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CULTURAL RESOURCES SURVEY AT VACHERIE REVETMENT (M-150.3 TO 150.0-R), ST. JAMES PARISH, LOUISIANA

January 1990

FINAL REPORT

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Submitted to:

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R. Christopher Goodwin & Associates, Inc. conducted an intensive archeological survey and assessment of the proposed Vacherie Revetment easement along .3 miles of the Mississippi River in St. James Parish, Louisiana. Historic and archival research concentrating on the economic developments affecting the proposed construction item are discussed. Historic maps show bankline changes and prior construction within the survey area. Survey located Site 16 SJ 52, the remnants of the c. 1959 Maxime Rodrigue boatyard and ways. Artifacts include a single-drum chain-driven winch associated with the operation of boatways. Most of the boatyard equipment, including the boatways, are missing from the site, and portions of the site are graded. Based on the recency of the site and its lack of integrity, the site was assessed to be not significant.

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DEPARTMENT OF THE ARMY
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REPLY TO
ATTENTION OF

December 21, 1989

Planning Division
Environmental Analysis Branch

To The Reader:

This report of survey and site inventory was prepared for the U. S. Army Corps of Engineers, New Orleans District in advance of construction of the upstream extension of Vacherie Revetment, Miles 150.3 to 150.0-R, Mississippi River. One historic site, the Maxime Rodrigue Boatyard (16SJ52), was located in the construction easement. Because the boatyard was of recent construction (post 1959) and largely dismantled, it was not found to be significant. The State Historic Preservation Officer concurred with this assessment by letter dated March 15, 1988. Construction of this reach of Vacherie Revetment will proceed without necessity of further investigation of 16SJ52.

Carroll H. Kleinhans

Carroll H. Kleinhans
Authorized Representative
of the Contracting Officer

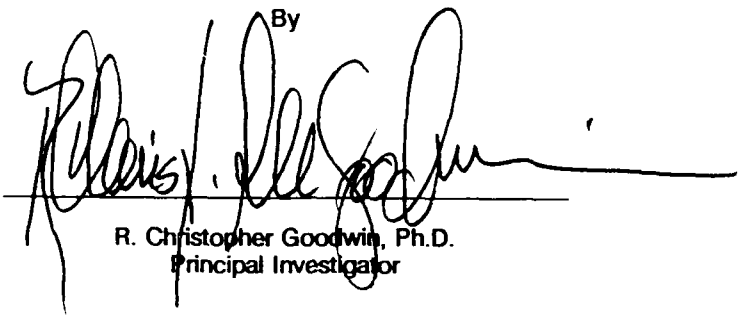
Robert A. Schroeder, Jr.

Robert H. Schroeder, Jr.
Chief, Planning Division

CULTURAL RESOURCES SURVEY AT VACHERIE REVETMENT (M-150.3 TO 150.0-R), ST. JAMES PARISH, LOUISIANA

FINAL REPORT

By



R. Christopher Goodwin, Ph.D.
Principal Investigator

With

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January 1990

For

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CHAPTER I

INTRODUCTION

This report, prepared pursuant to Contract DACW29-86-D-0093, Delivery Order 04, for the United States Army Corps of Engineers, New Orleans District, presents the results of intensive pedestrian survey of the M-150.3 to 150.0-R reach of the Mississippi River. The survey, conducted during October 1987, is part of a larger project entitled *Survey and Data Recovery at Vacherie Revetment, St. James Parish, Louisiana.* The Vacherie survey area is located along the west (right descending) bank of the Mississippi River between Ranges U-114 and U 99 (Figure 1). The project boundaries include the area of the batture between the riverside toe of the modern levee and the river's edge.

The survey was conducted in order to identify, to locate, to inventory, and to assess the significance of all resources found within the project area. Prior to initiation of fieldwork, a review of relevant literature, historic maps, and archival records was conducted to familiarize researchers with the local and regional setting of the project area. Fieldwork consisted of intensive pedestrian survey and systematic subsurface testing.

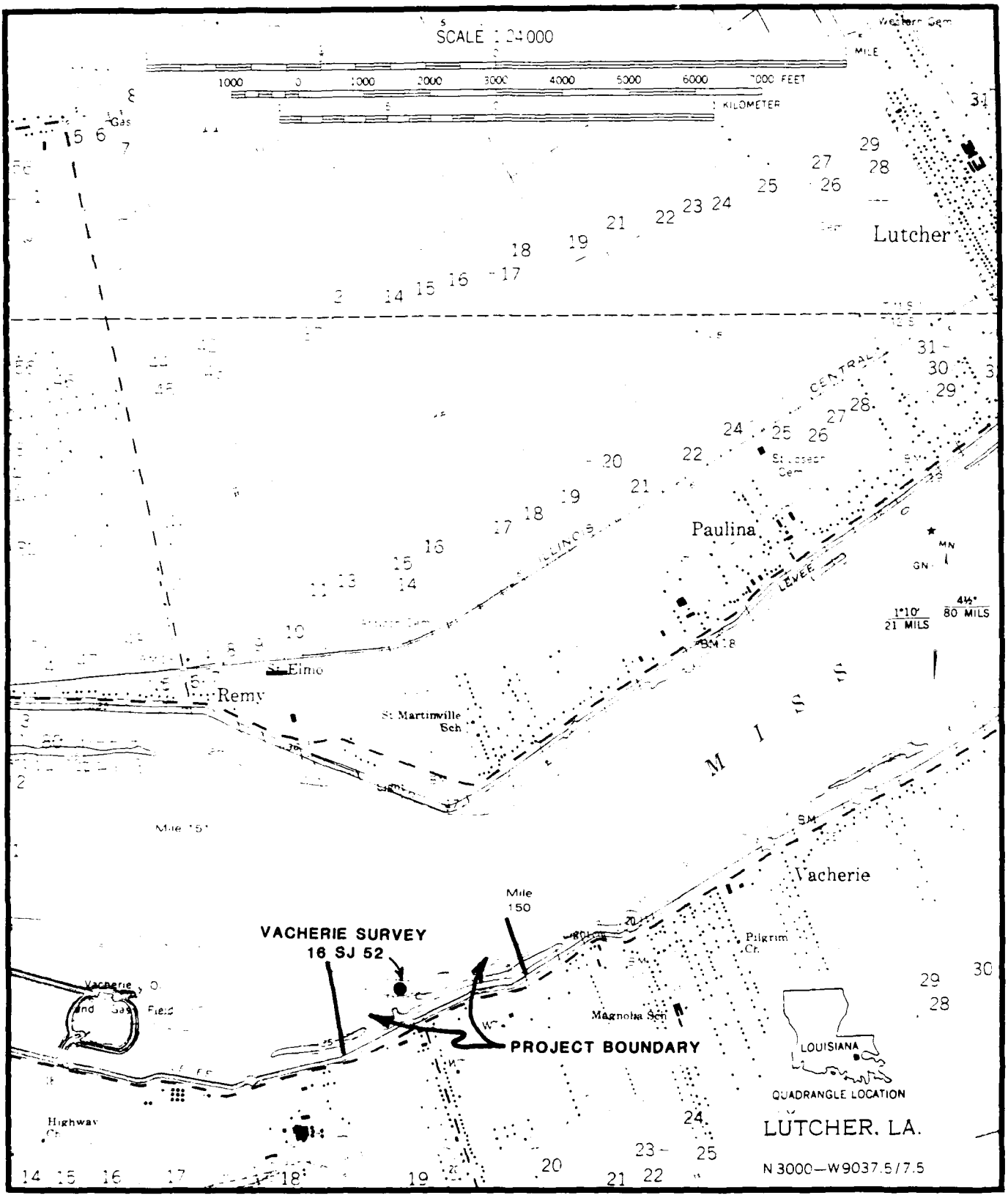

Figure 1. Excerpt from the 1962 Lutcher, LA quadrangle map showing the location of the project area.

CHAPTER II

ENVIRONMENTAL SETTING

Description of the Project Area

The Vacherie survey area is located in Township 12 South, Range 17 East, adjacent to and north of Sections 19 and 20, in St. James Parish, Louisiana. The study area is comprised of 6.24 ha, or roughly 15.5 acres, of batture land which extends from the riverside toe of the existing levee to the water's edge (Figure 2).

Elevations in the project area vary from 15 to 25 ft NGVD. The higher elevations in the central portions of the project area comprise river levee remnants. Though topography in the project area is relatively level, borrow pits inside and adjacent to the western edge of the study area introduce relief in the western half of the project area. Periodic flooding by the Mississippi River creates episodic ponds in some of these borrows.

Soils within the project area consist of Convent soils and silty alluvial land (United States Department of Agriculture 1973:13-14). Convent soils are present on narrow, slightly convex ridges having slopes of 0 to 3 per cent. Silty alluvial land is present in swales and immediately along the river in aggrading areas. Both of these soils are frequently flooded. They were mapped as one unit by the Soil Conservation Service (United States Department of Agriculture 1973).

Vegetation in the area is typical of initial stages of ecological succession. Initial willow forest is dominated by black willow (*Salix nigra*), with eastern cottonwood (*Populus deltoides*), sycamore (*Platanus occidentalis*), and sugarberry (*Celtis laevigata*) comprising the major overstory vegetation. Sweetgum (*Liquidambar styraciflua*), green ash (*Fraxinus pennsylvanica*), nuttall oak (*Quercus nutalli*), water oak (*Quercus nigra*), elm (*Ulmus* sp.), and pecan (*Carya illinoensis*) may occur at higher elevations. Predominant understory vegetation includes poison ivy, grape, and trumpet creeper; groundnut, buckwheat vine, and sand vine also may be common locally (Shelford 1963; Lowery 1974). More recently exposed areas are covered in thorny thickets and grasses.

Faunal communities present during the early historic period included whitetail deer (*Odocoileus virginianus*), cottontail rabbit (*Sylvilagus floridanus*), swamp rabbit (*Sylvilagus aquaticus*), raccoon (*Procyon lotor*), opossum (*Didelphys marsupialis*), gray squirrel (*Sciurus carolinensis*). In addition, several species of birds, reptiles, and fish were common in habitats both within and near the present project area (Shelford 1963; Lowery 1974). Beaver (*Castor canadensis*) have become quite active recently within the project boundaries.

Geomorphology of the Project Area

The deltaic plain of the Mississippi River can be divided into two parts: the upper deltaic and the lower deltaic plains. The lower deltaic plain is that portion of the delta that encompasses river/marine interactions. It extends landward from the low tide mark to the limit of tidal influences. It usually contains numerous distributary channels with bifurcating and anastomosing patterns. The environments between these channels include actively migrating tidal channels, natural levees, interdistributary bays, bay fills, marshes, and swamps (Coleman and Prior 1983:148).

The Mississippi River contains itself by building natural levees on both banks. Levees generally are formed when the river floods. As the river level rises above its channel, the excess water is spilled onto the surrounding countryside where sediments then are deposited. This results in the formation of a low, wedge-shaped landform paralleling the river. The river sediments are carried in three ways. The heaviest particles (i.e., cobbles and boulders) are rolled along the bottom of the river channel and are referred to as the bed load. Lighter particles (i.e., sand, silt, and clay) are carried by the current and make up the suspended

