shuman 1986).

In addition to the nearby sites in Louisiana, James Ford also investigated the Smith Creek site, his site number 71, now reported as 22WK510. According to Ford this site was "a typical and pure Coles Creek village" that consisted of three pyramidal platform mounds and a profuse midden accumulation. He gave the dimensions of the mounds as follows:

The largest mound, A, is a pyramidal truncate approximately two hundred feet square at the base, twenty feet high, and with a summit plateau ninety feet

square. It stands upon the highest part of the ridge that the site occupies. This ridge lies between the creek to the north and the Mississippi bottoms to the south.

About two hundred feet northeast of the large mound, down slope and near the creek, are two smaller pyramids, B and C....Mound C stands on the edge of the low bluff bordering the creek, and is half cut away. It measures five feet in height and is ninety feet along the remaining side. Mound B, situated near a small ravine that cuts back toward Mound A from the creek, is slightly smaller than C. It is seventy feet square at the base and six feet high.

All three of the mounds have about the same orientation. They are within a few degrees of being set square with the cardinal directions (Ford 1936:197-98).

Another hiatus of archeological activity in the region of the project area lasted from Ford's work until the activities of Angola Prison guard Leonard Charrier in the late 1960s which led to the discovery and plundering of the famous Tunica Treasure at the Trudeau Landing site (16WF25) in West Feliciana Parish, Louisiana. The thousands of European and aboriginal artifacts recovered by Charrier were not excavated in a scientific manner and the provenience data was lost forever; however, these excavations did lead to an orderly analysis of the artifacts by Jeffrey P. Brain of Harvard University (Brain 1979) and subsequent research at the Trudeau Landing site (Brain 1982).

Brain's series of excavations at the Trudeau Site have attempted to locate more burials for provenience information lost to the Tunica Treasure and to investigate the more prosaic elements of the site such as middens and house sites that can tell more about the lifeways of a community than burials. An intriguing result of Brain and his associates' research was the discovery of a building site that contained metal nails and pieces of daub. This building may have combined European and aboriginal construction techniques and have been a structure of some importance. Brain suggests that it could have been a temple and charnel house at the site (Brain 1982:10).

The Bloodhound Hill site (16WF21), was reported in 1976 by Ross Maggio, then warden of Angola Prison. Located on the eastern portion of the Tunica Hills (see Figure 15) on a terrace and a hill east of the terrace, the site was surveyed, tested, and excavated by a crew from the Louisiana Division of Archaeology, the Peabody Museum at Harvard, Louisiana State University, and some inmates at Angola Prison. This work revealed seven burials and a midden area that was somewhat disturbed. Several of the burials contained a large number and a wide variety of European trade goods reminiscent of the Tunica Treasure, as well as articles of aboriginal manufacture (DOA site files; Neuman 1984).

In 1986 and 1987 Dennis Jones and Malcolm Shuman of Louisiana State University conducted a project to locate and map prehistoric Indian mound sites in Louisiana in the region around the project area. In 1986, the Tunica Mounds (16WF1) were investigated and

mapped. The site, as noted by Ford in the 1930s, had been disturbed by nearby railroad and highway construction. The railroad had sheared the northern portion of Mound A and Highway 66 had sheared the southern side of Mound A and disturbed the much smaller mound B.

Initially, there was some skepticism that Mound A was a man-made construction. This is the area where the Tunica Hills meet the floodplain of the Mississippi River and many promontories in the area are natural formations so that it appeared to Jones and Shuman that Mound A may have been such a feature. However, when the vegetation was cleared for mapping purposes, seven plain sherds were exposed, lying *in situ*, several feet below the mound's summit. Likewise, a plain sherd was found in the northern face of Mound B several inches below the mound's current summit. Jones and Shuman concluded that while it is possible that the builders of these mounds may have enhanced a natural prominence in the case of Mound A, there can be little doubt that at least a portion, if not all, of the mounds at 16WF1 were man-made constructions. If Mound A was in fact completely man-made, it was originally a structure of some size measuring more than 18 ft from base to summit and 135 ft along its surviving basal dimension (Jones and Shuman 1986).

The academic prehistoric archeological research most directly associated with the project area was conducted by Dr. Ian Brown, then with the Peabody Museum at Harvard University. He surveyed prehistoric settlement on the loess bluffs of Mississippi from Natchez, Mississippi to the state line between Mississippi and Louisiana. His research in this region was not conducted over the entire area, but sampled four different ecological zones in the area: narrow ridges, broad level plains, tributary floodplains, and the Mississippi River floodplain. Brown found over two hundred sites, but was able to determine period of occupation on less than half that number due to the paucity of artifacts at so many of the sites (Brown 1973).

Near the current project area, i.e. south of the Buffalo River, to the state line, Brown reported on seven sites. These were: the At Last site (22WK520); Papa's site (22WK521); Dooley site (22WK522); Po' Folk site (22WK523); Flat Top site (22WK524); Buena Vista site (22WK525); and the Smith Creek site (22WK526) described above (see Figure 15). Various phases of prehistoric occupation were represented by these sites with the Smith Creek site not surprisingly showing the most prolonged and intensive occupation (Brown 1973).

In addition to the above archeological projects concerning prehistoric occupations near the study area, there was also an historic archeological project carried out in 1960 by the Smithsonian Institution at Fort Adams. This project, under the direction of Major Edgar M. Howell, Division of Military History and J. Duncan Campbell of Harrisburg, Pennsylvania, located some of the original installations of the fort. Although erosional overburden impeded their labors, they employed early military records and maps, as well as the advice of the current landowner, to locate the remains of specific buildings. Artifacts included brick pilings for barracks, historic ceramics, bottles and buttons (MDAH subject files).

A reported prehistoric/historic site directly within the project area is the Clarksville site (22WK510). It is unclear from records available from the Mississippi Historic Preservation Division who originally reported this site. The file card for the site describes it as "7 mounds" and lists LSU as the informant. The Lower Mississippi Survey from the Peabody Museum of Harvard reports on the site by citing William Dunbar's 1799 description of the settlement of Clarksville as nestled among seven Indian mounds. Neither report indicates that a field verification of the site has ever been conducted (MDAH site files).

Cultural Resources Surveys

In addition to the investigations, reports, and excavations carried out by archeologists with theoretical research aims or academic affiliations, some research has also been carried out near the project area by archeologists under contract to the private sector or to governmental agencies.

James T. Lauro, Archeologist for the Division of Historic Preservation in Mississippi, conducted a cultural resources survey of the proposed Fort Adams-Pond Road in Wilkinson County, Mississippi. Reporting initially in September of 1985, Lauro noted that because the terrain in the area was very rugged and the vegetation cover extremely thick, an archeological survey was difficult. Despite these conditions, Lauro apparently conducted what investigations he could and recommended that another archeological reconnaissance be conducted after the right-of-way had been cleared. In March of 1986, this clearing occurred and Lauro carried out a surface survey of the area of road construction. No archeological material was reported (MDAH).

Directly across the Mississippi River, the Glendale Landing site reported by C.B. Moore in 1911 was relocated in 1988 by Jones and Shuman during a cultural resources survey for revetment construction in the general area of the mouth of the Red River. An informant familiar with the area reported the mound to the LSU crew and it was listed as the Prairie Lake Mound (16CO28). This mound was verified to be the same as the Glendale Landing Mound by a check of the ownership records of Concordia Parish (Jones et al. 1989).

In addition to site reports that were generated by academic or contract archeological research, several sites in the region have been reported by avocational archeologists. Dr. Joseph "Smokey" Frank, currently of Lake Charles, Louisiana reported on one site directly within the project area. The Clark Creek site (22WK516), was described as a prehistoric site in a pasture containing "pottery, points, flints, Marksville sherds."

CHAPTER VI

RESEARCH DESIGN AND FIELD METHODOLOGY

The completion of this project involved archival work, field research, and artifact analysis. Each of these phases was a distinct operation during the project, but each phase also influenced the execution of all the others during the project.

The purpose of this cultural resources survey was, of course, to locate all prehistoric and historic sites in or near the project area. Another purpose was to determine the eligibility of any of these sites for inclusion in the National Register of Historic Places. A third purpose of the project was to make recommendations for the treatment of any sites encountered.

Determining Areas of High Probability

A check of the site files at the Louisiana Division of Archaeology and the Mississippi Department of Archives and History, as well as a knowledge of past research activity, indicated that archeological research in the region had been fairly intense, although usually site specific. From C.B. Moore's visits to prehistoric mound sites; to Ford's work at Angola Prison in Louisiana; to Ian Brown's Survey of the bluff area; to the discovery, analysis, and litigation involving the Tunica Treasure, the environs of the project area have received their fair share of attention. The proximity of many reported sites, *some in or very near the project area*, suggested a high probability for undetected sites. In addition, several historic and prehistoric sites near the project area were visited to gain a better knowledge of the cultural resources in areas adjacent to the project.

Furthermore, it was quickly realized that the portion of the Mississippi River around the project area has been altered considerably by engineering projects that have influenced *the course of the Mississippi River and altered the river's appearance from prehistoric and early historic times*. Shreve's Cutoff, just a few miles downstream, definitely affected the Mississippi River's course upstream in the region of Fort Adams. Additionally, the construction of the Old River Control Structure and levees on the west bank of the river in Louisiana definitely impacted the study area in extreme southwestern Mississippi. Consequently, historic maps, current topographic quadrangles, and hydrographic maps of the appropriate portions of the Mississippi River were consulted in order to better understand the changes within the project area.

Field Methodology

The field methodology for conducting the cultural resources survey of the project area used procedures as described in the Scope of Services. This methodology consisted of an

intensive pedestrian survey in conjunction with systematic shovel testing. The width between each survey transect was no more than 20 m and the shovel tests were placed at 50 m intervals. These intervals were observed whenever possible, although shovel tests were never placed in stream beds or drainage ditches. Thick vegetation also influenced the placement of shovel tests and the width of the survey transects between crew members. All fill from shovel tests, which were generally 30 cm in depth, was screened through 1/4 inch screen.

When sites containing cultural material were encountered, further shovel testing, augering, or the placement of test units to discover the extent of *in situ* material were used where applicable. All artifacts that were collectible were gathered with a complete record of provenience, date, and site condition noted.

Because map research showed bank erosion to be the current primary geomorphological process in the project area, it was decided to examine the cut banks within the project area wherever such an examination could be safely carried out. It was assumed that because the area had been occupied both historically and prehistorically, sites may have eroded out from the current top bank or artifacts could even be found *in situ*.

Artifact Analysis

The final phase of the project involved artifact description and analysis. All artifacts were washed, catalogued, and analyzed at the facilities of Louisiana State University. The documents, studies referred to, and procedures for analyzing the artifacts recovered during the project, are presented in the discussions of the artifacts in the following chapter.

CHAPTER VII

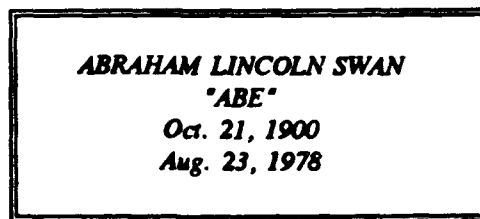
RESULTS OF THE SURVEY

The entire project area of approximately 72.55 ac was surveyed and tested with the methodology described in the previous chapter. Two historic cemeteries near the survey area were located, mapped, and recorded. The remains of a recent historic farmstead were also located north of Clark Creek. In addition, a midden from a prehistoric occupation of a portion of the study area was newly discovered during the survey. Finally, attempts were made to locate two previously recorded prehistoric sites, 22WK510 and 22WK516, as well as remains of the historic settlement of Clarksville, Mississippi (Figure 16). Details on these findings follow.

The Clarksville Cemetery

Located in Section 23 of T1N, R4W approximately 1.8 mi south of Fort Adams, Mississippi, the Clarksville Cemetery is just east of the dirt road that runs from Fort Adams to Clark Creek. A barely discernible path off that road serves as an entrance to the cemetery. Observation revealed that the Clarksville Cemetery consisted of six graves, only two of which had tombstones. The remaining graves were perceptible only because of a distinct rise and the presence of rusted metal plaques that once contained the name of the funeral home responsible for these interments.

The two tombstones are side by side. One stone is gray polished marble and has the following inscription done in a professional manner:



The other tombstone was of finished concrete with an inscription written in a more amateurish fashion which suggested that it was done when the concrete for the marker was still wet and able to be incised. This inscription read:

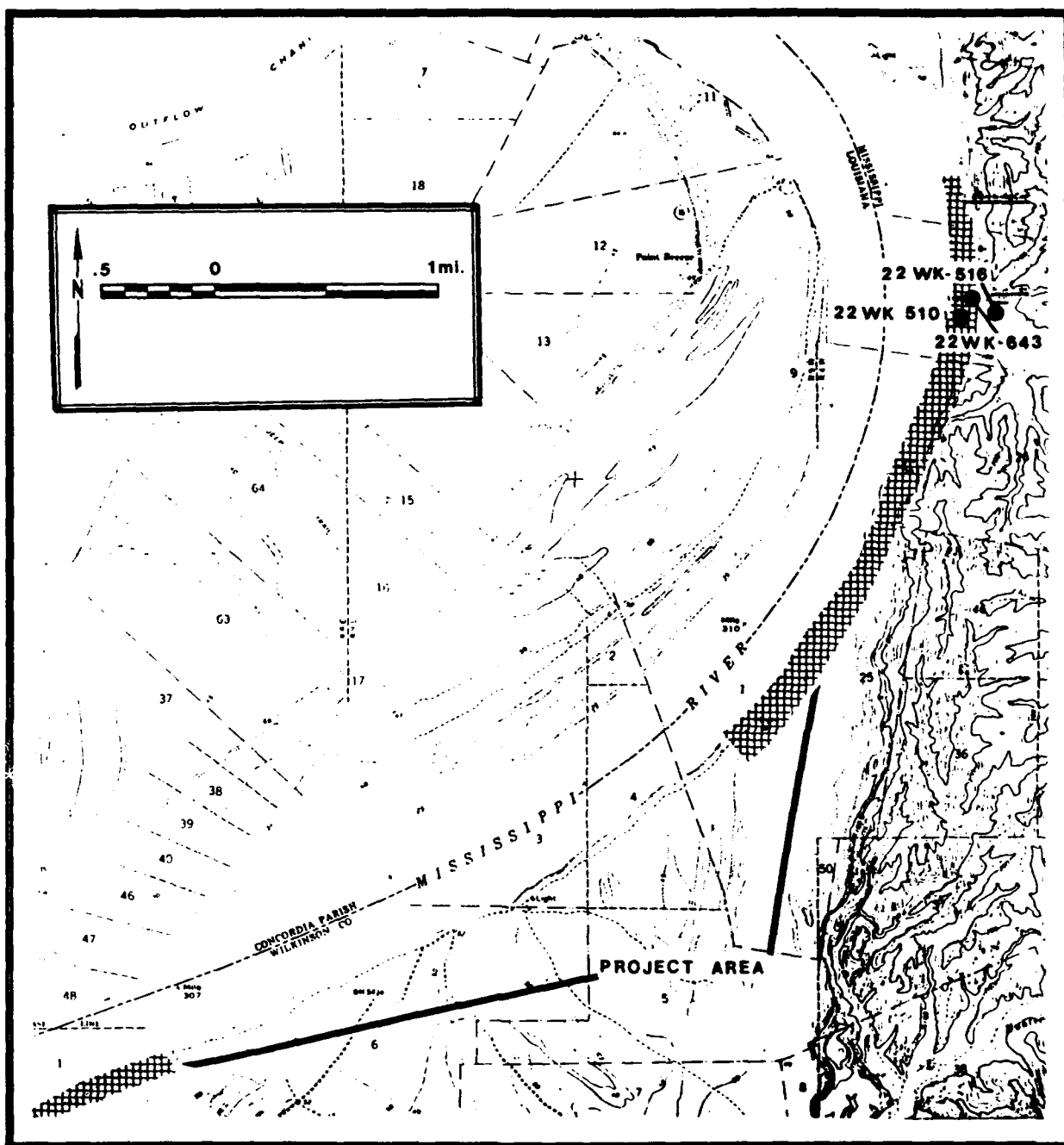


Figure 16: Sites in or near project area.

IN LOVING MEMORY
of sis.
Rosa V. Swan
BORN 2-16-1900
DIED 6-14-1988
MISSED BY FAMILY

This second tombstone was surrounded by styrofoam mounts and wire stands for floral arrangements as well as some plastic flowers. These decorations that had obviously been left from Ms. Swan's funeral had suffered the effects of weather between the time she was laid to rest and her grave recorded for this survey. In addition, metal plaques with card reading "Newman Funeral Home - Centreville, Miss. 39631" were found at the foot of both Abraham and Rosa Swan's graves.

It was originally thought that these two stones were for a husband and wife. A local informant, however, said that Rosa Swan was the wife of a George Swan who continues to live in Fort Adams. She was a sister-in-law to Abraham Swan.

Figure 17 is a sketch map of the arrangement of the definable graves at the Clarksville Cemetery and figures 18 and 19 are photographs of the tombstones described above. The six discernible graves are more or less evenly spaced across 12 m and are aligned in a north-south direction. Furthermore, the graves appear to be arranged so that the feet are toward the Mississippi River. The graves are at the base of a lower bench or terrace of the Tunica Hills.

Currently, the cemetery is in an advanced state of disrepair and overgrown by secondary vegetation. Also, the effects of erosion are very evident on and around the graves. Several of the older graves appear to be partially covered by colluvium from the loess hills above them and are therefore less definable. Several strands of barbed wire and two rotten fence posts lie around the grave indicating that a fence or enclosure once surrounded the site.

Another point to be made regarding this cemetery is its name. Listed on the Fort Adams, Miss.-La. 7.5' quadrangle, the Clarksville Cemetery is about two miles from the former site of Clarksville itself. Furthermore, the marked graves at the site are very recent and are those of people who ironically outlived the settlement for which the cemetery is named.

When the Mississippi River is at high water, as it was when portions of this survey were conducted, the cemetery is within 200 ft of the water. Although, it was not evident from the present conditions, it is possible that the Clarksville Cemetery has been inundated in the past. Because of the recent burials at the site, however, it can be said that this graveyard has not been abandoned.

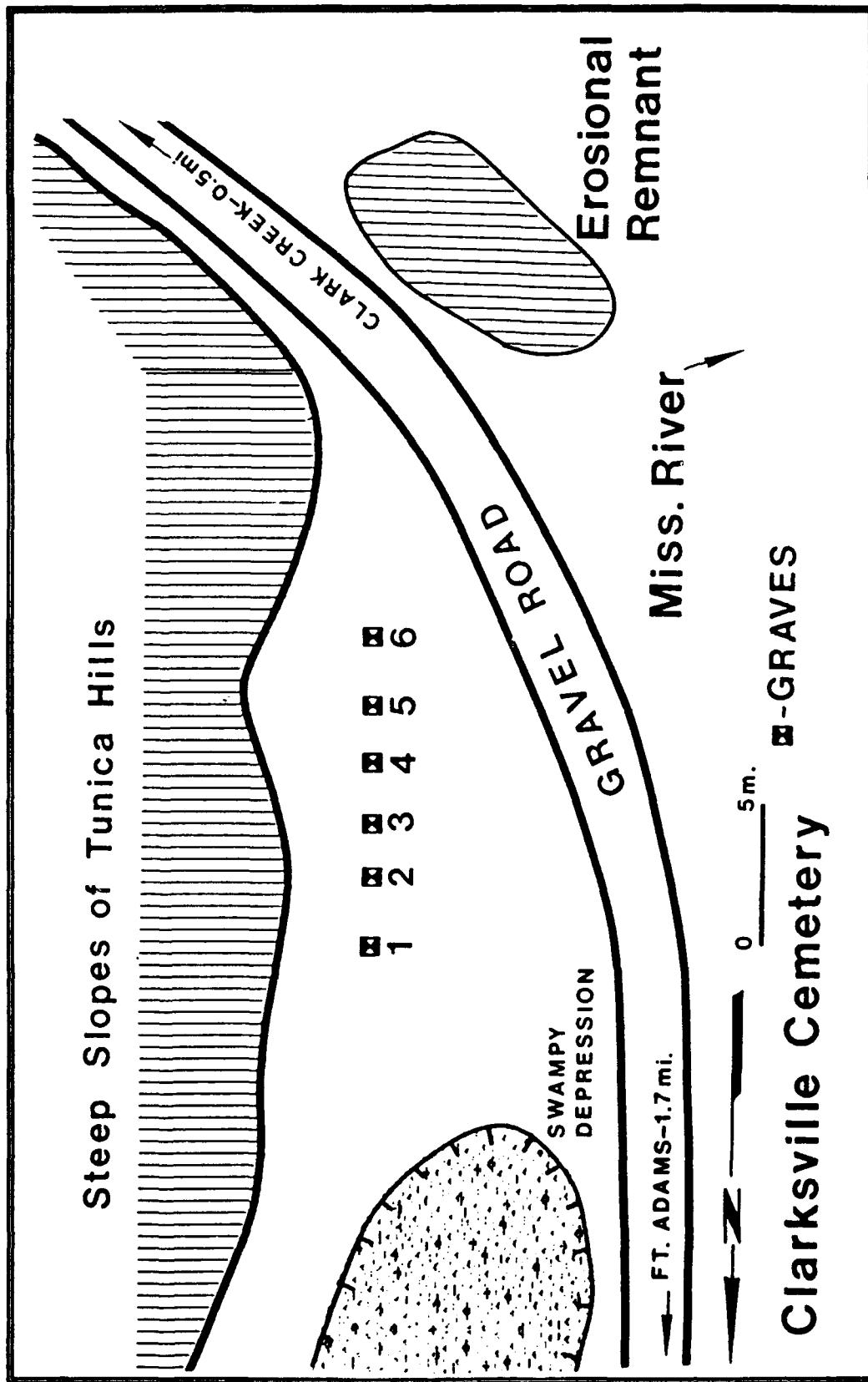


Figure 17: Sketch map of Clarksville Cemetery.