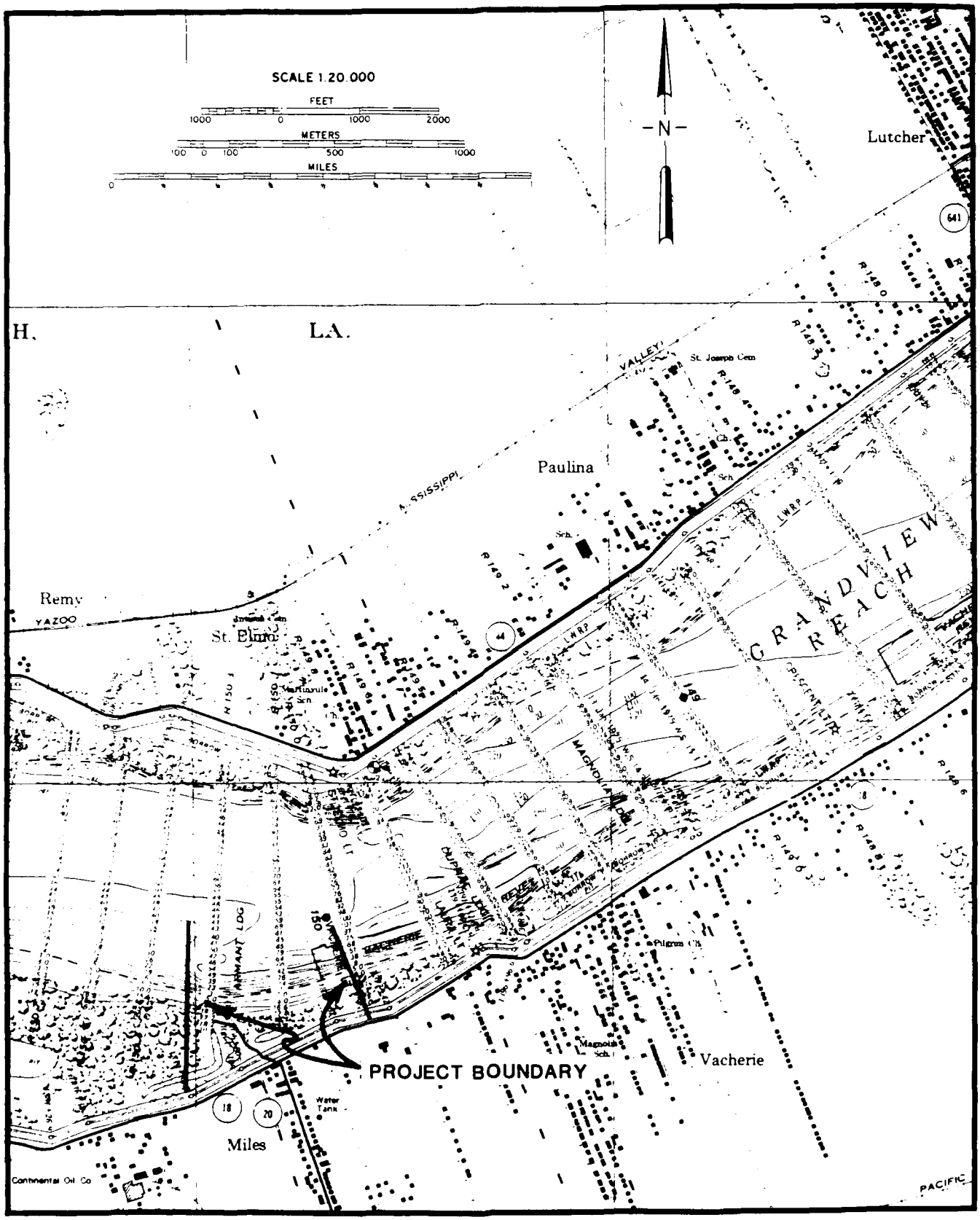

Figure 2. Excerpt from Chart 41 of the 1973-1975 Mississippi River Hydrographic Survey Map.

load. Soluble materials (i.e., salts, evaporate, and other trace quantities) travel in solution.

When the floodwaters top the channel of the river, the velocity of the current decreases as the water spreads out onto the surrounding area. The suspended load then settles. The bed load generally is contained in the channel and pushed to the mouth before settling. The load carried in solution precipitates when supersaturation is reached. In this manner, the river builds its own natural levees. Levees represent the significant landforms in the Louisiana landscape; they are the highest ground in the delta region.

The upper deltaic plain is older; it lies above the area of significant tidal/marine influences, including salt water intrusion. It is usually a continuation of the upriver alluvial valley in that riverine processes predominate (Coleman and Prior 1983:140). The Vacherie project area is located in the upper deltaic plain of the Mississippi River within the modern meander belt which the river has occupied for the past 4,800 years (Saucier 1974:22).

The Gulf Coastal Plain historically was shaped by an alternating sequence of deposition, subsidence, and rejuvenation; subsidence and erosion predominate the area's recent history. This is due primarily to the elimination of overflow by high river stages, as a result of the construction of Mississippi River levees. High water stages tend to undermine the natural levee due to the lateral migration of the river channel. Crevasses through the levee divert some of the floodwaters. The Nita and Belmont Crevasses were two such events on the east bank of St. James Parish. The Nita Crevasse, near Romeville (M-161.8-L), occurred March 1890, while the Belmont Crevasse, near Belmont (M-153.2-L), opened June 1892. Neither directly impacted the project area. Revetment construction along the Mississippi River within St. James Parish reflects a response to the dynamics of channel migration which continually occurs even during low water stages.

Cutbanks are observed on the side of the river closest to the thalweg (the deepest part of the river channel) where the velocity and turbidity of the current often scour the bank and cause slumping. Point bars form on the side of the meander furthest from the thalweg where the velocity and turbidity decrease. Point bars are subject to active and gradual deposition. The surfaces of point bars often are grooved with ridges and intervening swales, where deposition builds up to push the meander into a U-shape. These features often are cut by new channels during floods and high water stages when the principal current tends to straighten. The meander is cut off to sediments and becomes a U-shaped cutoff lake.

In the upper deltaic plain, deposits may be associated either with migratory channels (braided or meandering), or with lacustrine fills and floodplains. The floodplain may include backswamps, marshes, and freshwater lakes (Coleman and Prior 1983:140). Overbank flooding during annual high water periods and associated crevasses are important aspects of land formation and modification (Coleman and Prior 1983:140).

Lateral migration and overbank deposition are fluvial activities which appear to be codominant natural processes within the project area. These processes have combined to produce both batture land and natural levees within the project area which are youthful features in terms of the geological time scale. These, along with the artificial levee system and excavated borrow pits, are the primary features which create the present landscape within the current project boundaries.

The project area is adjacent to a cutbank near River Mile 150. The area is impacted severely by bankline cutting and erosion. A levee was constructed within the project area during the early to mid 1870s. The levee was set back in 1921 and in 1975 because of bankline recession. Between 1962 and 1973, as much as 43 m eroded from the project area. By 1971, plans were implemented to construct the Vacherie Revetment (M-150.5 to 144.0-R). Portions of the project area fall within the area protected by previously constructed segments of the Vacherie Revetment.

The Vacherie Revetment project originally was authorized under the Flood Control Act of 1965 with monies originating from allotments set aside for flood control, channel improvement, and revetment construction along the Mississippi River and its tributaries. Continuous bankline recession impacted the levee fronting the town of Vacherie, Louisiana. Since a setback would have entailed the relocation of

numerous families, businesses, utilities, and a state road, the United States Army Corps of Engineers chose to construct a revetment to control bankline cutting (United States Army Corps of Engineers 1987:55).

Revetment construction covered an area of 10,205 linear ft and included the use of upper bank paving and the placement of an articulated concrete mattress. In 1972, monies were allocated to add an additional 3,090 linear ft to the Vacherie Revetment. Minor revetment repairs were made in 1973, 1981, 1983, 1986, and 1987 (United States Army Corps of Engineers 1987:55).

CHAPTER III

PREVIOUS INVESTIGATIONS

Eight previous studies germane to the prehistory and history of the project area have been conducted in St. James Parish within a one-mile radius of the study area. In addition, a number of archeological sites have been recorded in the immediate vicinity of the survey area. Eleven of these are historic sites; they are summarized in Table 1. In the following discussion, previous investigations, site descriptions, and archeological methodologies applied in the region are reviewed to help establish the distribution of sites in the region, and to provide additional context for the assessment of sites located within the current project area.

Beavers and Chatelain (1979) reported on a cultural resources survey and assessment of the proposed Marathon Pipe Line Company 30" St. James to Garyville, Louisiana, pipeline route, in St. John the Baptist and St. James Parishes, Louisiana. Their study consisted of a literature search and of a pedestrian survey and shovel test regime along the pipeline route. Beavers and Chatelain (1979) discovered one historic artifact scatter, 16 SJ 39, on the east bank of the Mississippi River, about nine miles upriver from the current study area. The site was late nineteenth and early twentieth century sheet refuse possibly associated with a farmstead; it did not possess the quality of significance. Subsequent revetment construction may have destroyed the site (Goodwin, Yakubik et al. 1985).

Iroquois Research Institute conducted an intensive cultural resources survey of fourteen levee and revetment items along the Mississippi River, north and south of New Orleans (Garson et al. 1982). During their testing of the Rich Bend Revetment item, located three miles upriver from the current study area, Iroquois Research Institute identified two historic sites: 16 SJ 32 and 16 SJ 33. Site 16 SJ 32 contained two undated brick structural supports, possibly machinery mounts. Site 16 SJ 33 was a brick and cinderblock scatter, possibly remains of a twentieth century pumphouse. Neither site possessed the quality of significance.

Coastal Environments, Inc. (Glander et al. 1979) conducted a cultural resources evaluation for a proposed Mississippi River Bridge. Four proposed alignments, located in St. James and St. John the Baptist Parishes, were examined. Archeological survey and testing were conducted at the Gramercy Recommended Alignment; specific site checks were undertaken at the remaining alternative alignment. Coastal Environments, Inc. recorded five sites within a one-mile radius of the current project area during their investigations near Vacherie. Two of these sites are just south of Gramercy, across the river from the Vacherie study area. They are the Lutcher and Moore Lumber Company Site (16 SJ 13), and the Gaudet House (16 SJ 22). The Lutcher and Moore Lumber Company Site consists of an historic brick saw mill and three cypress houses built to accommodate lumber company personnel. The Gaudet House is a late nineteenth century raised cypress structure with a modified dogtrot plan and an appended kitchen. The Gaudet House, originally located at the intersection of LA 44 and Gaudet Street in Paulina, Louisiana, recently has been relocated to an unknown location. The Hester Plantation Site (16 SJ 11) also was recorded by Coastal Environments, Inc. The Hester Plantation main house dated from the late nineteenth century; it burned in 1910. A housing development now occupies this site area, on the left descending bank. The St. Elmo Plantation sugar house ruin, 16 SJ 12, dates from circa 1880. It is located on the left descending bank, in an agricultural field almost directly across the river from the present survey area. The St. Joseph Plantation Site, 16 SJ 14, consists of a raised creole cottage built circa 1822 by Dr. Cazimir Morecq. The main house and several outbuildings remain. This site is located about two miles upriver from the current study area, on the same (right) bank.

R. Christopher Goodwin & Associates, Inc. (Goodwin, Yakubik et al. 1984) conducted survey and test excavations at Bourbon Plantation (16 SJ 38). Located at River Mile 151-L, the site consisted of the foundation and ruins of a late nineteenth century sugar house, derrick foundation, and platform. The removal of sugar house equipment occurred circa 1930.

Table 1

PREVIOUSLY RECORDED SITES LOCATED NEAR THE VACHERIE SURVEY AREA[1]

Site	Site Name	Cultural Affiliation	Descending River Bank and Mile	Relationship to Vacherie Survey Item
16 SJ 11	Hester Plantation	Historic	Left, M.152.1	Above Vacherie Item
16 SJ 12	St. Elmo Plantation	Historic	Left, M.150.7	Opposite Vacherie Item, North
16 SJ 13	Lutcher & Moore Co. Site	Historic	Left, M. 147.3	Below Vacherie Item
16 SJ 14	St. Joseph Plantation	Historic	Right, M.152.3	Above Vacherie Item
16 SJ 22	Gaudet House	Historic	Left, M.148.3	Below Vacherie Item
16 SJ 25	Bessie K. Smith	Historic	Right, M.147	Above Vacherie Item
16 SJ 29	T. Poche (sic)	Historic	Left, M.149.6	Opposite Vacherie Item, North
16 SJ 36	Armant Plantation	Historic	Right, M. 150.6	Opposite Vacherie Item, South
16 SJ 37	Welham Plantation	Historic	Left, M.150.7	Above Vacherie Item
16 SJ 38	Bourbon Plantation	Historic	Left, M.150.9	Above Vacherie Item
16 SJ 40	Vacherie Batture	Prehistoric/Historic	Right, M.149.0	Below Vacherie Item

1From the State Site Files, Louisiana Division of Archaeology, Department of Culture, Recreation and Tourism.

During 1984, R. Christopher Goodwin & Associates, Inc. investigated a portion of the Mississippi River batture between M-148.5-R and M-149.5-R, near Vacherie in St. James Parish (Goodwin, Yakubik et al. 1985). The Vacherie Batture Site (16 SJ 40) was located during the survey. This site contained a series of rice irrigation flumes, a privy, and some refuse lumber. In 1987, R. Christopher Goodwin and Associates, Inc. (Goodwin, Hewitt et al. 1990) conducted data recovery excavations at the site, at which time the observed features were excavated and recorded. Data also were collected on historic rice cultivation in the region.

R. Christopher Goodwin & Associates, Inc. also performed an archeological survey of the Angelina Revetment Item (Goodwin, Franks et al. 1986). The eight sites recorded include 16 SJ 41, 16 SJ 42, 16 SJ 43, 16 SJ 44, 16 SJ 45, 16 SJ 46, 16 SJ 47, and 16 SJ 48. All were historic surface scatters lacking contextual integrity. None of these sites was considered significant; no further work was recommended for that segment of the batture.

In 1987, Heartfield, Price, and Greene, Inc. conducted a survey of a 50-mile long pipeline right-of-way for the United Gas Pipe Line Company. The survey was on the east bank of the Mississippi River, in portions of Ascension, St. Charles, St. James, and St. John the Baptist Parishes, Louisiana. No sites were found in the vicinity of the Vacherie survey area (Price 1987).

Finally, Philip G. Rivet's (1976) cultural resources survey of the Donaldsonville-New Orleans Highway and of the LA 3127 to LA 18 route covered areas within one mile of the Vacherie Revetment. Rivet located two sites (16 SJB 5 and 16 SJB 6) in St. John the Baptist Parish. Site 16 SJB 5 was a multi-component site with a Troyville-Coles Creek occupation, and a late nineteenth century logging camp remains. Site 16 SJB 6 consisted of the remains of a late nineteenth century tenant residence. Neither site was evaluated during Rivet's study.