Figure 18: Photograph of tombstone at Clarksville Cemetery.

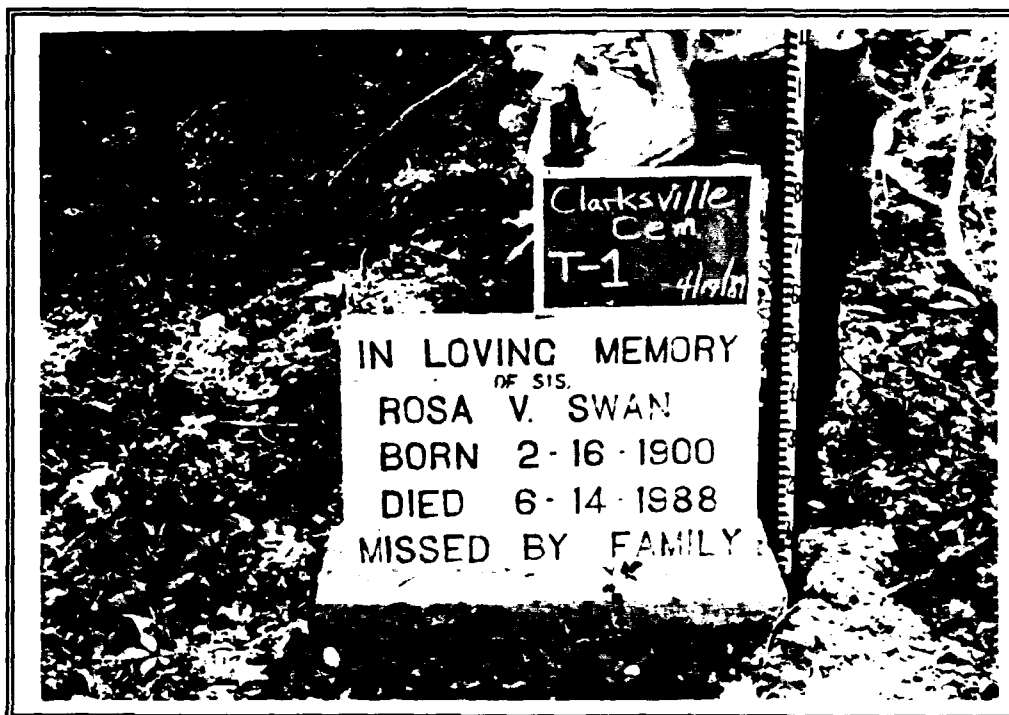


Figure 19: Photograph of tombstone at Clarksville Cemetery.

The Riverside Cemetery

A cemetery that is abandoned, but noted on USGS maps as the Riverside Cemetery, is located approximately 2.2 mi south of Fort Adams and .5 mi south of the Clarksville Cemetery. This graveyard is situated on a natural knoll just north of Clark Creek near the confluence of that creek with the Mississippi River. Currently, the site is thickly overgrown by trees and secondary vegetation.

Evidence of ten separate graves were found on the knoll, designated by tombstones or footstones. Most, but not all, of these graves were on the elongated summit of the knoll. There may have been other graves than these, but their markers may have been of perishable material. Figure 20 is a contour map of the knoll and locates the graves. All of the tombstones and footstones were in disrepair and overgrown. Also, several were cracked or broken, which may be an indication of either the force of natural elements, neglect, or past vandalism.

A description of the individual grave sites follows:

Grave 1 - A stone marker with the inscription:

*In Memory of
John Thompson
who died
Aug. 24th 1835
Aged 54 years*

Grave 2 - A stone marker with the inscription:

*In Memory
Margery Ferguson
who died
June 7th 1838
Aged 45 years
She lived the life of the
righteous and died
the death of a Christian*

Grave 3 - A stone marker with no markings or inscription.

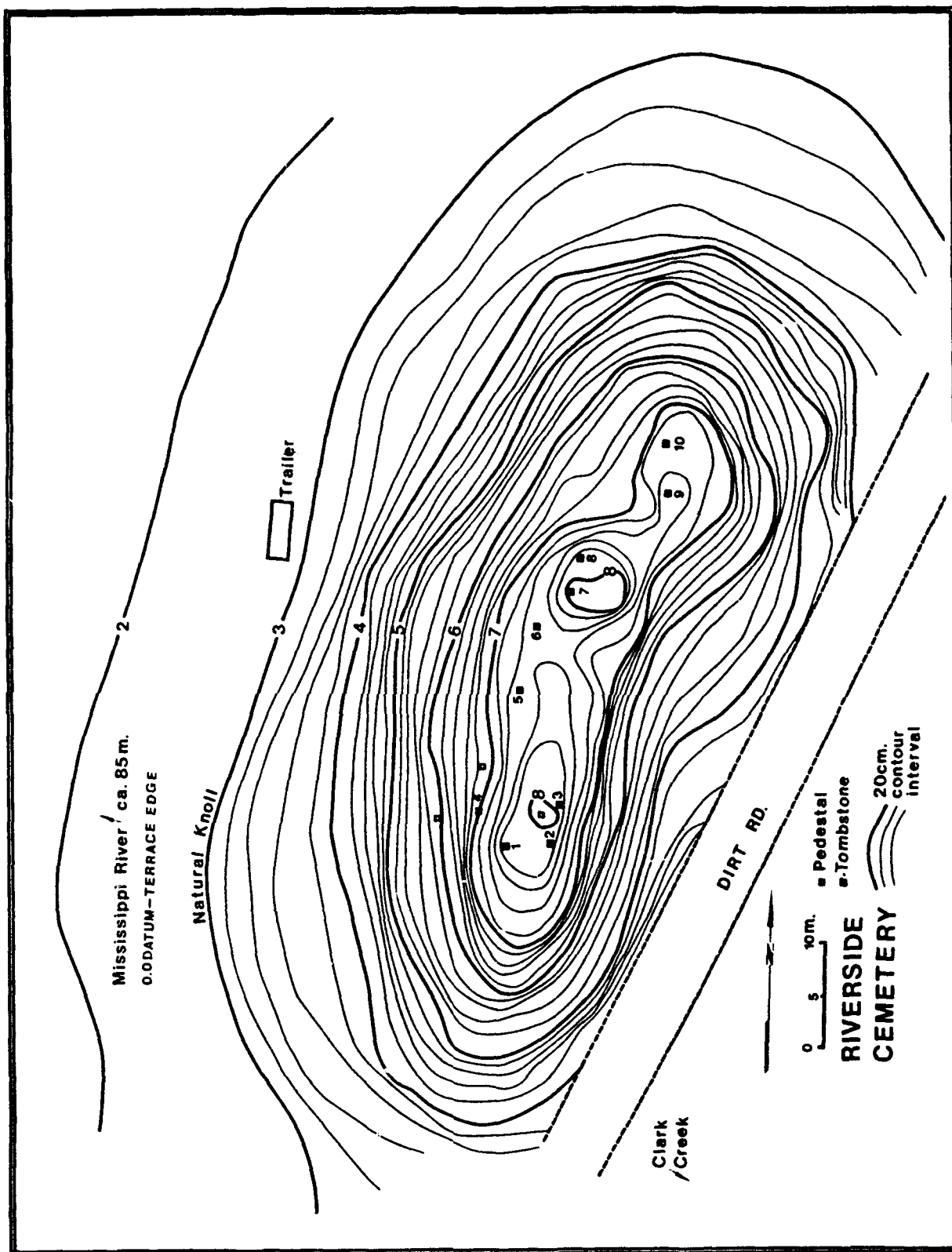


Figure 20: Contour map of Riverside Cemetery.

Grave 4 - A stone marker with a square, shallow inset on the marker's face, but no formal inscription. However, a crude engraving has been made in a portion of the stone which reads: "RET Nov 1853."

Grave 5 - A stone marker with the inscription:

*Emma Jane Thompson
Aged 4 years & 6 months*

Grave 6 - A footstone with the initials "M. H." and a portion of a broken stone marker with only a portion of an inscription which had the year "1857." No other part of the stone was located.

Grave 7 - A stone marker with the inscription below. The first two lines are in an arc parallel to the top of the stone.

*Mary Eveline
daughter of
J.W. and A.M. McNulty
Died
Dec. 23 1860
Aged
6 mos. & 16 ds. (sic)
For the son of man
is come to save that
which was lost*

Grave 8 - A stone marker with the inscription below, the first line of which is in an arc. In addition, above the inscription there is a bas-relief carving of an winged angel carrying two small children heavenward.

*Augusta R.
wife of
J.W. McNulty
Born
March 30, 1836
Died
July _0, 1860
And he said unto her. Daughter be of
good comfort: thy faith hath made thee
whole: go in peace*

Grave 9 - A footstone with the initials J.B.P.

Grave 10 - a stone marker, more of a slab than a former standing stone with the inscription:

*In Memory of
Simon Presler, Sen.
who died
September 4th 1838
Aged 63 years*

This grave also had several stone posts around it which may have once been corner posts of an enclosure. None are currently standing.

All names on these stones but two, can be found in census data for Wilkinson County for 1830. John Thompson is listed as a male between 20 and 40 years old and John McNulty as the head of a household consisting of 1 male under 10, 2 males between 20 and 40, 1 female under 10, and 1 female between 20 and 40 years old (Gillis 1965).

From the elaborate design of some of the graves and the mere fact that they are stone markers for a cemetery located in a rural area would suggest that this cemetery was the final resting place for individuals who were relatively well to do for this area. Indeed, the very name of the cemetery connotes an association with the Riverside Plantation or other nearby residents. Grave 1, for John Thompson, is probably the same John Thompson who is listed in the census and who reportedly bought the Clarksville Plantation from Benjamin Young. Figures 21 through 26 are photographs of the cemetery knoll and the tombstones.



Figure 21: Photograph of knoll where Riverside Cemetery is located.

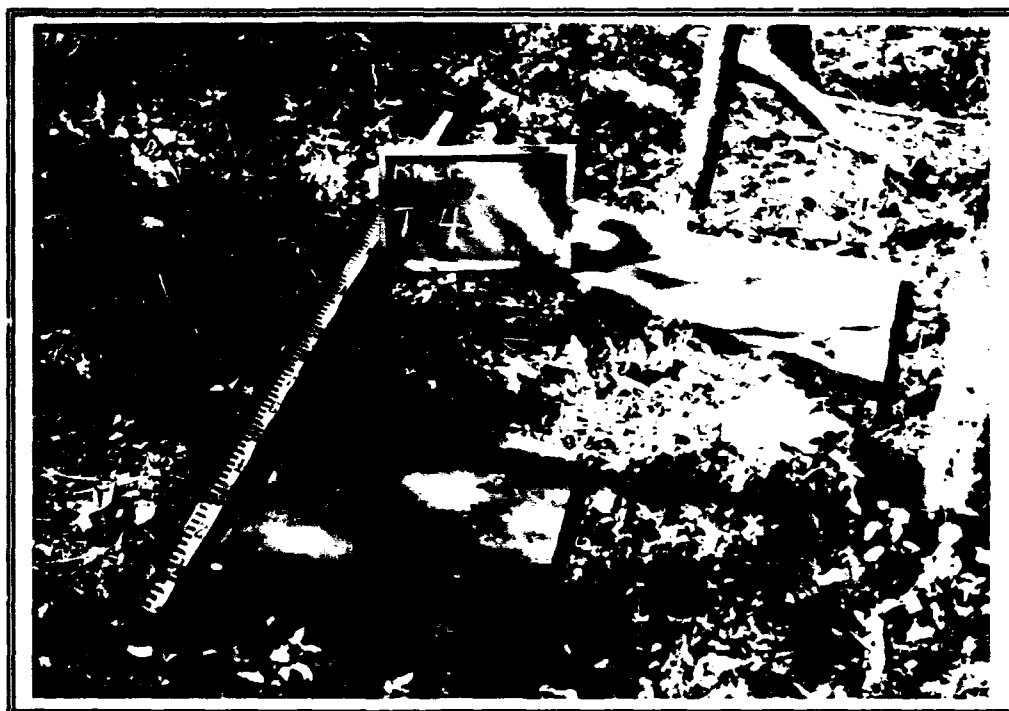


Figure 22: Tombstone at Riverside Cemetery.



Figure 23: Tombstone at Riverside Cemetery.



Figure 24: Tombstone at Riverside Cemetery.



Figure 25: Tombstone at Riverside Cemetery.



Figure 26: Footstone at Riverside Cemetery.

Remains of Farmhouse

Approximately 1000 ft north of Riverside Cemetery are a few indications of a farmhouse that is shown as a structure on the 1965 15' Fort Adams quadrangle. This structure does not appear on the later 7.5' quadrangle. Informants have said that this building was the former residence of Abraham Swan, now buried in the Clarksville Cemetery, and that the building burned down in the late 1960s. All that remains of the site are a few bricks, remains of a few appliances, and portions of a corral or pigpen. In addition, a cut through a portion of the terrace near the Mississippi apparently served as a landing for this house. Occupation of this site had been so recent and sufficiently documented by informants, that further archeological testing was deemed unnecessary.

Prehistoric Sites

In addition to the historic sites that were found in or near the project area, two previously reported prehistoric sites were searched for, but never located. These were the Clarksville Mounds (22WK510), and the Clark Creek site (22WK516). The first of these, as previously noted, was recorded as a prehistoric site based on a 1799 description of Clarksville, Miss. by William Dunbar. The seven mounds he noted and the remains of the historic settlement of Clarksville have apparently been taken by the erosion action of the Mississippi River. As far as could be ascertained, no field verification or other reference to the mounds at Clarksville has ever been recorded.

The Clark Creek site (22WK516), was reported by Bill Hony and Joe Frank in 1971. They described the site as a small collection of ceramic and lithic artifacts that were eroding out of the terrace overlooking the northern bank of Clark Creek some 300-400 ft east of the project area. This location was surveyed during the project and no more prehistoric artifacts could be found. Personal communication with Joe Frank has verified the location of the site and the general paucity of artifacts encountered when he first recorded the site.

The Riverside Midden (22WK643)

This site of prehistoric aboriginal occupation was discovered during the execution of the pedestrian survey for this project. The Riverside Midden, named after the nearby historic Riverside Cemetery, is essentially a sheet midden that is the remnant of prehistoric settlement on a terrace overlooking the confluence of Clark Creek with the Mississippi River.

The site is located on a very distinct terrace that measures about 800 ft. north-south and about 500 ft east-west. Clark Creek defines this terrace on the south, the rise of the Tunica Hills defines it on the east, and the Mississippi on the west. The northern limit is less distinct and is more or less defined by a backwater slough that will contain water when the level of the river is high. The soils of this terrace are coarse river sands which are the remnants of a Mississippi River terrace formed by the river as it meandered westward, away from the Tunica Hills. Loess colluvium from these same hills can be found in and around the area of the site, although it seems to be surprisingly slight. Currently, the terrace is occupied by modern camp structures.

The presence of prehistoric ceramic sherds eroding out of the terrace edge was the first indication of the site (Figures 27 and 28). Further inspection led to the detection of a stratum of dark organic midden material about 30 cm below the surface. Prehistoric ceramic and lithic material were found *in situ* in this stratum (Figure 29). Additionally, what may have been the remnant of a post mold or trash pit was noted when the site was first discovered (Figure 30). Figures 31 and 32 are diagnostic sherds that were collected during the initial investigation of the site on the slope below the eroding terrace. In addition, bits of this organic midden material were clearly seen on the slope of the terrace below the midden where it had been washed down. The midden as revealed in profile was near a flagged survey stake numbered 151 which had been placed there apparently by a survey crew of the Army Corps of Engineers. This location, which has an elevation of 68.1 ft, was used as a benchmark for all subsequent investigations at the site. Table 4 presents all the artifacts from the Riverside Midden site with a surface provenience.

The investigation of the Riverside Midden continued with the production of a site map and the use of soils probes to define the horizontal area the midden. Figure 33 presents the site map and shows the location of the soil probes at the site. Generally, a grid of a meter square was used in the placement of these probes, but 50 cm. intervals were occasionally employed to better define the midden's boundaries.



Figure 27: Prehistoric ceramics eroded out of terrace at Riverside Midden (22WK643).

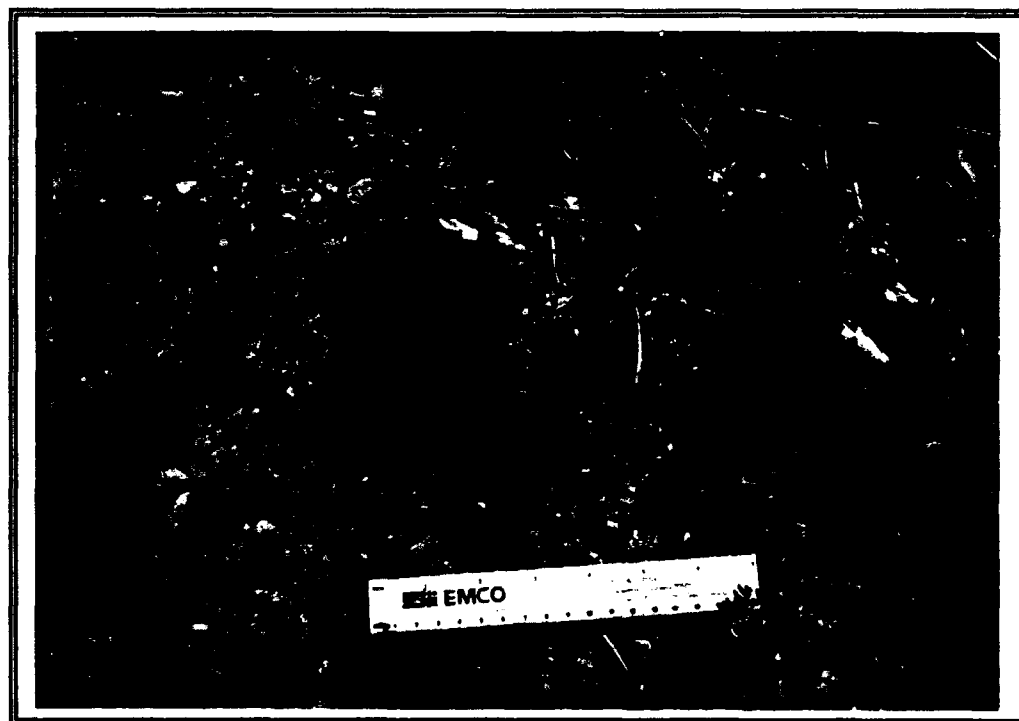


Figure 28: Prehistoric ceramics from terrace at Riverside Midden (22WK643).

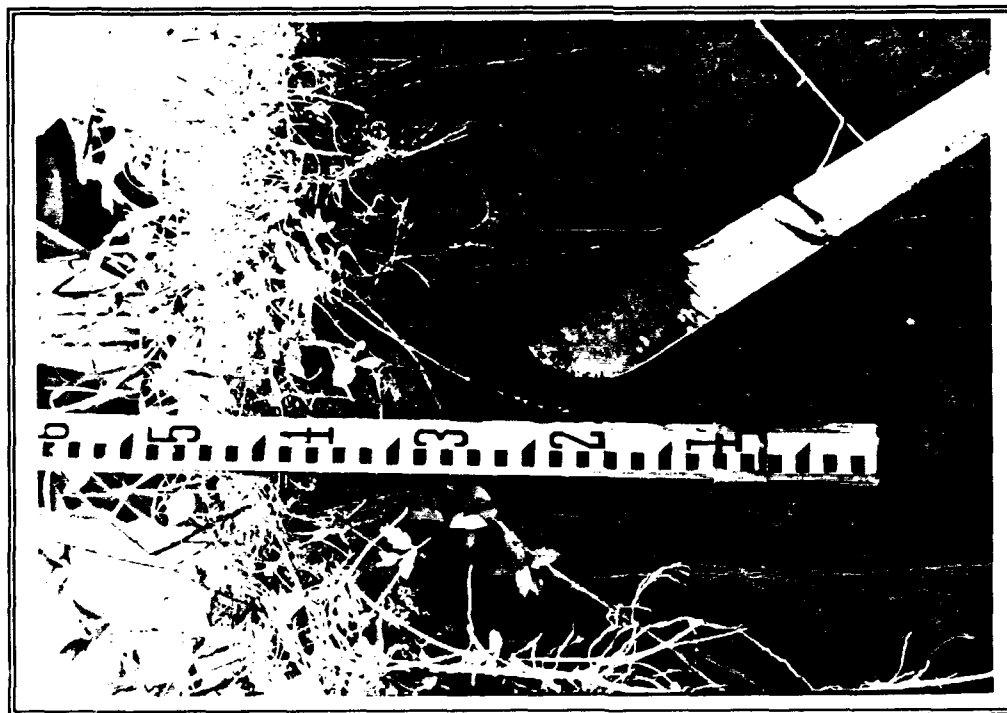


Figure 29: *In situ* prehistoric sherd in profile at Riverside Midden (22WK643).



Figure 30: Possible post mold feature exposed in profile at Riverside Midden (22WK643).

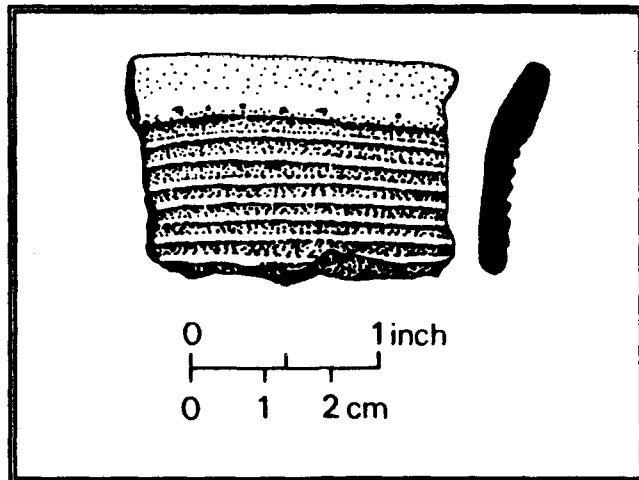


Figure 31: Coles Creek Incised, var. *Mott*.