Eleven historic archeological sites are identified within a mile of the current survey area (Table 1). Six of these sites (16 SJ 11, 16 SJ 12, 16 SJ 14, 16 SJ 36, 16 SJ 37, and 16 SJ 38) are designated plantation sites. Of these, four are located on the left descending river bank and two are located on the right descending river bank. The Lutcher and Moore Company Site (16 SJ 13), located on the left descending river bank, consists of an old brick sawmill and three cypress houses built to accommodate lumber company personnel. The Gaudet House Site (16 SJ 22) is located on the left descending bank of the river, approximately two miles below the Vacherie survey items. The Bessie K. Site (16 SJ 25), a dump site containing glass, metal, historic ceramics, and modern trash, is located on the right descending river bank approximately three miles from the project area. The T. Poche Site (16 SJ 29) contains an amorphous scatter of historic ceramics, brick fragments, glass, and metal, located in a sugarcane field on the left descending bank of the river. Finally, the Vacherie Batture Site (16 SJ 40) is characterized by the presence of several historic rice flumes, privies, and associated outbuildings, as well as prehistoric ceramics. This site is located on the right descending bank of the river one-half mile downriver from the Vacherie survey area.

Only five identified archeological sites in St. James Parish have prehistoric components: Belmont Mound, 16 SJ 1; Lower Vacherie, 16 SJ 2; Romeville Revetment Site, 16 SJ 5; 16 SJ 50; and the Jerry Haas Site, 16 SJ 51. Belmont Mound is characterized as a single conical mound from which no artifacts have been recovered; it may date to the Archaic Period. Two Tchefuncte sherds were recovered from the Romeville Revetment Site. Site 16 SJ 50 contains a shell midden from which several Coles Creek sherds were collected. A probable Mississippian Period platform temple mound comprises the Jerry Haas Site. Finally, Lower Vacherie represents a prehistoric campsite of unknown culture/period affiliation.

Several additional prehistoric sites, some with historic components, were identified along the Mississippi River in the River Parishes. R. Christopher Goodwin & Asscciates, Inc. conducted a 1987 survey of nine revetment items in St. John the Baptist, St. Charles, and Jefferson Parishes (Shannon et al. 1990). During their survey, they identified eight prehistoric sites in the region: 16 SJB 30, 16 SJB 31, 16 SJB 37, 16 SC 55, 16 SC 56, 16 SC 60, 16 SC 61, and 16 JE 141. All of these sites dated to the Mississippian Period, with 16 SC 61 including a possible Marksville component, and a nineteenth century farmstead component. The prehistoric artifacts at all of these sites were found in disturbed contexts. Only one site, 16 SC 61, possessed the quality of significance, and this applied only to the historic component; the

prehistoric component lacked archeological integrity and substantive research potential (Shannon et al. 1990).

In summary, the sites found near the project area offer data important in understanding several of Louisiana's cultural units, as discussed in *Louisiana's Comprehensive Archeological Plan* (Smith et al. 1983). They are 1) the Mississippian Period and Plaquemine Culture; 2) the antebellum period; 3) the Civil War and its aftermath; and, 4) industrialization and modernization.

CHAPTER IV

PREHISTORIC SETTING

The prehistory of southeast Louisiana consists of eight cultural units: Paleo-Indian, Archaic, Poverty Point, Tchefuncte, Marksville, Troyville-Coles Creek, Plaquemine, and Mississippian (Smith et al. 1983). As discussed in Chapter III, prehistoric occupation of the parish remains unconfirmed for the Paleo-Indian, Archaic, and Poverty Point Cultural Units. Therefore, this chapter will emphasize the Tchefuncte Culture through Mississippian Period. Information about the pre-Tchefuncte cultural development of the region is available elsewhere (Smith et al. 1983; Neuman 1984; Muller 1983; Walthall 1980).

The first of these periods is the Tchula or Tchefuncte, which has been dated from ca. 500 B.C. to 100 B.C. (Ford and Quimby 1945; Shenkel 1981). During the Tchefuncte Period, pottery became important in prehistoric Louisiana, and increasing amounts of pottery with rocker stamped decoration and with tetrapodal supports were made. The soft Tchefuncte pottery was made of poorly compacted paste. Common vessel forms included bowls and cylindrical and shouldered jars. Decoration also included fingernail and tool punctation, incision, simple stamping, drag and jab, parallel and zoned banding, and stippled triangles.

The Tchefuncte artifact assemblage includes boatstones, grooved plummets, mortars, sandstone saws, barweights, scrapers, and chipped celts. Socketed antler points, bone awls and fish hooks, and bone ornaments also have been found. Projectile point types found in Tchefuncte contexts are Gary, Ellis, Delhi, Motley, Pontchartrain, Macon, and Epps. The population of the Tchefuncte Period is characterized as a melange of long-headed Archaic peoples with a new subpopulation of broad-headed people who practiced cranial deformation, and who are thought to have entered the Southeast from Mexico. The presence of rocker stamped pottery, burial mounds, and of some other individual traits, also shows similarities to the Hopewellian development (500 B.C. to A.D. 300) (Ford and Quimby 1945; Shenkel 1984).

The subsequent Marksville period (100 B.C. to A.D. 300) to a large degree represents localized hybrid manifestation of the Hopewellian culture climax that preceded it in the Midwest. The type site is located at Marksville, Louisiana. Elsewhere in the state, smaller sites occur which display both Marksville pottery types and a modified form of the Marksville mortuary complex. Marksville houses consisted of circular, fairly permanent, and possibly earth covered. The economic base of the Marksville culture seems to have been a further modification of the Poverty Point-Tchefuncte continuum, albeit prior emphasis on the importance of hunting, fishing, and gathering aspects of subsistence in relation to agriculture may have been overstated. A fairly high level of social organization is indicated by the construction of geometric earthworks and of burial mounds for the elite, as well as by a unique mortuary ritual system. Although large quantities of burial furniture typically are not recovered from Marksville sites, some items, particularly elaborately decorated ceramics, were manufactured especially for inclusion in burials (Shenkel 1984; Toth 1974).

Marksville ceramics were well-made, with decorations that included u-stamped incised lines, zoned dentate stamping, zoned rocker stamping (both plain and dentate), the raptorial bird motif, and, flower-like designs. The cross-hatched rim is particularly characteristic of Marksville pottery, and may relate this complex to other early cultural climaxes in the Circum-Caribbean area. Plain utilitarian wares also were produced. Perforated pearl beads, bracelets, and celts have been recovered from Marksville contexts (Toth 1974).

The next cultural period identified for south Louisiana is the Troyville or Baytown Phase (A.D. 300 to A.D. 700). This transitional period followed the decline of the Hopewellian Marksville Culture; it is poorly understood. Except for the type site at Jonesville (16 CT 7), knowledge of the Troyville ceramics in other sites. Among the pottery types clustering in the Troyville Period are: Mulberry Creek Cord Marked, Marksville Incised (Yokena), Churupa Punctated, Troyville Stamped, Larto Red Filmed, Landon Red-on Buff, and Woodville Red Filmed. However, these pottery types and most other traits are not confined solely to this period. Troyville is thought to represent the period when maize agriculture and the bow and arrow were

adopted. Evidence for agriculture includes shell hoes and grinding stones (Phillips 1970).

The subsequent Coles Creek Period (A.D. 700 to A.D. 1200) developed out of Troyville. Coles Creek was a dynamic and widespread manifestation throughout the Lower Mississippi Valley. Coles Creek may be viewed as the local early or pre-classic variant of the Mississippian tradition, and its emphasis on temple mound and plaza construction again suggests Mesoamerican influence. Population growth and areal expansion were made possible by increasing reliance on productive maize agriculture. The seasonal exploitation of coastal areas supplemented the maize economy of large inland sites, and small non-mound farmsteads were present. A stratified social organization with a dominant priestly social class continued. The construction of platform mounds became important during this period. These were intended primarily as bases for temples or other buildings, but some also contained burials. Rounded smaller mounds still were present. A common motif of Coles Creek ceramics is a series of incised lines parallel to the rim. Pottery types include: Coles Creek Incised, Pontchartrain Check Stamped, and Mazique Incised (Collins 1932; Phillips 1970).

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

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

CHAPTER V

HISTORICAL AND ECONOMIC OVERVIEW

Previous Historical References

Prior to the advent of serious cultural resources inventory projects in the study area during the last decade, which already have been reviewed, the history, and especially the economic history of the project area and of St. James Parish as a whole, was a neglected subject. The only history of the parish was Lillian C. Bourgeois' *Cabanocey: The History, Customs and Folklore of St. James Parish,* which was published in 1957. Considering that *Cabanocey* was the author's first and only publication of any significance, and that the topic never had been dealt with in a previous book, this volume has merit. Nevertheless, it is poorly organized, and it lacks scholarly vigor. Except for mentioning a few leading citizens and notable events, e.g., the Nita Crevasse, *Cabanocey* virtually ends with the Civil War.

The early period in the history of the study area also was discussed as part of broader studies of Acadian immigration. Numerous books and articles have dealt with the Acadian settlement of the parish. Most recently, and possibly the best work to date, is Carl A. Brasseaux's *The Founding of New Acadia: the Beginnings of Acadian Life in Louisiana, 1765-1803.* Published by Louisiana State University Press in 1987, *The Founding of New Acadia* begins with a history of the Acadians before they arrived in Louisiana. Brasseaux details how, in 1765, a number of Acadians were lured to Louisiana by reports of large, undeveloped tracts of land, lax government, and a French influenced culture. The remainder of the text deals with Acadian settlement in and movement around South Louisiana.

Civil War activities in the area and local residents in that conflict also were discussed at length. George R. Morris' "The Battle of Bayou Des Allemands;" Edwin C. Bearss' "The Civil War Comes to the Lafourche;" and, Arthur W. Bergeron, Jr.'s *Reminiscences of Uncle Silas: A History of the Eighteenth Louisiana Infantry Regiment by Silas Grisamore* are only a few of these.

In 1986, a history of Vacherie, the nearest town to the project area, was published by Elton J. Oubre. *Vacherie, St. James Parish, Louisiana: History and Genealogy* is a massive compilation of data. At first glance, its 764 pages alone would indicate a thorough, detailed study of so narrow a topic. Indeed, the book is a wealth of information. However, Oubre's emphasis is genealogy, and virtually all of the post-1840 "history" of the parish that this book contains is dispersed throughout numerous family histories. No subject index is provided. Furthermore, economic history virtually is ignored. Colorful anecdotes make up a large portion of the historical data. Occasionally, however, such as in the case of the flood in 1912, Oubre does recount the economic hardships endured by the residents. Despite its faults, Oubre's *Vacherie* represents the most comprehensive historical study of the project area to date.

Acadian Settlement in St. James Parish

Early in the eighteenth century, the first French concession was granted within the present boundaries of St. James Parish. The recipients were the French Duke de Charost and his son, the Marquis d'Anceny. Their concession was located near the present-day towns of Gramercy and Mt. Airy. Gramercy and Mt. Airy did not emerge as towns until the late nineteenth and early twentieth centuries; Gramercy is located at the site of the antebellum Golden Grove Plantation, and it grew around the Colonial Sugars Factory. The village of Mt. Airy, on Mt. Airy Plantation in St. John the Baptist Parish, began as a railroad station at the plantation, and in 1884, a Post Office was established at the site (St. John the Baptist Parish Development Board n.d.:13). About 100 settlers first occupied the concession in 1720, under the direction of Sieur de L'Epinet. They were forced to abandon the area two years later, after a fire destroyed their stores and supplies (Bourgeois 1957:6,35).

During the next forty years, a few settlers took up residence within the present boundaries of St. James Parish. Despite settlements in neighboring St. John and Ascension Parishes, St. James remained

a wilderness. Unfriendly Indian tribes, such as the Chitimacha and Houma, discouraged lingering Europeans. Those tribes continued to conduct raids in the area "as late as 1748" (Bourgeois 1957:7).

Apparently a few hardy settlers began establishing isolated plantations in the region about 1750. It is possible that the first settlement established in St. James Parish was Vacherie. Three German families from St. Charles and St. James Parishes rowed across Lac des Allemands to fish. There they found a ridge, which was desirable high ground because of the Mississippi River floods. Stein built a cabin there, and other Germans soon followed his example (Bourgeois 1957:67,68). In 1812, the heirs of Mathias Frederic claimed that six arpents near the present-day town of Vacherie had been cultivated as early as 1756 (Lowrie and Franklin 1834:266). The 1724 census listed Mathias Frederic as "a good worker, a Catholic, age 29, with wife, one child, an orphan girl, and living on the German Coast" (Bourgeois 1957:7). His relocation to St. James Parish occurred sometime between 1724 and 1756. Frederic's heirs also claimed a twenty arpent concession which had been made to Andrew Neau in 1755 (Lowrie and Franklin 1834:385). Prior to 1763, Jacques Cantrelle owned a plantation in the area. However, he did not establish residency there until after 1769 (Voorhies 1973:201,441). Cantrelle's plantation was located on the west bank of the Mississippi River, opposite the present-day town of Convent. That plantation was known as "Cabahonnocer," a phonetic spelling of the Choctaw word for "Mallard's roost" (Goodwin, Franks et al. 1986:17). It is certain that German settlement in the parish preceded the Acadians, and that the Vacherie settlement antedated that of the Cantrelles (Bourgeois 1957:67,68).

The first Acadians to settle within present-day St. James Parish were the Mouton brothers. In 1756, Salvador, Jean, and Louis Mouton took up residency near Vacherie. Over 650 Acadian refugees reached Louisiana in 1765. The first of these colonists, numbering about 200, immigrated by way of Santo Domingo (Haiti). Some of them reached St. James by late 1765 (Bourgeois 1957:12-13; Rushton 1979:319); the 1766 census indicates that 57 area residents were enlisted in the militia in that year.

About 1770, Philip Pittman described the young Acadian settlement in Louisiana:

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

The modern name of the "Ibbeville" (sic) River is Bayou Manchac. In addition to St. James Parish, the early Acadians settled in Ascension Parish and lower Iberville Parish (Goodwin, Franks et al. 1986:18). In 1766, 216 Acadians moved directly to Louisiana from Halifax, Nova Scotia. This group established two settlements. The one in the St. James area was called "*La premier cote des Acadians*" (the first Acadian coast). The second, in the Ascension Parish area, was known as "*la deuxieme cote des* Acadiens" (the second Acadian coast) (Arsenault 1966:202). By 1770, the first Acadian coast extended for 16 miles along both banks of the Mississippi River. Its center was on the west bank, approximately opposite College Point. This region became known as "Cabahannocer," after Jacques Cantrelle's plantation. Some time later, the appellation "Cabahannocer" also was applied to the second Acadian coast (Marchand 1931:20).

According to the "Census of Cabaanoce" (sic), the region had 266 white inhabitants in 1766. Ninety-eight of these were males over the age of 15. There were also 16 slaves. These settlers possessed 95 hogs and 97 guns. There were only a few large parcels of fallow land. Large land owners were Landry, Bigeou dit Violette, Ducros, Populus, Jaques Cantrelle, and Louis Judice (Cantrelle's son-in-law). Most of the land was divided into small parcels, with a river frontage of from three to six arpents.

The "List of Acadians at Cabahannocee" (sic) indicates that considerable growth had taken place by 1769. The 501 white residents at that time included 163 of arms-bearing age. They owned 36 slaves, 1,867 hogs, 512 head of cattle, 50 horses, and 16 sheep. The majority of land holdings had a river frontage of less than six arpents.

Paul Alliot, who visited the area during the first decade of the nineteenth century, described the settlements of the area:

> As the traveler leaves New Orleans by the gate St Louis, to ascend the river... he finds... that (parish) of Cantrelle... Each of those four communities (the parishes of Clesets Rouges, Cote des Allemands, Bonnet Carre, and Cantrelle) has a priest and a commandant. They are very well populated. Their inhabitants are very industrious, very sober, and very economical. Few of them are married. Almost all of them live with their slaves or with women of color. They cultivate their fields excellently. They raise sugar, indigo, cotton, rice, maize, and many vegetables. The potatoes which they take from the earth are very good. The melons gathered by them are fine, and have an excellent taste and exquisite perfume. Their kitchen gardens are full of fruit trees, the fruit of which they gather from the month of July. They do not keep their fruit more than three months, and the fruits are not very good to the taste. The oranges which they gather are delicious. Their barnyards are full of hogs, cattle, and fowls of all kings. If those inhabitants had more hands at their disposal, they would become rich in a very short period of time (Robertson 1911:I:111).

Another visitor, C. C. Robin, was also favorably impressed. He wrote in 1807:

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

Indigo served as the principal cash crop in the late eighteenth century. It was especially popular with planters because it required limited labor. A single slave could plant and tend two acres of indigo and still have time to grow ample provisions for himself (Holmes 1967:340). Indigo usually was processed into dye on the plantation where it had been grown; the conversion was relatively easy, and required no expensive machinery. After the plant was cut, it was placed in a vat called a "steeper." The indigo then was covered with water until fermentation occurred. The liquid by-product was drawn off into a second vat, which was termed a "beater." There, the liquid was agitated in a manner similar to the churning of butter. Lime water was added to form a precipitate in the solution; the water then was drawn off. The remaining indigo solids were placed in cloth bags, and allowed to dry (Holmes 1967:344). Colonial France encouraged the production of indigo in Louisiana; the Spanish continued this policy (Goodwin, Yakubik et al. 1984:13).

The Louisiana Purchase and Antebellum Economic Development

Beginning in the 1790s, and continuing through the early 1800s, Louisiana's economy underwent several major changes. Indigo faded as Louisiana's principal cash crop. It no longer could compete on the world market because it could be produced less expensively in India. Several factors brought about the demise of indigo cultivation in Louisiana. Exhausted soil, inclement weather, and insect blights combined to reduce production. Labor was also a major problem. As the demand for slaves increased, so did their market value. Free laborers avoided indigo cultivation. The terrible smell associated with its production attracted disease-carrying insects. Indigo production also polluted waterways (Holmes 1967:346-348).

Technological advancement in the cultivation of other crops delivered the final blow to indigo production. Eli Whitney invented the cotton gin, and a commercial process was developed for extracting sugar from immature cane. These two crops quickly promised a greater return for the planter's investment.

Cotton cultivation flourished along the Mississippi River above Baton Rouge and in the Attakapas and Opelousas districts. In the early nineteenth century, it also was grown as far south as St. James Parish. Berguin-Duvallon describes the region during this time:

> Above this begins the parish of Cabahanose, or first Acadian settlement, extending eight leagues on the river. Adjoining it and still ascending is the second Acadian settlement, or parish of the Fourche, which extends about six leagues... Except on the point just below the Iberville [Bayou Manchac], the whole country from New Orleans is settled the whole way along the river, and presents a scene of uninterrupted plantations in sight of each other, whole fronts are all cleared to the Mississippi, and occupy on that river from five to twenty five acres with a depth of forty; so that a plantation of five acres in front contains two hundred. A few sugar plantations are formed in the parish of Cabahanose, but the remainder is devoted to cotton and provision, and the soil is an excellent soil incapable of being exhausted. The plantations are but one deep on the island of New Orleans, and on the opposite side of the river as far as the mouth of the Iberville, which is thirty-five leagues above New Orleans (Davis 1806:167-168) (sic throughout).

An arpent of land yielded approximately 400 pounds of cotton, on average. During the early nineteenth century, such an amount would sell for about $100.00. A single skilled slave or farmer could cultivate three arpents of land planted with cotton (Robertson 1911:I:155). Estimates of the average amount of raw cotton that could be picked in a day by a single laborer vary drastically, ranging from a high of 150 pounds to a low of 60 pounds (Taylor 1976:67). Three pounds of picked cotton yielded about one pound after cleaning (Robertson 1911:I:156). Cultivation of cotton was discussed in detail by Goodwin, Gendel et al. (1983a).

Geopolitical changes in the early nineteenth century also influenced economic developments in Louisiana. In 1800, Spain ceded the colony to France in the secret Treaty of San Ildefonso. Three years later France sold Louisiana to the United States. In 1804, the U. S. Congress created a government for the nation's new territorial acquisition. The first governor was William C. C. Claiborne. In 1805, he divided the Territory of New Orleans into twelve counties. One of these was Acadia, which included the present-day parishes of Ascension and St. James. Claiborne's division quickly proved unpopular. In 1807, the territorial legislature established nineteen parishes as the basis for local government (Appendix I). St. James was one of these (Brasseaux et al. 1977:11-12).

The acquisition of the Louisiana Territory by the United States stimulated American immigration into the region. Potential profit from the cultivation of sugar and cotton was an extremely attractive lure. An individual's ability to take advantage of this opportunity, however, depended on the amount of available capital. Once the land was acquired, substantial sums of cash were necessary for the purchase of slaves and for the construction of sugar houses, cotton gins, and levees. The owners of small parcels of land increasingly sold their property to wealthy speculators or large planters (White 1944:352). Cotton

production, at least in comparison with the cultivation of sugar, was less expensive. Consequently, both wealthy planters using slave labor and slaveless yeoman farmers could grow cotton (Taylor 1976:65).

The planting cycle on sugar plantations began with the preparation of the soil and the planting of the cane in late January or early February. Corn also was planted in March and April; peas and potatoes were planted in May and June. As in the cultivation of cotton, field hands continued to hoe the crops until early July. The slaves then gathered wood to fuel the sugar house. Necessary repairs also were made to levees, and ditches were cleaned during this time. Cane harvesting began in October. Work continued virtually twenty-four hours a day until the task was completed. The processing of the cane into sugar continued until late December or early January. Also, seed cane was stored and the ground was plowed for the impending planting (Sitterson 1953:112).

Sugar plantations contained a variety of structures: a large residence, kitchen, offices, garconnieres, pigeonniers, and carriage houses were usually present, as were barns, stables, storage sheds, and privies. The slaves lived in whitewashed, one or two-room cabins. These cabins were erected in rows. On the larger plantations, a house also was provided for the overseer, and a substantial blacksmith's shop was present as well. Often, there was an additional kitchen where the slaves' food was prepared (Sitterson 1953:92). The major difference between sugar and cotton plantations were the industrial structures related to crop production. Cotton plantations had a gin, whereas sugar plantations had sugar houses.

If viewed archeologically, these areas today would consist primarily of structural remains and of habitation refuse such as ceramics, glass, faunal remains, etc. Similarly, areas of animal husbandry, such as stables and barns, might be recognized archeologically by tools, tack, and other hardware associated with stock, including remains of a blacksmith's shop. Industrial areas of the plantation would include more massive structural remains, machinery parts, tools, and the residue of sugar manufacture.

In the early nineteenth century, sugar houses generally were constructed of wood. By 1850, most sugar houses were built of brick. The structures generally were 100 to 150 ft long and about 50 ft wide (Sitterson 1953:137). Prior to the 1830s, horses powered the mills. During that decade, steam engines began to replace the horses. By the 1850s, steam powered most of the sugar houses (Eaton 1975:224; Bouchereau 1868-1869; Champomier 1862). Although on some plantations a separate structure housed the mill, it usually was contained within the sugar house. The mill was used for extracting the juice from the cane. A shed for storing the cane as it arrived from the field usually was attached to the sugar house on the same end as the mill (Sitterson 1953:137). Detailed discussions of cane cultivation, sugar processing, and plantation organization and layout have been presented elsewhere (Goodwin, Gendel et al. 1983a, 1983b; Goodwin, Yakubik et al. 1985).

Plantation Development During the Antebellum Period

The rise of sugar cane cultivation in the region brought about the steady consolidation of small farms into large plantations. Sugar production required greater capital investments than cotton. The average investment in machinery on a cotton plantation was slightly more than $800.00. On a sugar plantation, the cost of machinery averaged nearly $10,000.00. The sugar house absorbed most of this investment. Such an investment made sugar cultivation impractical for small farmers.

The growing and processing of cane, however, was extremely attractive to anyone who could afford the initial investment. A sugar planter could expect an annual return of approximately nine per cent on his investment. The average return on a cotton plantation of 1,500 acres, however, only amounted to seven per cent on the original investment (Taylor 1976:67). Early in the nineteenth century, sugar production rapidly outdistanced that of cotton in St. James Parish. Economic practices related to the sugar industry are detailed elsewhere (Goodwin, Yakubik et al. 1984, 1985).

An investment that yields huge profits usually entails considerable risks. Such was the case with sugar cultivation. Weather and fluctuating market prices caused production to vary tremendously from year to year. If their land was suitable, some planters would shift to cotton production when the price of sugar

fell below the margin of profit. An early frost might reduce the crop, and a crevasse in a levee could ruin an entire crop. An epidemic of yellow fever or cholera might decimate the labor force (Eaton 1975:226).

Such catastrophes beared heavily on the project area during the antebellum period. Bad weather, floods, yellow fever, and cholera struck St. James Parish between 1852 and 1856 (Bourgeois 1957:145,147; Table 2). Flooding in 1850 undoubtedly accounts for a smaller yield for that year (Oubre 1986:54; Tables 2 and 3). Much of the Armant Brothers' 1851-52 crop was destroyed by ice; between five and twelve inches of snow fell during the winter of 1852 (Bourgeois 1957:147). The tremendous decrease in the 1856-57 crop must be attributable to market price, because Louisiana's production was less than one-third that of the previous year and barely one-fourth that of the following (Champomier 1862).

In 1802, 81 sugar plantations worked approximately 36,000 slaves (Simkins and Roland 1972:116). The expansion of cane cultivation reached its peak in Louisiana by 1849; 1,536 plantations produced sugar in that year. Because of consolidation of plantations during the 1850s, only 1,308 plantations grew cane in 1859 (Eaton 1975:224). By 1861, that number was reduced to 1,291 sugar plantations. That year, some 139,000 slaves tended the cane fields (Simkins and Roland 1972:116). Louisiana sugar production prior to the Civil War peaked in 1853-54, when 450,000 hogsheads were produced. The planters derived considerably less money from this bountiful crop, however, than they were to receive from the 1859-60 crop, which was approximately half that of the 1853-54 season (Eaton 1975:226-27).