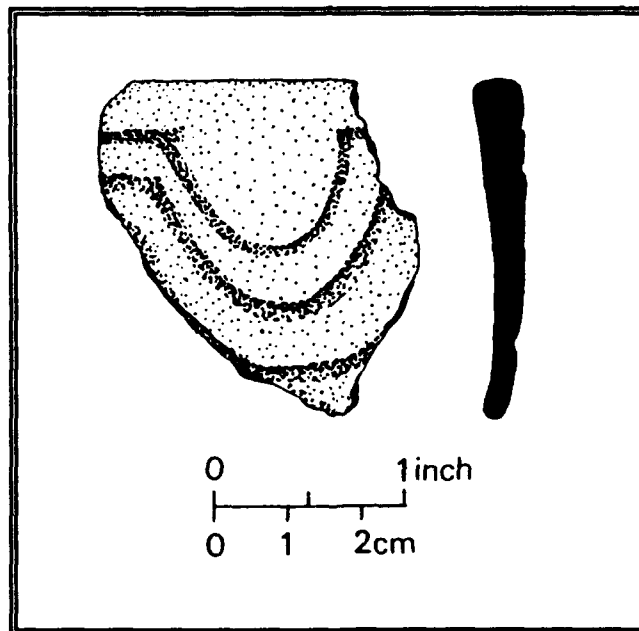


Figure 32: Leland Incised, var. *Blanchard* (?).

TABLE 4
PREHISTORIC ARTIFACTS WITH SURFACE PROVENIENCE
FROM RIVERSIDE MIDDEN (22WK643)

MATERIAL RECOVERED	TOTAL
CERAMICS	
Baytown Plain,	
<i>var. Addis</i>	28 (4)
<i>var. Baytown</i>	4 (1)
<i>var. Percy Creek</i>	9 (1) [1]
<i>var. Reed</i>	2
<i>var. unspecified</i>	44
Coles Creek Incised,	
<i>var. Campbellsville</i>	(1)
<i>var. Coles Creek</i>	1
<i>var. Mott</i>	(1)
Harrison Bayou Incised, <i>var. Harrison Bayou</i>	2
LITHICS	
Abrader (?)	1
Debitage Flakes	
Primary	1
Secondary	7
Tertiary	1
BONE	
Unidentified fragment	1
TOTAL	110

() Indicates rim sherd

[] Indicates basal fragment

The depth of the midden was found to be less thick, about 20-25 cm, than was revealed by the exposed profile at the terrace edge. The horizontal extent of the midden, as shown in Figure 33, measured about six meters east-west from the terrace and about nine meters north-south. The southern extent of the midden, however, could not be defined accurately, however, due to the thick root growth of trees and other vegetation at the edge of the terrace overlooking Clark Creek which prevented the placement of probes. No midden material was found eroding out into the banks of Clark Creek near the site. Other than the bank caving of the portion of the site facing the Mississippi River, the Riverside Midden site appeared to be undisturbed. Occasionally in the soil samples taken with the probe, flecks of charcoal were plainly observable. Also, in one probe, a small ceramic sherd, apparently Baytown Plain, was recovered in the sample. This probing suggested that the midden extends over an area of at least 50 square meters.

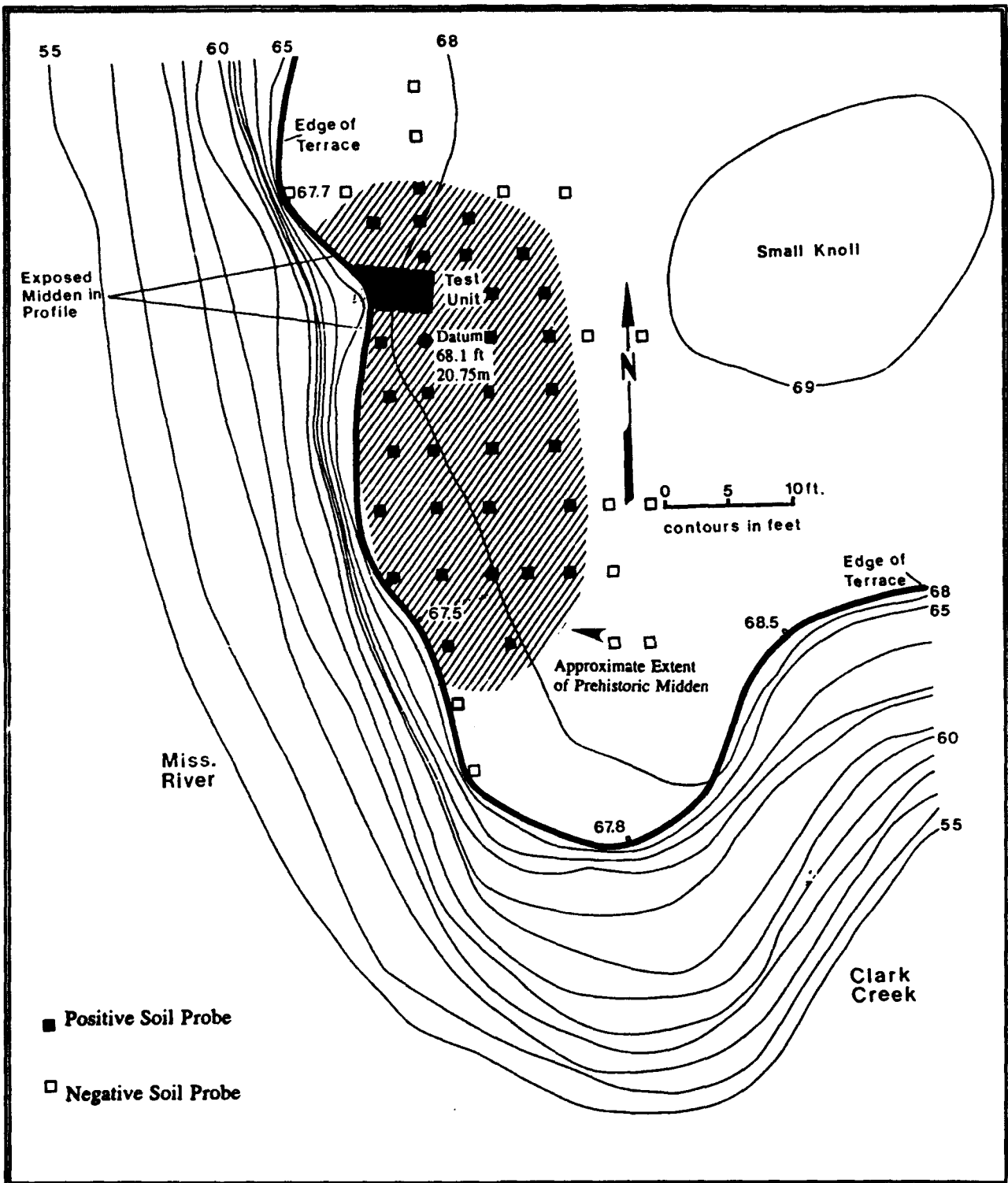


Figure 33: Contour map of Riverside Midden (22WK643).

A test pit (see Figure 33) was placed in a portion of the midden in order to further investigate the site and provide further stratigraphic information, the recovery of diagnostic artifacts, and the definition of any other subsurface features such as hearths or post molds that might be associated with the prehistoric occupation of the site. Initially, a meter square unit was established 50 cm east of the current edge of the terrace and the unit was dug in arbitrary 10 cm intervals. A depth of 30 cm from the surface was sufficient to obtain profiles of the midden, recover artifacts, and reach culturally sterile soil. The first five centimeters of soil in the test pit contained midden material mixed with humus and shallow grass roots. After the meter square was excavated, the intervening 50 cm to the terrace edge was dug thereby providing a 150 cm long profile for the north and south walls of the test unit. Figure 34 is a presentation of the profiles from the walls of the test unit. Figures 35 through 38 are photographs of the portions of the test unit placed in the site.

It should be noted that the lower boundary of profile was occasionally difficult to define due to the soil composition of the terrace upon which the midden rests. The terrace contains a significant portion of coarse Mississippi River sand and the midden material has leached into it making it difficult to distinguish between the lower end of the midden and the culturally sterile soil. The dark, greasy textured organic midden material was definitely not detected at the 30 cm level of the test unit. Also, the midden appeared to be continuous in profile and there was no evidence of episodes of alluviation or site abandonment shown in the midden.

All the fill from the test unit was dry screened through 1/4 inch mesh. Table 5 presents an inventory of the artifacts recovered from the test unit. In addition to the prehistoric artifacts, a single unidentified bone fragment was recovered during the excavation of the test unit and no floral remains that might have been associated with the prehistoric occupation were retrieved by dry screening. A sample of the organic midden material weighing approximately 400 grams was collected from the Riverside Midden for flotation in a further effort to detect the presence of floral remains in the midden. This procedure recovered evidence of charred Pokeberry seeds (*Phytolacca americana*). The leaves and seeds of this plant could have been used for foodstuff, but the roots are slightly toxic. The question of the domestication of pokeberry has not been resolved, and the seed remains of these plants are frequently confused with lamb's quarter (*Chenopodium sp.*) seeds during floral analysis (Asch and Asch 1977).

A total of 247 ceramic sherds and 18 lithics composed the total of prehistoric artifacts recovered from the site. This total represents material from the test unit as well as artifacts recovered during several episodes of surface collection on the terrace slope below the midden that had eroded out at different times. Artifacts were found in all three levels of the test unit, but were concentrated mostly in the upper two levels. No additional features, such as hearths, post molds, or artifact clusters were found during the test unit. Pieces of charcoal were found in many portions of the test unit, but never in any concentration to suggest the remnant of a hearth.