Berguin-Duvallon enumerated the reasons for the expansion of sugar cultivation:

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

In 1860, on the eve of the Civil War, J. W. Dorr described St. James Parish:

> The further I journey up the Coast, the more anxious do I feel to vindicate this beautiful country from the aspersions cast upon it by tourists who dash down the Mississippi in steamboats, and very likely fall asleep in their berths, and dismiss the matter with the favorite form of words, viz: "The banks of the Lower Mississippi are low and monotonous, and the scenery tame and uninteresting." So the picture doubtless looks to them from their point of view, framed as it is in the foreground with the muddy and rubbish-covered banks of the river outside the levee mound. But let them travel inside the levee, and through this paradisiacal climax of luxurious plantation rurality, and if they do not admire the aspects of the scene--the splendid villa-like or castle-like mansions of the planters, the cheerful and comfortable villages of negro houses, the magnificent old trees, with their wavy glory of moss, the beautiful gardens filled with the rarest shrubs and plants, the affluent vegetation of the broad fields, the abundant greenery with which lavish nature coasts every inch of this prolific soil--if they do not admire this on the one hand, and on the other the broad tide of the Father of Waters swelling through the long reaches of its winding channel and dotted with steamers or other craft, we will set them down as travelers either of not taste or so filled with prejudice as to be determined not to see anything worthy of admiration in any part of the South.

Table 2

SUGAR PRODUCTION AT ARMANT PLANTATION, 1844-1862
(CHAMPOMIER 1862)

Year	Owner/Manager	In Pounds[1]
1844-45	J. B. Armant	718,000
1845-46	J. B. Armant	588,000
1849-50[2]	Armant Brothers	1,000,000
1850-51	Armant freres	750,000
1851-52[3]	Armant freres	1,050,000
1852-53	Armant freres	1,480,000
1854-55	Armant Brothers	1,400,000
1856-57	Armant Brothers	110,000
1857-58	Armant Brothers	700,000
1858-59	Armant Brothers	1,000,000
1861-62	Armant Brothers	2,502,000

1. Hogsheads = 1000 lbs.
2. Rillieux's vacuum pan process introduced.
3. Lost by ice largely.

Table 3

SUGAR PRODUCTION AT DUPARC AND LOCOUL PLANTATION, 1844-1862
(CHAMPOMIER 1862)

Year	Owner/Manager	In Pounds[1]
1844-45	Duparc & Locoul	727,000
1845-46	Mrs. Duparc, Sons & Lacoul	605,000
1849-50	Duparc & Lacoul	527,000
1850-51[2]	Duparc & Locoul	400,000
1851-52	Duparc & Locoul	602,000
1852-53	Duparc & Locoul	722,000
1854-55	Duparc & Locoul	744,000
1856-57	Duparc & Locoul	141,000
1857-58	Duparc & Locoul	700,000
1858-59	Duparc & Locoul	809,000
1861-62	Duparc & Locoul	790,000

1. Hogsheads = 1000 lbs.

2. Steam-powered mill introduced.

> The forces of the different plantations are very busy hoeing the cane at this time, and on some of them I remark long ranks of fifty to a hundred negroes, hoe in hand, working across the fields with almost the precision of military drill. Of course, estates which can have so many hands detached for one duty belong to the largest class. The exceedingly neat, spacious and comfortable character of the negro quarters all along up the coast should be especially mentioned. I have noted some of these villages containing thirty, forty, or fifty houses each, every one of which would rent for from $12 to $16 per month, according to the part of New Orleans in which it might be situated.
>
> Every plantation seems to have its flock of sheep, and in many instances this stock is nearly pure South-down breed. The cattle, too, are fine stock. The carriage horses of the planters are splendid animals; and, for plantation riding, they generally use the strong and hardy and easy-going, but not very handsome, horses of the Attakapas breed (Pritchard 1938:118-119).

Land Ownership and Sugar Production

The project area remained divided between two plantations until after the Civil War. Both sections, however, were consolidated with other adjacent parcels along the river or in the interior (Tables 2 and 3; Oubre 1986:160,188). The heirs of Guillaume B. D. Duparc, for example, the owners of the downriver portion of the study area, eventually extended their river frontage from eight to twelve arpents. Edmond and Jean Baptiste Armant added to their holdings in the upriver part of the project area in 1845 and 1846 (Figure 3). These purchases included the southwest quarter of Section 24, the western half of Section 25, and all of Section 26. The above additions consisted entirely of swamplands (Oubre 1986:76,160,188).

As indicated above, the upriver portion of the project area was included in the holdings of the Armant family. A portion of the property had been granted to Saturnin Bruno by Governor Unzaga in 1773. Bruno purchased adjacent property in 1781. Bruno sold the property to J. B. Armant between 1781 and 1796. By the latter year, J. B. Armant had established a substantial plantation on the west bank and immediately down river of Valcour Aime's plantation (Bourgeois 1957:60). Following the Louisiana Purchase, Jean Marie Armant filed the initial claim on the property with the United States government (Appendix I). Pierre A. Degelos, in his *Statement of Sugar Made in Louisiana in 1828 and 1829*, listed J. B. Armant as the owner/operator (Oubre 1986:133). Between 1844 and 1861, the plantation was operated by the Armant Brothers. Ownership of the property, however, changed hands in 1859. Late in that year, the Armant Freres Plantation was purchased by John Burnside at a sheriff's sale (Oubre 1986:83). Sugar production at Armant Plantation prior to the Civil War is shown in Table 2.

The original grant to the downriver portion of the project area apparently was made to Francisco Dominique Leboeuf. At some point in time, the land passed from Leboeuf to Thomas Bourg. Guillaume B. D. Duparc (also cited as Dupare) purchased the property from Bourg. His widow, Anne Prudhomme Duparc, filed the initial claim on the property with the United States government. The property was associated with the Duparc family until the Civil War (Oubre 1986:186,188).

On October 25, 1821, Elizabeth Duparc, daughter of Guillaume and Anne Duparc, married George Raymond Locoul, a native of Bordeaux, France. The ceremony was held in the St. John the Baptist Catholic Church in Edgard. Pierre A. Degelos, in his *Statement of Sugar Made in Louisiana in 1828 and 1829*, listed the Duparc brothers and Locoul as the owner/operators of the plantation (Oubre 1986:133,186-187). Champomier, however, listed "Mrs. Duparc, Sons & Locoul" as the owner/operators for 1845-46 (1846). The northern part of Louisiana Highway 20 was originally a Duparc Plantation headland (Oubre 1986:188). Sugar production at Duparc and Lecoul Plantations prior to the Civil War is shown in Table 3.

The Civil War

The Civil War devastated Louisiana's plantation economy. Even planters along the Mississippi

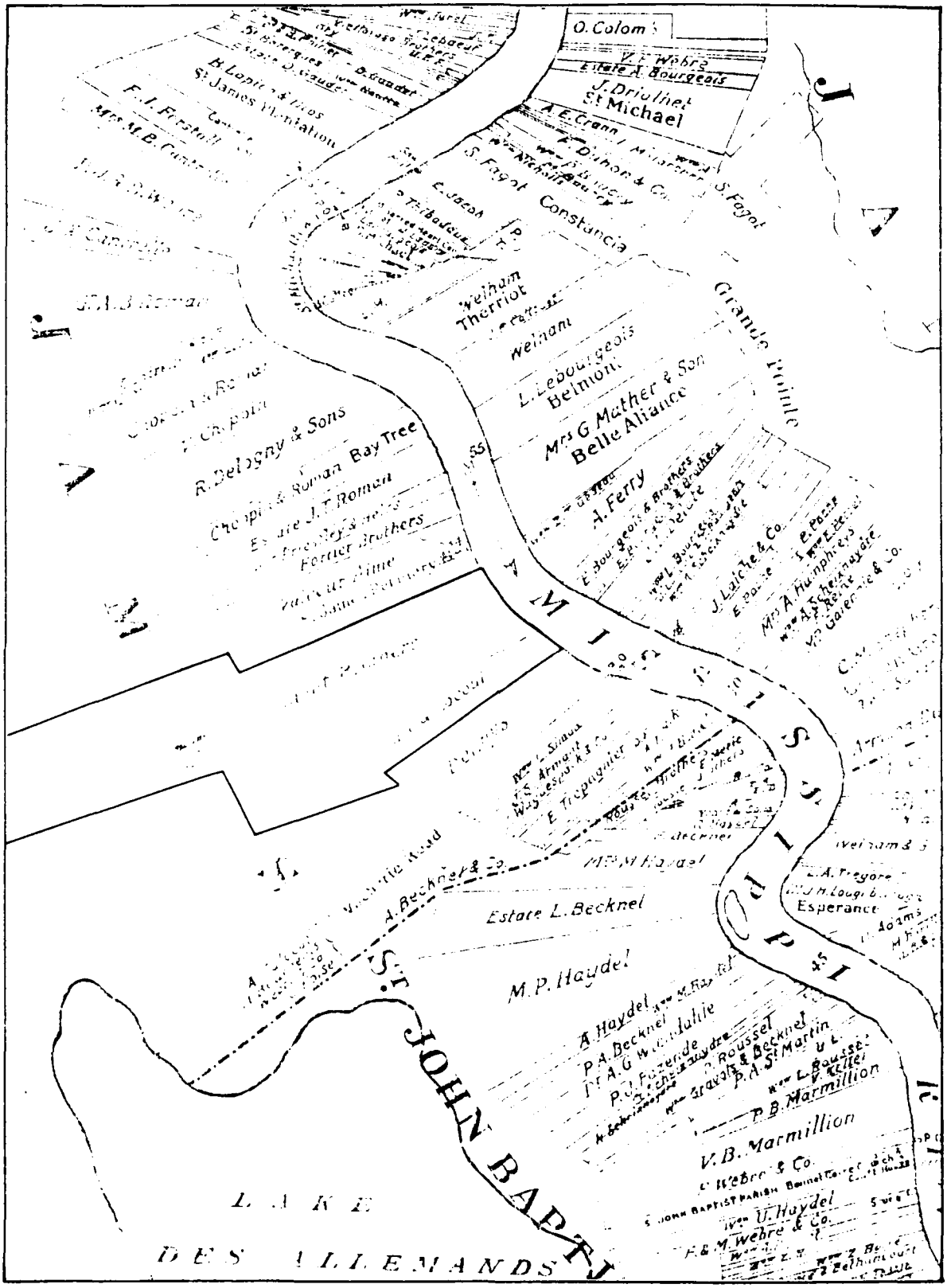

Figure 3. Plantations on the Mississippi from Natchez to New Orleans, 1858 (Norman's Chart). Reprinted 1921 by Pelican Book Shop. Louisiana Collection, Tulane University.

River had difficulty marketing their crops and securing supplies. Alcee Fortier, historian and grandson of Valcour Aime, a prominent planter in St. James Parish, described the arrival of Federal troops in the parish:

> After the fall of New Orleans, the Federal gunboats ascended the river, and being attacked by Confederate batteries on the banks, bombarded the plantations as they passed. This was natural where there were batteries, but, too often, houses were bombarded in front of which stood no batteries. How well do I remember the flight of our whole family to the river front to seek the protection of the levee, whenever a gunboat was coming. There we stood behind the levee, my sisters and myself, our school mistress and our nurses, while our father stood on the levee to look at the Federal gunboats and at the shells, which generally passed over our heads, but which, occasionally were buried in the levee and covered us with dust. Our house was never touched by the shells, but those of a number of our relatives and friends were considerably damaged, and I remember seeing cart loads of bolls strewn in the yards. How dramatic all this was: the huge iron clad *Essex* passing in triumph the river batteries, her shells whizzing like huge meteors over our heads, and we helpless against the invaders! I remember also the holes dug in the ground and covered with thick beams and several feet of earth, the inside arranged like a comfortable room and filled with provisions of all kinds. Then came the Federal soldier in garrison on the plantation, and well-behaved: then the insolence of some of the liberated slaves, the temporary arrest of my father and my grandfather, the serio-comic scenes at the provost marshal's court, where, too often, favors, or rather rights, had to be bought; then the flight of the family to the Teche and the pillaging by the conquering army; the return home and the complete ruin (Fortier 1894:221-222).

Federal soldiers disembarked at Convent in May, 1862. The nuns at the Convent of the Sacred Heart were flying a French flag. Union Major General Benjamin F. Butler ordered them to lower their flag and to raise in its place the United States flag. The Mother Superior refused, and Butler eventually stationed troops at the convent to protect its inhabitants. The Union soldiers, however, pillaged nearby plantations. When the Mother Superior pleaded with the Federal general to restrain his men, Butler complied with her request (Bourgeois 1957:48-49).

Many of the males of service age enlisted in the 18th Louisiana Infantry Regiment. Because of the large percentage of soldiers in the unit of French ancestry, the regiment was usually referred to as Le Dix-Huitieme (The Eighteenth). The project area contributed at least one member to this unit: Leopold L. Armant. Leopold was the son of General Seraphim Armant and Louise Emelie Fusilier de la Clair. In April, 1862, following the Battle of Shiloh, Tennessee, Leopold became colonel of the regiment. Two years later, he led the unit at the Battle of Mansfield. Leading his men in a charge, he rode in advance, waving his father's sword. Wounded in the arm and unhorsed, Armant advanced on foot, ever cheering his men onward. He then fell, wounded in both thighs. Raising himself with his bleeding arm, he waved his hat and cried, "Forward!" The fatal bullet then entered his chest. At the time of his death, he was engaged to Anna Fortier, grand-daughter of his immediate neighbor, Valcour Aime (Bourgeois 1957:60).

The Postbellum Period

Louisiana's crippled sugar industry was slow to recover following the restoration of the Union. Prices were down, credit was tight, and the planter found it virtually impossible to keep his former slaves on the plantation (Begnaud 1980:38-39; Goodwin and Yakubik 1982). Financial difficulties plagued the planters, and many lost their plantations as a result. Throughout most of the remainder of the nineteenth century, the level of sugar production did not approach that of the peak crop of 1861-62. The failure of sugar cultivation was caused by a change in labor systems, corrupt and incompetent politicians and government, and the almost constant fear that the tariff on sugar would be abolished or greatly reduced. All these factors served to scare off investors (A. Bouchereau 1917:53a).

In many parishes after the Civil War, planters and farmers began cultivating rice because of lack of requisite capital for sugar production. Bouchereau and Bouchereau wrote:

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

Rice was an appropriate crop for Louisiana planters and farmers after the Civil War. Neglected for years, the levees often failed to prevent the inundation of fields. The flooding of a cane field could ruin the crop; however, flooding was beneficial for rice cultivation. The cultivation and economics of rice are detailed elsewhere (Goodwin, Hewitt et al. 1990; Goodwin, Hinks et al. 1989).

The lumber industry had begun to expand during the antebellum period. This expansion resumed after the Civil War. Most of the "timber fallers" were strangers to the area, but several natives of Vacherie worked in the logging camps. Oubre wrote that:

> the earliest sawmill in the Vacherie area was on the Antoine Folse tract, and was located near the present swimming pool, northeast of Steibville and southeast of Shell Hill. It was in existence on Antoine Becnel's sugar plantation as early as 1855...(Oubre 1986:419-20).

Sugar Production During the Postbellum Period

The abolition of slavery drastically curtailed the recovery of the sugar industry. Former slaves were regarded not only as unreliable (lazy) workers but as a political threat. The free labor system initially failed to provide an adequate number of workers for the cultivation of sugar. Sugar planter's denounced day laborers or contract workers as inefficient, too expensive, and inadequate in number (L. Bouchereau 1877:xix).

L. Bouchereau's publication noted the earliest stages of a tenancy system in Terrebonne Parish. Bouchereau enthusiastically advocated the "Share System" (L. Bouchereau 1877). Under this system, the planter furnished the land, seed, and necessary implements. The tenants contributed the labor in addition to supporting themselves. Profits were split three ways. The planter and the laborer each received one-third. The remaining third paid the overhead. Although successfully used in the cultivation of other crops, such as cotton, the tenancy system did not particularly suit sugar cultivation.

Despite the planters' complaints, Bouchereau advocated that white labor be employed to cultivate sugar. He also proposed the Louisiana Immigration and Homestead Company, a settlement organization. Its purpose was to "introduce into the state a good class of laborers" (L. Bouchereau 1877:xix). Bouchereau (1877:xix) even formally endorsed employment of German and Chinese contract labor.

Beginning in the 1870s, numerous Italian residents of New Orleans began to work on the sugar plantations. They were described as excellent workers:

> (The Italian) requires almost no supervision, but, assigned a task, he toils at it without need of watching and urging on the part of an overseer; and though he has not the physical strength of the Negro, his close application makes ample amends for this deficiency. Centuries of experience in a worn out country have made him one of the most careful and economical of farmers. The necessity of cultivating the same little plot of ground year after year has taught him how to obtain the largest possible yield from his limited acreage. As intensive farmers, the Southern Italian and the Sicilian are easily among the best in the world...(Scarpaci 1972:38).

Many Italians migrated to the sugar-producing areas for the *Zuccarata,* or grinding season. More labor than usual was required during this season, when the cane had to be cut and the sugar processed (Scarpaci 1972:97).

The "panic of 1873" dealt the already stagnant sugar industry an additional blow. Sugar prices were depressed further. The majority of Louisiana sugar plantations produced short crops for several years thereafter. Bouchereau quoted Edward D. Seghers in the introduction to his 1874 edition: "It is a notorious fact that the sugar industry of this state has been steadily going to ruin ever since the war" (L. Bouchereau 1877:xii-xiii).

Possibly the absence of investment capital was the greatest impediment to revitalization of the sugar industry. Planters lacked the capital necessary to rebuild sugar houses that had been destroyed during the war or even to have necessary repairs made to the levees. Many former sugar plantations were inundated during high water.

L. Bouchereau proposed a solution. He urged the separation of the agricultural and industrial aspects of sugar production. He termed his solution the "Central Factory System," which included centralized mills to serve the needs of many planters. The benefits were obvious. Because the manufacture of sugar from cane entailed the greatest expense, Bouchereau's system helped alleviate the individual planter's financial burden. The planter could now concentrate his limited capital on solving the labor problem. Also, this system would enable farmers with limited holdings to afford to grow cane, which would provide additional customers for the mills (L. Bouchereau 1877:xii-xx).

Despite all of the problems that led many sugar planters to switch to rice planting, St. James Parish remained engaged in sugar cultivation. A few individuals grew a small amount of Perique tobacco, but the rich fertile land of the parish was particularly suited to sugar agriculture (Harris 1881:208; Stubbs 1895:16).

Changes in land ownership became more frequent within the project area between 1868 and 1917. Crop production was irregular, and documentation of that production appears to have been less consistent. An additional complication for comparing pre- and postwar sugar production in the project area was the expansion of the northern plantation and the division, subdivision, and reuniting of the southern plantation within the present project area (Oubre 1986:188; Tables 4 and 5).

John Burnside retained ownership of the Armant Plantation following the Civil War. He greatly increased his holdings in the area in 1867 by the acquisition of Valcour Aime's plantation, "Petit Versailles," along with its exotic plants and animals (Oubre 1986:188). The Armant Plantation, owned by Burnside, is shown on the 1876 Mississippi River Commission Map (Figure 4). Sometime during 1881-82, Burnside's holdings on both banks of the Mississippi, including a portion of the project area, were purchased by Olivier Beirne (Oubre 1986:422; A. Bouchereau 1917:56, 58). The property passed to Beirne's heirs during 1886-87. Among these was Mrs. N. Von Ahlefeldt (Oubre 1986:422; A. Bouchereau 1917:30). William P. Miles came to work for the heirs as an agent and tutor in 1888 or 1889. Although it is not known if he purchased the property containing the project area, he established Miles Planting and Manufacturing Company, Limited, in 1894 or 1895. That corporation continued to raise sugar cane in the area through World War I (Table 4).

Mrs. R. Locoul, Guillaume Duparc's granddaughter, was listed as the owner/operator of the Duparc Plantation in 1869. Mrs. Locoul died in 1873 or 1874, and the plantation was divided between her children. Her daughter, Marie Elizabeth Aimee, had married Jean Flavier Charles de Lobel Mahy, and he was listed as the owner/operator of the northern portion of the property in 1874. On February 13, 1879, Mrs. J. De Lobel Mahy, who resided in New Orleans, passed an act of sale of a tract measuring "two chains and thirty-three links" of width to Euphemon Hebert. This tract was bounded above by other property that she retained. Mrs. Mahy also sold the extreme southwestern corner (away from the river) of her plantation on January 13, 1880. On September 26, 1882, Euphemon Hebert started to subdivided this tract (from the river to past the railroad tracks along the downriver side of the New Vacherie Road). He sold the first lot to his wife, Clementine Cantrelle. The venture apparently proved unsuccessful, however, and Hebert also began cultivating sugar in lots some distance south of the project area. In 1891, the heirs of Mrs. Mahy sold the balance of the front tract between the New Vacherie Road and the "Hubbell and Waguespack Store," known

Table 4

SUGAR PRODUCTION AT ARMANT PLANTATION, 1868-1911
(L. BOUCHEREAU 1877; A. BOUCHEREAU 1917)

Year	Owner/Manager	In Pounds[1]
1868-69[2]	John Burnside	434,740
1869-70	John Burnside	263,000
1871-72[3]	John Burnside	None Reported
1872-73[4]	John Burnside	850,332
1873-74[4]	John Burnside	756,742
1875-76[2]	John Burnside	802,200
1876-77[2]	John Burnside	762,090
1877-78[2]	John Burnside	486,668
1878-79[5]	John Burnside	989,380
1879-80	John Burnside	1,337,000
1880-81	John Burnside	1,310,260
1881-82	Olivier Beirne	673,848
1882-83	Olivier Beirne	1,267,000
1883-84	Olivier Beirne	635,000
1884-85	Olivier Beirne	905,000[6]
1885-86	Olivier Beirne	1,450,000
1886-87[7]	Mrs. N. Von Ahlefeldt	519,558
1887-88	Mrs. N. Von Ahlefeldt	930,099
1888-89	William P. Miles, Agent and Tutor	501,000
1890-91[8]	William P. Miles, Agent	2,500,000
1891-92	William P. Miles, Agent	2,312,051
1892-93	William P. Miles, Agent	3,101,019
1893-94[9]	William P. Miles, Agent	3,386,826
1894-95	Miles P. & Mfg. Co.	3,594,380

1897-98	Miles P. & Mfg. Co.	3,579,816
1898-99	Miles P. & Mfg. Co.	3,245,601
1900-01	Miles P. & Mfg. Co.	4,004,915
1902-03	Miles P. & Mfg. Co.	4,571,857
1904-05	Miles P. & Mfg. Co.	8,635,095
1905-06[10]	Miles P & Mfg Co.	7,785,515
1906-07	Miles P. & Mfg. Co.	2,530,132
1907-08	Miles P. & Mfg. Co.	5,171,980
1911-12	Miles P. & Mfg. Co.	4,354,462
1912-13	Miles P. & Mfg. Co.	None Reported
1913-14	Miles P. & Mfg. Co.	4,154,847
1914-15	Miles P. & Mfg. Co.	4,174,750
1915-16	Miles P. & Mfg. Co.	1,735,534
1916-17	Miles P. & Mfg. Co.	4,239,328

1. Calculated at 1337 pounds per hogshead for the 1872-73 through 1881-82 crops. This ratio was arrived at by taking the ratio of hogsheads to pounds produced between 1882-83 and 1885-86. Both data sets are available for those years, and the equipment in use on the plantation remained the same.

2. Brick and shingle sugar house using Rillieux's vacuum pan process.

3. Brick and shingle sugar house using steam tram, open pan.

4. Brick and shingle sugar house using steam tram, vacuum pan, and centrifuge apparatuses.

5. Two sugar houses, one of which was of brick and shingle construction; one was equipped with a steam tram, vacuum pan, and centrifuge apparatuses and one had a Rillieux apparatus. These remained in operation until at least 1892.

6. Fire destroyed 160,000 pounds of this amount.

7. Merged into a substantially larger holding.

8. This and succeeding crops includes production from additional acreage that was joined with this tract in 1886-87.

9. One sugar house was constructed of brick, shingle, and slate and equipped with a steam tram, vacuum pan, and centrifuge apparatuses.

10. One sugar house was constructed of brick, shingle, and slate and equipped with double effects, vacuum pan and centrifugals.