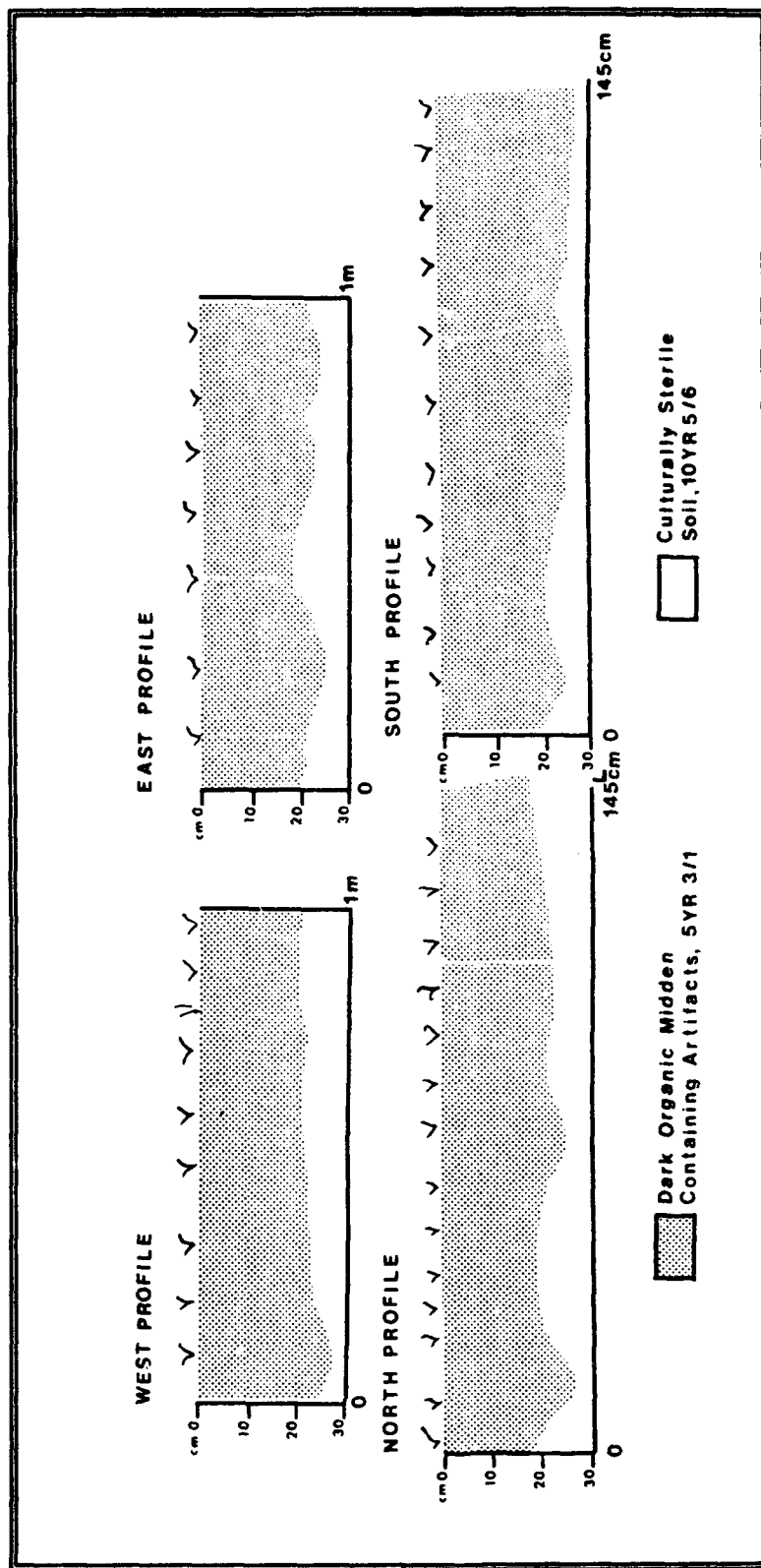


Figure 34: Profiles of test unit at Riverside Midden (22WK643).



Figure 35: Photograph of test unit at Riverside Midden (22WK643).



Figure 36: Photograph of test unit at Riverside Midden (22WK643).

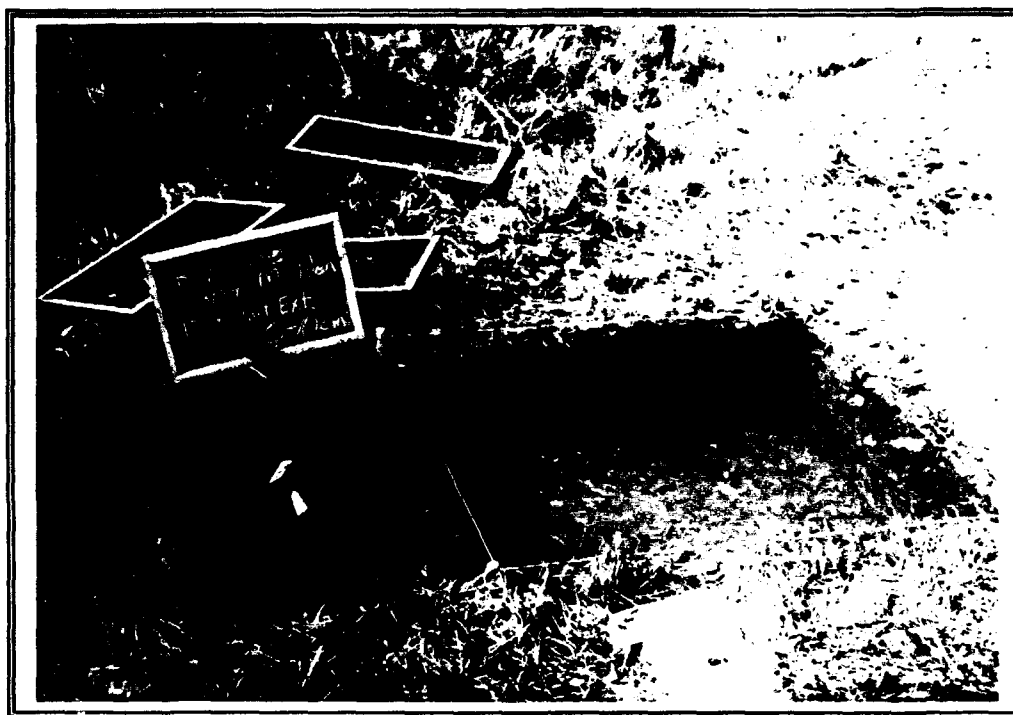


Figure 37: Photograph of test unit at Riverside Midden (22WK643).

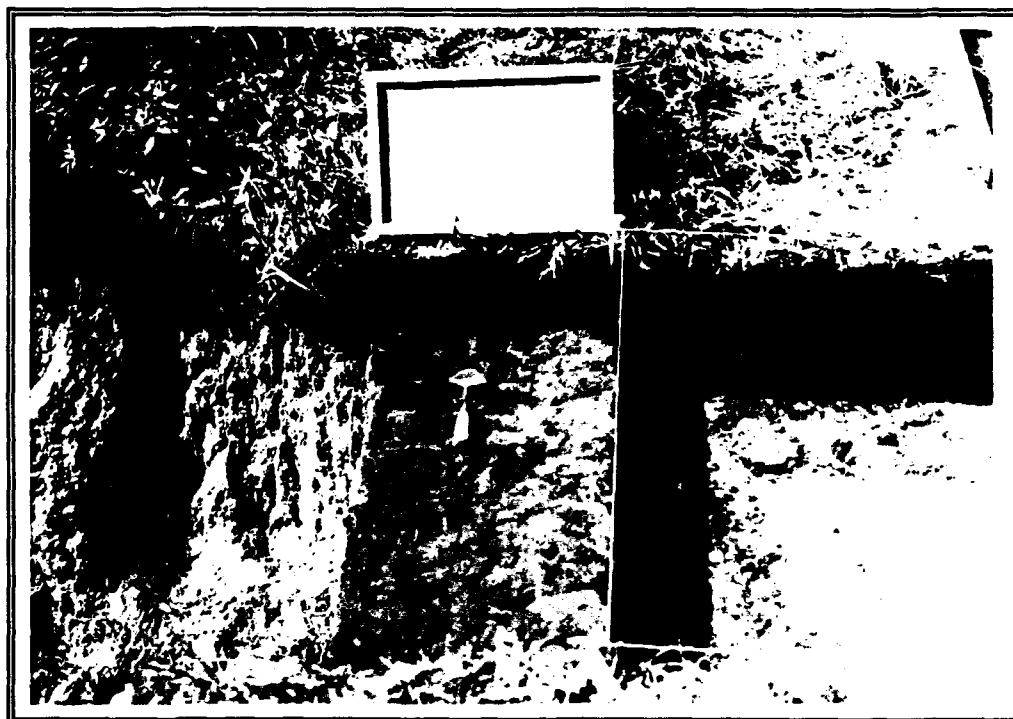


Figure 38: Photograph of test unit at Riverside Midden (22WK643).

TABLE 5
PREHISTORIC ARTIFACTS FROM TEST UNIT AT
RIVERSIDE MIDDEN SITE (22WK643)

MATERIAL RECOVERED	0-10 CM	10-20 CM	20-30 CM	TOTAL
CERAMICS				
Baytown Plain,				
<i>var. Addis</i>		13 (2)		15
<i>var. Baytown</i>		7		7
<i>var. Percy Creek</i>	1			1
<i>var. unspecified</i>	62	50	2	114
Chevalier Stamped, <i>var. Chevalier</i>	4			4
L'eau Noire Incised,				
<i>var. Anna</i>		2		2
<i>var. Australia</i>		1		1
Leland Incised, <i>var. unspecified</i>	1			1
Unknown Decorated	1	2		3
LITHICS				
Cobbles		2*		2
Debitage				
Primary				
Secondary	1	1		2
Tertiary	2			2
TOTAL	72	80	2	154

() Indicates rim sherd

* One is brown chert pebble and one is white quartzite nodule.

Interpretation

The ceramic types recovered from surface collections and test unit such as Chevalier Stamped, L'eau Noire Incised, Leland Incised indicate an occupation dating from the Coles Creek period into the Plaquemine period. The stratigraphy found in the test unit and exposed in the eroding terrace do not indicate any discernible hiatus of occupation so that it appears that this site was continually occupied during both periods with no perceptible interruption. The Chevalier Stamped and Baytown Plain *var. Percy Creek* types, for example, are dated to the Coles Creek period (Phillips 1970) and were found in the same level as the Leland Incised and L'eau Noire types that are putatively from the Plaquemine period.

It is readily apparent from Tables 4 and 5 that plain ceramic vessel body sherds dominate the artifact assemblage. Much has been written about the problems encountered

when attempting to diagnose plain sherds from the Lower Mississippi Valley (Phillips et al. 1951; Phillips 1970; William and Brain 1983). As it currently stands, the lack of temper in Tchula period ceramics and the presence of shell in the paste for Mississippian culture ceramics are the most accepted criteria for plain sherds. The intervening period contains tempering of sand, grit, grog, clay or combinations of those materials. When typing the plain sherds from the Riverside Midden, Phillips (1970) was the most frequently consulted source. The sorting of sherds as Baytown Plain, *vars. Addis, Baytown, Percy Creek, Reed, and unspecified* are based on the sorting standards outlined in the above cited sources. Because of the admitted subjectivity involved with many of these varieties, others may differ with these classifications. The fact remains, however, that none of the classifications given to the Baytown Plain sherds detracts from the conclusion about the time of the site's occupation that was determined by more diagnostic ceramic artifacts.

Although no diagnostic lithics have been recovered from the site yet, the debitage recovered does indicate some sort of lithic production at the site. Furthermore, the lithic materials found thus far suggest the usage of such locally available materials as might be found in the upper reaches of Clark Creek and the surrounding Tunica Hills. No exotic stone materials were found, although the location of the site along the Mississippi River would suggest at least the possibility of trade for material from distant sources.