Table 5

SUGAR PRODUCTION AT THE LOCOUL PLANTATION, 1868-1917 (Later Dupare and Laura Plantations)
(L. BOUCHEREAU 1877; A. BOUCHEREAU 1917)

Year	Owner/Manager	In Pounds[1]
1868-69	Mrs. R. Locoul[2]	304,278
1869-70	Mrs. R. Locoul	193,800
1871-72	Mrs. R. Locoul	168,300
1872-73	Mrs. R. Locoul	116,688
1873-74	J. De Lobel-Mahy[2] Emile Locoul[3]	41,514 38,148
1875-76	J. De Lobel-Mahy Emile Locoul[4]	117,810 69,564
1876-77	J. De Lobel-Mahy Emile Locoul	69,564 104,346
1877-78	J. De Lobel-Mahy Emile Locoul	31,416 89,760
1878-79	J. De Lobel-Mahy Emile Locoul	112,200 145,860
1879-80	J. De Lobel-Mahy Emile Locoul	107,712 125,664
1880-81	J. De Lobel-Mahy James Legendre	106,590 269,280
1881-82	Hebert & Bourgeois James Legendre	37,170 56,100
1882-83	Hebert & Bourgeois James Legendre[2]	340,000 500,000[5]
1883-84	Hebert & Bourgeois James Legendre	215,000 400,000
1884-85	Hebert & Bourgeois James Legendre	300,000 316,250
1885-86	Euphemon Hebert George D. Locoul	276,000 253,000
1886-87	Euphemon Hebert George D. Locoul	276,000 21,850

1887-88	Euphemon Hebert	379,500
	George D. Locoul	407,000
1888-89	Euphemon Hebert	276,000
	George D. Locoul	304,750
1890-91	Euphemon Hebert and Joseph Becnel	240,000[6]
	George D. Locoul and[7] Florian Waguespack	460,000
1891-92	Euphemon Hebert and Joseph Becnel	188,559[6]
	George D. Lacoul and Florian Waguespack	221,952
1892-93	Joseph Becnel & Co.	444,422
	Florian Waguespack[4]	687,250
1893-94	Joseph Becnel & Co.	460,177
	Florian Waguespack	916,905
1894-95	Joseph Becnel & Co.	544,292
	Florian Waguespack[8]	1,129,846
1897-98	Joseph Becnel & Co.	431,250
	Florian Waguespack[9]	1,505,700
1898-99	Joseph Becnel & Co.	460,000
	Florian Waguespack	1,214,850
1900-01	Joseph Becnel & Co.[10]	243,725
	Waguespack & Haydel[11]	1,255,990
1902-03	Waguespack & Haydel	
	Waguespack & Haydel	1,861,975
1904-05	Waguespack & Haydel	
	Waguespack & Haydel	2,029,125
1905-06	Waguespack & Haydel	
	Waguespack & Haydel	1,491,000
1906-07	Waguespack & Haydel	
	Waguespack & Haydel	1,440,000
1907-08	Waguespack & Haydel	
	Waguespack & Haydel	1,597,500
1911-12	Waguespack & Haydel	
	Waguespack & Haydel[12]	2,050,000
1912-13	Waguespack & Haydel	
	Waguespack & Haydel	No Yield

1913-14	Waguespack & Haydel Waguespack & Haydel[13]	2,511,456
1914-15	Waguespack & Haydel Waguespack & Haydel	2,342,617
1915-16	Waguespack & Haydel Waguespack & Haydel	1,224,304
1916-17	Waguespack & Haydel Waguespack & Haydel	2,228,310

1. Calculated at 1122 pounds per hogshead for the 1871-72 and 1872-73 crops. This ratio was arrived at by taking the ratio of hogsheads to pounds produced in 1868-69 and 1869-70. Both data sets are available for those years and the equipment in use on the plantation remained the same. When the property was divided in 1873, the existing sugar house was included with the portion acquired by J. De Lobel-Mahy. For this reason, the same hogsheads to pounds ratio is used to determine production for crop years 1873-74 through 1880-81. The ratio of 1 hogshead = 1122 pounds was also used for the production of Lacoul/Legendre crops between 1873-74 and 1881-82, inclusive. The ratio of 1 hogshead = 1239 pounds was used to determine the 1881-82 production of Hebert & Bourgeois. This ratio was arrived at by taking the ratio of hogsheads to pounds produced for the years 1882-83 through 1884-85, inclusive. Both data sets are available for those years and the equipment in use on the planation remained the same.

2. Brick and shingle sugar house containing steam and kettle apparatuses.

3. It is not known where this sugar was processed. A sugar house was located on the site the following year.

4. Wooden sugar house containing steam and kettle apparatuses.

5. Ground at Evan Hall.

6. Total reported production.

7. Wooden sugar house.

8. Wooden sugar house with steam trams and open pan apparatus.

9. Wooden sugar house equipped with a steam tram, vacuum pan, and centrifugals.

10. Wooden sugar house with steam kettles, open pan apparatus.

11. Sugar house constructed of wood, slate, and iron, and equipped with steam trams, vacuum pan, and centrifugals.

12. Sugar house constructed of wood, slate, and iron, and equipped with double effects, vacuum pan, and centrifugals.

13. Sugar house constructed of wood, iron, and copper, and equipped with double effects, vacuum pan, and centrifugals.

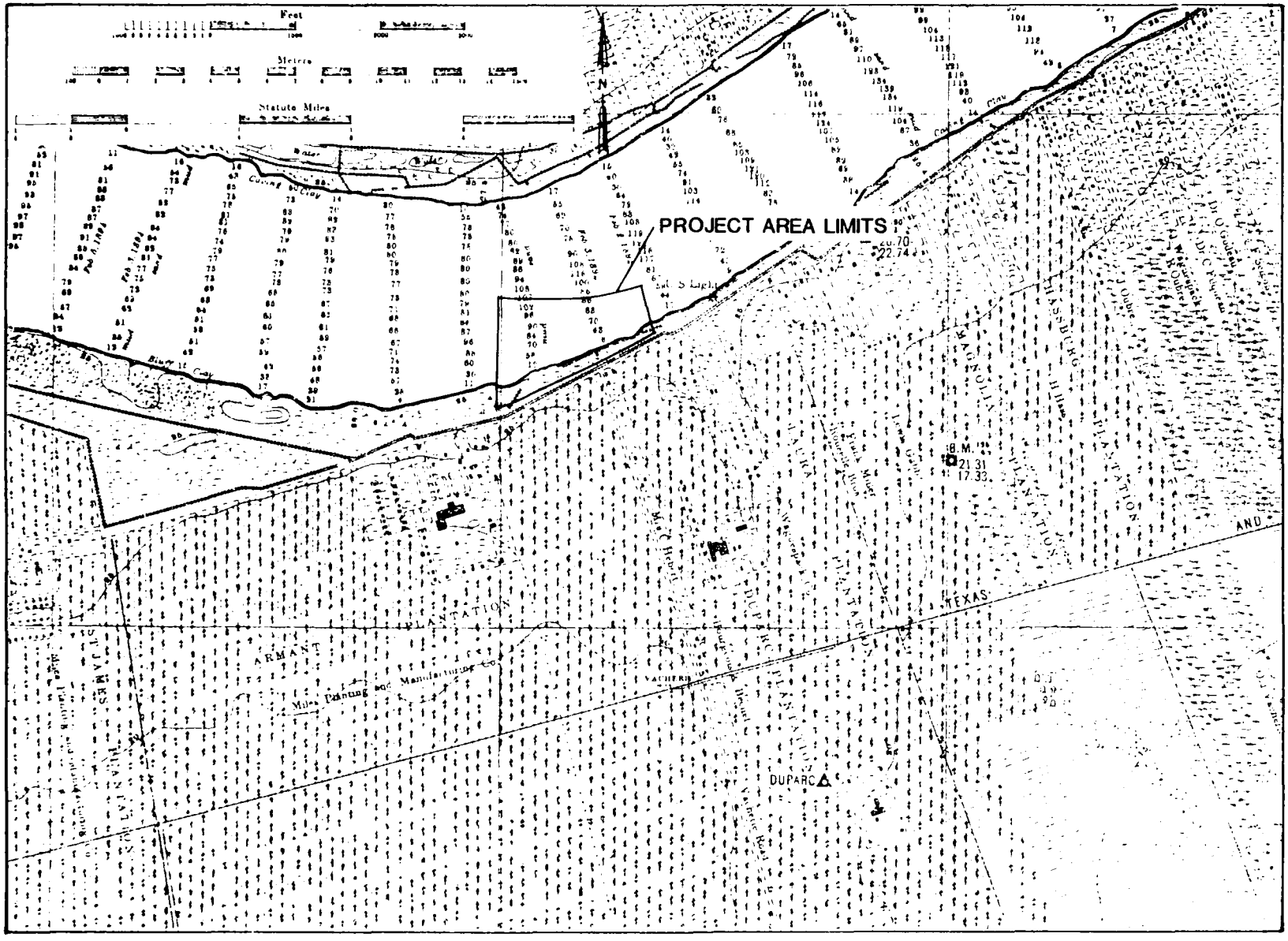

Figure 4. Excerpt from Chart 72, 1876 Mississippi River Commission map.

as "Duparc," to Joseph Becnel. In 1902, Becnel sold the land to Raymond Waguespack (Table 5; Oubre 1986:187-88, 190-91; St. James Court House Conveyance Book 41:314; St. James Court House Conveyance Book 50:27).

The southern portion of Mrs. R. Locoul's property was inherited by her son, Emile. He was listed as the owner/operator of the property in 1873. Emile's daughter Laura inherited the property from her father, and it became known as Laura Plantation. Laura Locoul sold it in 1891 to Florian Waguespack (Table 5, Figure 4; Oubre 1986:191).

Although rice was grown on neighboring plantations, the planters in the project area clearly concentrated their efforts on sugar production (Tables 4 and 5; L. Bouchereau 1868-1877; A. Bouchereau 1869-1917). What made the difference in the project area was the amount of capital available to the plantation owners. As Tables 4 and 5 illustrate, the owners demonstrated both their financial capability and the importance of sugar as the economic staple by constantly improving their sugar houses.

Continuous improvements were made to the Armant Plantation. In 1869, the plantation had a brick and shingle sugar house using Rillieux's vacuum pan process. By early 1872, the sugar house was using a steam tram, open pan system. Within one year, the open pan was replaced by a vacuum pan and centrifugals were added. A second sugar house, using a Rillieux apparatus, was placed in operation by early 1879. By 1891, a sugar house built of brick and slate, and having a shingle roof, contained the steam tram, vacuum pan, and centrifuge apparatuses. The equipment in the latter sugar house was modified by 1906, at which time it included double effects, vacuum pan and centrifugals (Table 4).

In 1869, the Locoul Plantation had a brick and shingle sugar house that contained steam and kettle apparatuses. When the property was divided in 1873 or 1874, that sugar house conveyed with the Mahy, or northern portion of the property (Figure 4). It remained in operation until the turn of the century, when it was replaced by a sugar house constructed of wood, slate, and iron, and equipped with a steam trams, vacuum pan, and centrifugals (Table 5).

After the Locoul Plantation was divided in 1873 or 1874, a new sugar house was constructed on the southern portion. In operation by 1876, it was built of wood and contained steam and kettle apparatuses. A brick and shingle structure was constructed to house the steam and kettle apparatuses by 1883. A wooden sugar house again was used on the plantation by 1891. Three years later, the steam and kettle apparatuses were replaced with steam trams and an open pan apparatus. The passing of another four years saw the open pan apparatus replaced with a vacuum pan. Centrifugals also were added. For some reason the steam kettles and open pan apparatus again were used for the 1900-1901 crop. By 1912, a new sugar house constructed of wood, slate, and iron, and equipped with double effects, vacuum pan, and centrifugals was used. Within two years, the slate roof had been replaced by one made of copper (Table 5).

Twentieth Century Development

During the first two decades of the twentieth century, sugar was cultivated on the higher ground close to the Mississippi River (Fortier 1914:415). This was no assurance, however, that flooding would not destroy the entire crop. Such was the case in the project area in 1912 (Tables 4 and 5). Elton J. Oubre described the event in his history of St. James Parish:

> The Mississippi River broke through a channel, 300 feet wide, in the levee at Killona at 6:30 p.m. on May 14, 1912. The break grew to 700 feet by the next morning and eventually became 1,600 feet wide before efforts to close the gap were successful. The Killona Crevasse was not finally closed until August 3, 1912, and it took several more weeks before flood waters drained off all plantations up to Bayou Lafourche. In the area below Thibodaux, even plantations like Melodia and Laurel Valley, which had their own protection levees, had flooded. The communities of Vacherie, Chackbay, Choupic, Choctaw, Kraemer, and Bowie, near Raceland, were all flooded, and water stood seven feet in some spots.

> At Vacherie, as elsewhere in the area of the triangle from Luling to Donaldsonville to Raceland, the Killona Crevasse was a great disaster. Houses were flooded and animals were drowned. Except for some acreage on the river above the levee break, the cane crops were completely destroyed, being under water from May to September, the growing season Besides having no income from the harvest of sugar and molasses that year, the farmers had no seed cane for planting the next year's crop. Many people moved from the area to seek work and a living elsewhere. Eventually the farmers at Vacherie were "saved" by Miles Planting Company, which advanced them seed cane from other areas. This happened again in 1924 after another flood (Oubre 1986:54).

The cane fields of the Miles Planting Company included the northern end of the project area (Table 4, Figure 5).

Rice was grown on the wet, back lands. Cultivated fields of sugar cane extended back from the river for a distance of three to six miles (Fortier 1914:415). Diversification occurred during the twentieth century, although sugar cane remained the primary crop for the parish. During the 1940s, truck farming increased in the parish, the leading crops being shallots, cabbage, peppers, Irish potatoes, and eggplants. Truck farmers sold their crops at the French Market in New Orleans. In the 1940s, two commercial dairies operated in the Parish. During the earlier part of the century, fur trapping became an important industry, and lumbering remained significant to the parish (Louisiana State University 1949).