Some of the residents of the modern camps near the site have reported finding artifacts at various times along the slopes of the terrace or at its base. One resident in particular, Mr. Burl Harris, reported noticing and occasionally collecting artifacts from the slope as the terrace eroded for the past 17 years. His collection from this site is currently in McComb, Mississippi and he is willing to permit analysis.

Because of the rate of bank erosion at the site, it would seem that the materials recovered from the Riverside Midden are remains of what was once a larger site that probably stretched westward on the level terrace to a former bank of the Mississippi. The rate of bank erosion has probably eliminated much of the site and the Riverside Midden is more than likely the "back" of a former village site. Additionally, the location of the site near the mouth of Clark Creek would probably enhance its desirability as this stream would provide better drinking water and easier fishing than the Mississippi River. Also, the value of the site was probably further enhanced by being just downstream from the area of the confluence of the Red River.

Whether or not the Riverside Midden (22WK643), is associated with the Clarksville prehistoric site, 22WK510, may never be known. The latter site as described by William Dunbar in 1799 is completely gone, along with the historic town of Clarksville itself which Dunbar reported was built upon seven Indian mounds. It is possible, however, that he was reporting some natural knolls, such as the one where the Riverside Cemetery is located. No other description of Clarksville or the prehistoric mounds has been found.

Once the discovery and testing of the Riverside Midden was accomplished, a general reconnaissance of the banks of Clark Creek was conducted to locate other indications of prehistoric occupation. Even though technically outside the survey corridors for this project, the banks of both the lower end and upper branches of the stream were surveyed. The lower end of Clark Creek has been frequently scoured out by high waters in the stream or silted over by backwater floods from the Mississippi River. No evidence of any occupation, prehistoric or otherwise, was located in this portion of the Clark Creek. In the upper branches of the Creek, however, ten ceramic sherds were found in the bed of the stream. The exact proveniences for these artifacts were impossible to determine, of course, but these sherds could be classified as Baytown Plain. They would seem to indicate that the Tunica Hills east of the Riverside Midden were occupied during roughly the same period.

CHAPTER VIII

CONCLUSIONS AND RECOMMENDATIONS

Two historic cemeteries, portions of one historic house site, and one site of prehistoric occupation were located in or near the project area where revetment work on the east bank of the Mississippi River is scheduled to be placed. The Clarksville Cemetery is composed of at least six graves and although in an obvious state of disrepair, cannot be regarded as abandoned due to a recent (1988) interment. The Riverside Cemetery has been abandoned, but contains important historical information due to the relatively early (1835-1860) period of use. Both cemeteries are very close to the area to be impacted by the revetment work and all precautions should be taken to insure that they are not damaged by construction activities. The debris associated with the historic farm house site north of Clark Creek is not substantial enough to warrant a modification of construction activity.

The historic site of Clarksville, Mississippi is no longer extant. Despite a thorough search of the area near the town's reported location, no historic artifacts were recovered. Likewise, no indications of the prehistoric Clark Creek site (22WK516), were found during the survey. The nearby prehistoric site, 22WK510, was also searched for, although it is not directly within the project area. Reported as a small cluster of ceramic and lithic artifacts eroding out of an upper terrace of Clark Creek, detection may have been made difficult by the relatively paltry amount of material associated with the site.

The Riverside Midden (22WK643), is a newly discovered site of midden material resulting from a prehistoric village settlement on a level terrace north of the confluence of Clark Creek with the Mississippi River. Subsurface testing shows this site to be a relatively shallow midden, manifested by a black organic stratum just below the surface, that contained prehistoric lithic and ceramic debris. Analysis of the artifacts recovered during this project suggest a prehistoric occupation from the Coles Creek into the Plaquemine Period. Testing to date has revealed no hiatus of occupation during this time, that is, all the artifacts recovered were from the same midden material. So far, it cannot be said that the material generally associated with later prehistoric occupation in the Lower Mississippi Valley is stratigraphically imposed on the earlier material.

The location and *in situ* nature of the Riverside Midden commend it to further archeological study. It has long been noted, in a variety of sources, that the chronology of prehistoric settlement in the area of the mouth of the Red River (where this site is located), is among the most detailed in North American archaeology (Willey and Sabloff 1974). The development of this chronology was due, for the most part, to the efforts of James A. Ford and his supervision of Works Projects Administration archeological work in the 1930s. Other researchers who have made significant contributions and revisions of this chronology were Philip

Phillips, George Quimby, William Haag, James Griffin, Stephen Williams, and Ian Brown, among many others.

With a few exceptions, the material analyzed by these researchers had a provenience from larger sites containing mounds and several cultural components, as well as from sites that have frequently been disturbed by agricultural and historic development. Additionally, because most of the research was conducted before modern testing techniques were available, there are relatively few radiocarbon dates, pollen analyses, or floral and faunal data accompanying the artifacts used to construct the prehistoric chronology. The Riverside Midden seemingly provides the opportunity to recover and analyze such data.

The general research problems that could be addressed by further investigation are:

1) Ceramic chronology: Most of the ceramic artifacts thus far recovered at the site suggest a Coles Creek period occupation. However, other sherds, such as the Leland Incised and L'eau Noire types, suggest a later prehistoric occupation. A further sampling of the site might provide a more complete sample and also add data to the generally accepted demarcation between Coles Creek and Plaquemine period occupations in the area of the Red River. Additionally, it cannot be ruled out that contact period artifacts might also be recovered by further testing given the documented aboriginal settlement in the area during the 18th century.

2) Subsistence: The recovery of any faunal and floral remains at the site would provide additional data on the subsistence base of the Coles Creek period. Additionally, the presence of agriculture during the Coles Creek times has long been a point of contention among archeologists in the Lower Mississippi Valley.

3) Regional context: As alluded to above, the region of the mouth of the Red River has received a great deal of archeological investigation. The chronology for the lower Mississippi River valley has to a large extent been derived from work in this area. While no major revisions are expected to result from a project at the Riverside Midden, it could provide further data to the chronology that has been formulated.

4) Social stratification: While the Riverside Midden is more than likely a remnant of a once larger site, the types of artifacts and other data to be recovered from the site can be compared to the artifact inventory of other Coles Creek period sites in the region to determine if any inter- and intra-site social stratification may have existed.

5) Site development: While testing to date has revealed a relatively featureless midden area, further testing may show something completely different. For example, if a house site or other features could be located, additional information could be obtained from the site.

6) Geomorphological considerations: Subsurface testing on the terrace in and around the site might contribute information concerning past behavior of the Mississippi River at the base of the Tunica Hills.

The methodology for addressing these research problems would consist of the following:

1) Further soil probes: A program of soil probing along the terrace edge north of the midden could possibly further define the extent of prehistoric settlement on the entire terrace where the midden is located.

2) Metal detector and magnetometer: Because the site has been near historic occupation for some time, a search with a metal detector may locate historic metal artifacts in or around the midden. Additionally, a metal detector would locate any material that will influence magnetometer testing. Magnetometer testing, by indicating subsurface anomalies, may locate features such as hearths and post molds that can then be excavated.

3) Further test units in the midden area: At least two additional test units are in order for the Riverside Midden. One unit, probably 1 x 1 m should be placed in a portion of the terrace where midden is unlikely to be found in order to establish stratigraphic control for further work. Another unit should be placed in a portion of the midden in order to compare data to the information obtained from the unit already dug.

4) Scraping the midden surface: Skimming the midden area with a bulldozer blade is likely to gain the greatest amount of information from the Riverside Midden in the most cost effective manner. By revealing such features of prehistoric settlement such as hearths, post molds, wall trenches, and rubbish pits and then excavating all or a sample of those features, a large amount of data should be forthcoming. Such methods have been employed in the investigation of prehistoric middens in Mississippi and Texas with intriguing results (Johnson et al. 1983; Brown 1985; Weinstein et al. 1989). A prehistoric midden near the Mississippi River in Bolivar County, Mississippi was investigated in just this manner in 1988 by Coastal Environments, Inc. for the Vicksburg District of the U.S. Army Corps of Engineers (Weinstein, personal communication).

5) Review of existing collections: At least one informant associated with the camps at the Riverside Midden has made a sporadic collection of artifacts that have eroded out of the terrace edge the past few years. He has volunteered this collection for analysis.

6) Pollen analysis: The acquisition of pollen samples from an unexposed midden site associated with the Coles Creek period could provide data concerning subsistence during that period. That would especially be the case should pollen of known prehistoric cultigens be detected.

7) Radiocarbon dating: While such features as post molds or hearths usually associated with radio carbon samples have not been encountered to date at the Riverside Midden, such features may indeed be present. Additionally, techniques are available to date midden soils which may render usable samples should the other samples prove to be unavailable.

In summary, the Riverside Midden provides a rare opportunity for investigating a prehistoric site in direct association with the Mississippi River that is *in situ* and unalluviated. Also, by its very nature as a midden site, it has the potential to provide data on Coles Creek occupation, as well as perhaps later periods, in the region of the mouth of the Red River. The information from this site can be compared to the large body of research already gathered from other sites in the region which date from the same period.

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SCOPE OF SERVICES
CULTURAL RESOURCES SURVEY OF
MILES-312.2 TO 306.0-L, MISSISSIPPI RIVER

CONTRACT DACW29-88-D-0123
DELIVERY ORDER 06

1. **Introduction.** This delivery order calls for a cultural resource investigation of the Fort Adams Revetment easement located along the left descending bank of the Mississippi River in Wilkinson County, Mississippi (Enclosure 1, Hydrographic Survey Charts 3 and 6). The project will require survey of approximately 3.2 miles of undeveloped bank line. Aerial mosaic plans for the portion of this item to be constructed in 1989 are attached to this scope of service (Enclosure 2, Sheet 4 of Mississippi River Mile 0.0 AHP to 330.0 AHP in 61 Sheets). The contract period for this delivery order is 169 days.

2. **Project Impact.** The proposed revetment will directly impact the river's bank line. This reach will be stabilized with continuous, articulated concrete mattress which is mechanically laid from the low water line to a point several hundred feet into the river channel. To prepare for revetting, a 200 foot wide corridor adjacent to the bank line will be cleared of all vegetation and graded to a standard slope. Slope grading will remove the upper bank line. Any cultural resource within 200 horizontal feet of the bank line and within 10 vertical feet of the ground surface has a high potential for being destroyed. Surficial resources further than 200 feet from the bank line may be subject to disturbance from the movement of heavy equipment, but buried sites will remain intact. The area 200 feet from the top of the bank and beyond, however, is technically outside of the project right-of-way.

3. **General Nature of the Work to be Performed.** The Contractor is responsible for: a) surveying approximately 3.2 miles of Mississippi River bank line; b) assessing the significance of all newly discovered sites; c) predicting the locations of subsurface prehistoric and historic sites within the entire project reach (revetted and unrevetted segments); d) assessing the impact of construction, erosion and overbank deposition to resources found; and e) preparing comprehensive draft and final reports of investigation for the study.

4. **Study Requirements.** The work to be performed by the Contractor will be divided into three phases: Literature Search and Records Review; Intensive Survey and Site Assessment; and Data Analysis and Report Preparation.

a. Phase 1: Literature Search and Records Review. The Contractor shall commence, upon work item award, with a literature, map, and records review relevant to the entire project reach (M-312.2 to 306.0-L). This phase shall include but not be limited to review of historic maps, the Mississippi Department of Archive and History's site and standing structure files, the National Register of Historic Places, geological and geomorphological data, archeological reports, ethnohistoric records, historic archives, and public records.

At a minimum, the literature and records review will familiarize the reader with the geomorphology (point bars, cutbanks, crevasses, relict channels, etc.) of the study area; establish the distribution of prehistoric and historic sites in the region and their proximity to the study area; identify previously recorded sites, standing structures, National Register of Historic Places properties and National Landmarks in or in close proximity to the project area; provide national, regional and local context for assessing the historical, architectural and archeological contribution of all sites and structures located in the project area; and predict resources which can be expected to be located within the entire revetment reach. Economic and social trends, channel migration, major natural events, and all previous construction affecting land use patterns and the state of preservation of predicted resources will be analyzed and presented. The literature search will place this contract effort within the context of similar work conducted previously along the Mississippi River. The focus of this literature search shall be on man's use of this particular reach of the Mississippi River and its natural levee through time.

b. Phase 2: Intensive Survey and Site Assessment. Fieldwork may commence upon delivery order award. The survey corridor is 200 feet wide, paralleling the bank line, measured landward from the edge of top of bank between miles 312.2 to 309.8-L and 306.75 to 306.0-L.

An intensive survey is a comprehensive, systematic, and detailed physical examination of a project item for the purpose of locating and inventorying all cultural resources within the impact zone. The survey will be performed within the context of an explicit research design (to be presented in the report of investigation), formulated in recognition of all prior investigations in the study area and surrounding region, and will include subsurface testing and evaluation of identified resources against the National Register of Historic Places criteria of significance (36 CFR 60.4). The survey will provide adequate information to seek determinations of eligibility from the Keeper of the National Register, and will inumerate project effects on each resource located within the study area. The evaluation will be conducted utilizing current professional standards and guidelines including, but not limited to:

the National Park Service's draft standards entitled, "How to Apply the National Register Criteria for Evaluation", dated June 1, 1982;

the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation as published in the Federal Register on September 29, 1983;

Louisiana's Comprehensive Archaeological Plan, dated October 1, 1983;

the Advisory Council on Historic Preservation's Section 106 Update/3 entitled, "Manual of Mitigation Measures (MOMM)", dated October 12, 1982.

The survey shall be an intensive pedestrian investigation augmented by systematic subsurface testing. Maximum survey transect width will not exceed 20 meters. The areas surveyed and all sites located within project boundaries will be recorded (in ink) to scale on the appropriate 7.5 minute quadrangle, the aerial mosaic project map and the hydrographic survey maps. The quadrangle maps will be used to illustrate site forms (see below). One copy of the aerial mosaic project map, as well as the hydrographic survey maps, marked with the locations of all sites and historic structures in the project easements, will be returned to the COR with the draft report of investigation.

All sites will be sufficiently tested using shovel, auger or other excavation techniques to determine and record site size, depth of deposit, stratigraphy, cultural association, function, approximate date of occupation, and condition. Site boundaries, test excavation units at sites (including test pits, shovel tests, auger intervals, backhoe trenches, etc.) and activity areas will be measured and mapped to scale. All scaled field maps will accurately reference grid locations in terms of range markers in proximity to the work area.

All shovel tests and test excavation units will be backfilled immediately upon completion.

The Technical Representative will be informed ahead of time of the testing schedule of all sites.

Caution and proper protective gear (i.e., high visibility orange safety vests) may be necessary should the survey and testing phase coincide with hunting season.

The Contractor will fill out and file state site forms with the Office of the Mississippi State Archeologist and cite the resulting state-assigned site numbers in all draft and final reports of this investigation. The Contractor will submit updated state site forms to the State Archeologist for all previously discovered sites. These forms will correct previously filed information and summarize what is known of each resource as a result of this investigation. One unbound copy of each site or standing structure form will be submitted to the COR with the draft report.

All standing structures located in the survey area will be identified by function, dated and described using standard terminology of formal and/or vernacular architecture, as appropriate to each structure. Each standing structure predating 1945 and/or of potential National Register eligibility will be recorded using the format selected by the Mississippi Department of Archives and History, accompanied by a minimum of three, clear, black and white photographs showing front, back and side views of the structure. The Contractor will determine whether subsurface features are present. If present, the structure and all features shall be treated as a site, which shall be mapped and recorded on State of Mississippi site forms. The Contractor shall assess the significance of all standing structures using information collected during the survey and literature search phases of this work item.

If deeply buried sites exist in the project right-of-way which require extensive testing to determine their condition, data producing potential or significance, the Principal Investigator will notify the Technical Representative immediately so that the need for further work may be assessed prior to the completion of the field work phase.

c. Phase 3: Data Analyses and Report Preparation. All survey and testing data will be analyzed using currently acceptable scientific methods. The Contractor shall catalog all artifacts, samples, specimens, photographs, drawings, etc., utilizing the format currently employed by the Mississippi Department of Archives and History. The catalog system will include site and provenience designations.

All literature, map search, field and laboratory data will be integrated to produce a single, graphically illustrated, descriptive and analytical draft report discussing the project reach (M-312.2 to 306.0-L) Historic and geomorphological data relevant to this segment are to be analyzed in conjunction with survey results to determine whether buried resources were ever present and whether they would have been damaged by previous construction. These analyses will be reported within the context of the physical environment of the Mississippi River batture, nineteenth and twentieth century public works construction techniques, current knowledge of site distribution by period and phase on the natural levee, and the body of archeological work conducted on the Mississippi River's natural levee in Mississippi and Louisiana.

Project impacts on all cultural resources located and/or tested by this study will be assessed. The Contractor shall provide justification of the rationale used and a detailed explanation of why each resource does or does not meet the National Register significance criteria (36 CFR 60.4). For each resource recommended as eligible to the National Register and assessed to be impacted by construction, the Contractor shall recommend specific mitigation alternatives. Inferential statements and conclusions will be supported by field, map or archival data. It will not be sufficient to make significance recommendations based solely upon the condition or artifactual content of the site in question. All significance assessments of sites and structures will be stated in terms of the context of similar

Mississippi River floodplain sites and the specific scientific contribution of the site, site component or structure which requires protection or mitigation.

6. Reports.

a. Monthly Progress Reports. One copy of a brief and concise statement of progress shall be submitted with and for the same period as the monthly billing voucher throughout the duration of the delivery order. These reports, which may be in letter form, should summarize all work performed, information gained, a characterization of sites found and their significance, or problems encountered during the preceding month. Those monthly reports which discuss survey results will be accompanied with a map of the site locations introduced. A xerox of the appropriate hydrographic survey chart (Enclosure 1) is the preferred base map for such illustration. A concise statement and graphic presentation of the Contractor's assessment of the monthly and cumulative percentage of total work completed by task shall be included each month. The monthly report should also note difficulties, if any, in meeting the contract schedule.

b. Draft and Final Reports (Phases 1, 2, and 3). Five copies of a draft report integrating all phases of this investigation will be submitted to the COR for review and comment 78 days after the date of the order.

An estimate of the acreage surveyed for this project will be given in the report introduction. All cultural resources located within the survey corridor will be summarized in tabular form in the introductory chapter.

The draft and final reports shall include all data and documentation required by 36 CFR 60-63 to prepare requests for Determination of Eligibility to the National Register of Historic Places for those sites recommended by the Contractor as significant. The Contractor shall recommend specific mitigation procedures for each significant cultural resource. For those sites considered worthy of additional testing, the Contractor will describe a specific testing regime which is appropriate to the site, its physical setting and condition.

These written reports shall follow the format set forth in MIL-STD-847A with the following exceptions: 1) separate, soft, durable, wrap-around covers will be used instead of self covers; 2) page size shall be 8-1/2 x 11 inches with a 1-1/2-inch binding margin and 1-inch margins; 3) the text reference and Reference Cited formats of Society for American Archaeology will be used. Spelling shall be in accordance with the U.S. Government Printing Office Style Manual, dated January 1973.

The body of each report shall include the following: 1) introduction to the project and the revetment reach; 2) environmental setting; 3) review and evaluation of previous archeological investigations; 4) distribution of known prehistoric and historic settlement in the study area; 5) research design; 6) description of field and laboratory methodology, statement of project objectives, analysis of effectiveness of methods; 7) data analyses

and cultural material inventories; 8) data interpretation; 9) data integration; 10) conclusion; 11) recommendation; 12) references cited; and 13) appendices, as appropriate.

The COR will provide all review comments to the Contractor within 60 days after receipt of the draft reports (138 days after delivery order award). Upon receipt of the review comments, the Contractor shall incorporate or resolve all comments with the approval of the COR and submit one reproducible master copy and 40 bound copies of each report of investigation, and all separate appendices to the COR within 169 days after work item award.

In order to preclude vandalism, the draft and final reports shall not contain specific locations of archeological sites.

7. Disposal of Records and Artifacts. All records, photographs, artifacts, and other material data recovered under the terms of this delivery order shall be recorded and catalogued in a manner compatible with those systems utilized by the Mississippi Department of Archives and History and by State and Federal agencies which store archeological data. They shall be held and maintained by the Contractor until completion of the delivery order.

Final disposition of the artifacts and records will be in accord with applicable Federal and State laws. Unless otherwise specified, artifacts will be returned to the landowner or permanently housed in a repository approved by the Mississippi State Historic Preservation Officer. The right of entry permits obtained by the US Army Corps of Engineers are attached (Enclosure 3). Several request return of artifacts to landowners. If collections are made worthy of curation, it may be necessary for the Contractor to negotiate with landowners in order to keep collections together for further study. Such agreements should be finalized with signed releases from the assenting landowner.

The Principal Investigator shall inform the COR in writing when the transfer of data has been completed and shall forward to the COR a catalog of items entered into curation. The location of any notes, photographs or artifacts which are separated from the main collections will also be documented. Presently existing private archeological collections from the project area which are used in data analyses will remain in private ownership. The Contractor shall be responsible for delivery of the analyzed archeological materials to the individual landowners, the Mississippi SHPO's office, or any other repository designated by the Government following acceptance of the final report. All artifacts to be permanently curated will be cleaned, stabilized, labeled, catalogued on typed State curation forms, and placed in sturdy bags and boxes which are labeled with site, excavation unit or survey collection unit provenience.

8. Payments. Partial payment will be made up to seventy-five percent (75%) upon submission of proper invoices and acceptance of the draft report by the COR. The draft report will be accepted when the COR determines that it substantially meets all the requirements of the scope of service. The balance of the delivery order amount will be paid upon receipt of proper invoices and the Government's acceptance of all final products.