By the 1950s, only 69,503 acres of land were cultivated in St. James Parish. Of these, 20,000 acres were planted in cane. Most cane fields were located on the west bank of the Mississippi. Rice continued to be the important crop in low lying areas. Truck farming continued to flourish. Small quantities of Perique tobacco continued to be cultivated. Livestock, particularly cattle, increased in importance from the 1940s onward. Fallow rice and cane fields frequently provided the necessary pasture. In the 1950s, most farms in St. James Parish were operated by their owners. Tenant farmers worked most of the remaining lands (St. James Parish Development Board 1954).

Agricultural processing remained a major industry in St. James Parish throughout the twentieth century. Through the 1950s, refinement of cane sugar was the largest single industry in the parish. The refining companies included the Colonial Sugar Company, established at Gramercy in 1896, The Armant Sugar Factory at Vacherie; the Helvetia Sugar Cooperative, Inc., established in 1934; and, the St. James Sugar Cooperative, Inc., established on the west bank in 1945. The S C Johnson and Son Company began to refine sugar cane wax in 1947. Sugar cane wax was used in "floor polishes, shoe polish, carbon paper, fruit and vegetable coatings and numerous other polish and protective coating type applications" (St. James Parish Planning and Development Board n.d.:83-84). Plants for rice milling and drying rice were located at Vacherie, Gramercy, and Union during the 1950s. In addition, a spanish moss gin, an ice factory, and a cement works were established in Lutcher.

Since the 1940s and 1950s, the petrochemical industry has assumed greater importance in the economy of St. James Parish. Both oil and natural gas are produced at present, and oil refining is a major industry. Still, agriculture remains significant to the local economy. Soybean cultivation has increased; crawfish farming is a new and growing industry. Rice no longer is cultivated, but cane, tobacco, corn, hay, oats, fruits, vegetables, and livestock remain important products.

Large scale sugar growing and manufacturing, along with various petrochemical and mineral industries, continued to be important to St. James Parish in the late 1960s (Louisiana Cooperative Extensive Service 1967). The project area continued to be cultivated in sugar cane. One brief exception to this overwhelmingly agricultural usage of the project vicinity was described by Elton J. Oubre (personal communication 1987), author of the comprehensive history of the area, *Vacherie, St. James Parish, Louisiana: History and Genealogy*, published in 1986. In about 1959, Maxime Rodrigue and his sons established a small boat-building operation in the project area. Known as "Rodrigue & Sons," the business was located between the Mississippi River and the modern levee. This commercial enterprise quickly proved unsuccessful, and all operations ceased within eight months. The Rodrigue family currently operates a machine shop in Vacherie (Elton J. Oubre, personal communication 1987). The boatways at the Rodrigue

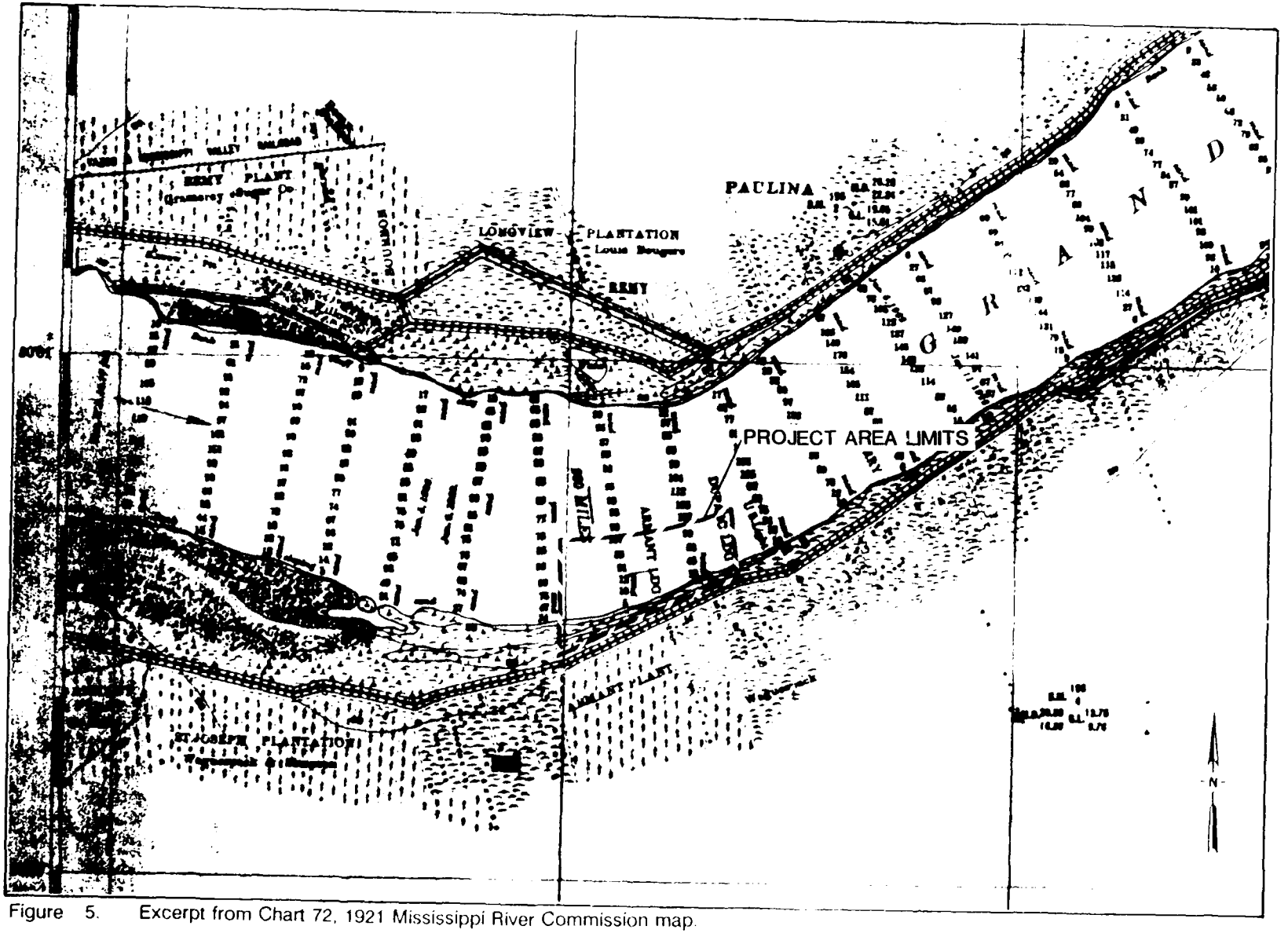

Figure 5. Excerpt from Chart 72, 1921 Mississippi River Commission map.

and Sons plant were added to the levee district's caving bank map in 1959 (Figure 6); that map also had been updated in 1958.

Interpretations

Based on the historic research and the examination of historical maps that formed a part of that research, a series of test implications was derived for the riverside portions of Sections 19 and 20, Township 12S, Range 17E, that comprise the project area. Those implications are listed in Table 6; the historic maps from which they were derived, i.e., the 1893 and 1921 Mississippi River Commission maps, Caving Bank maps, Levee District maps, and USGS Quads, also are shown in Table 6. As Table 6 indicates, the riverside portion of Section 20 comprised unimproved batture land until the construction of the Maxime Rodrigue boatyard and ways ca. 1959. Similarly, the batture in Section 19 appears to be unimproved into the twentieth century. However, the 1921 Mississippi River Commission map shows the Armant Plantation Landing in this locale despite its notable absence on earlier maps (Table 6). Similarly, the 1930 Levee District map showed the batture in Section 19 to be unimproved. Major improvements to the batture in this area also occurred ca. 1959, when the Rodrigue boatyard facility was built and operated (Table 6). Based on the implications of historic map and archival research, then, the entire survey area, with the exception of the Armant Landing locality in Section 19, would not be expected to contain significant historic archeological resources antedating the 1959 construction episode already discussed. In the vicinity of the Armant Landing, the potential exist for pier supports, refuse, and miscellaneous features associated with early twentieth century landing operations.

Figure 7 is a composite map of the project area made using the camera lucida from the 1876 (1893) and 1921 Mississippi River Commission maps; the 1952 Caving Bank map; a ca. 1930 Lafourche Basin Levee District map; and, a 1962 USGS 7.5' quadrangle. This map is designed to provide information on riverine processes affecting the survey area. In this manner, the implications of site-specific geomorphology can be derived, expectations can be generated, and archeological research results can be clarified. The composite map helps to explain an overwhelmingly negative research result insofar as archeological remains prior to the modern era are concerned. An examination of bankline locations over time illustrates the progressive and dramatic aggradation of alluvial deposits since at least the last quarter of the nineteenth century. On the upriver end of the project area, the batture land has increased in width by over 1000 ft in less than a century. On the downriver end of the project area, the batture land has increased in width by over 300 ft during the same period. Thus, any sites antedating the modern era would be buried below river silts along the toe of the modern levee. However, chances for preservation in this area are considered poor due to levee enlargement and attendant construction in 1918. As Figure 7 illustrates, the boatways, which were semi-submerged structures along which boats were pulled from the river using a gasoline powered winch, articulate within the 1949 bankline. As noted in Chapter VI, either deposition and lateral migration of the river have deeply buried these ways, or they were removed, probably for scrap.

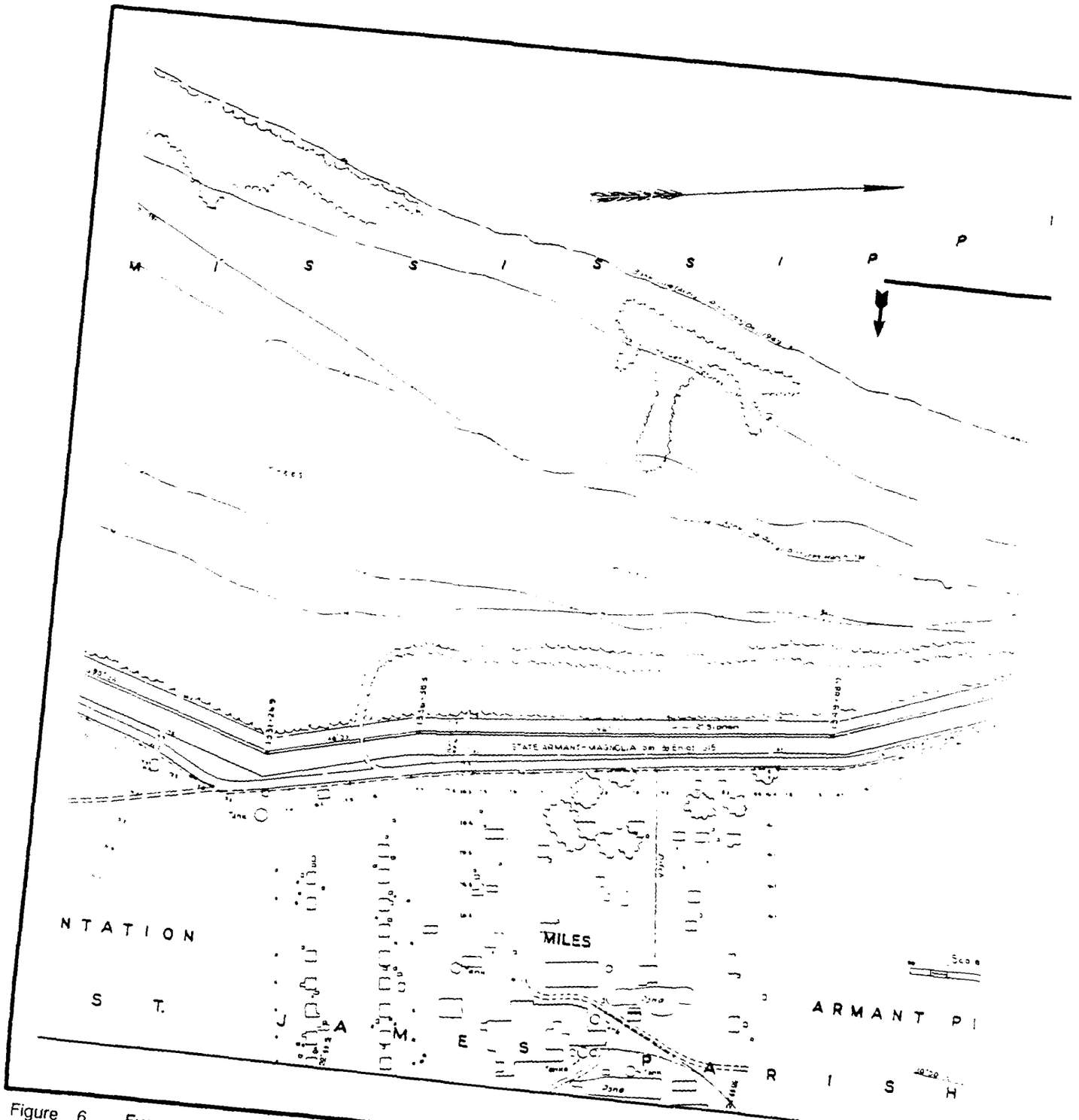

Figure 6. Excerpt from the updated 1952 Caving Bank Survey map showing caving banklines for the project area.

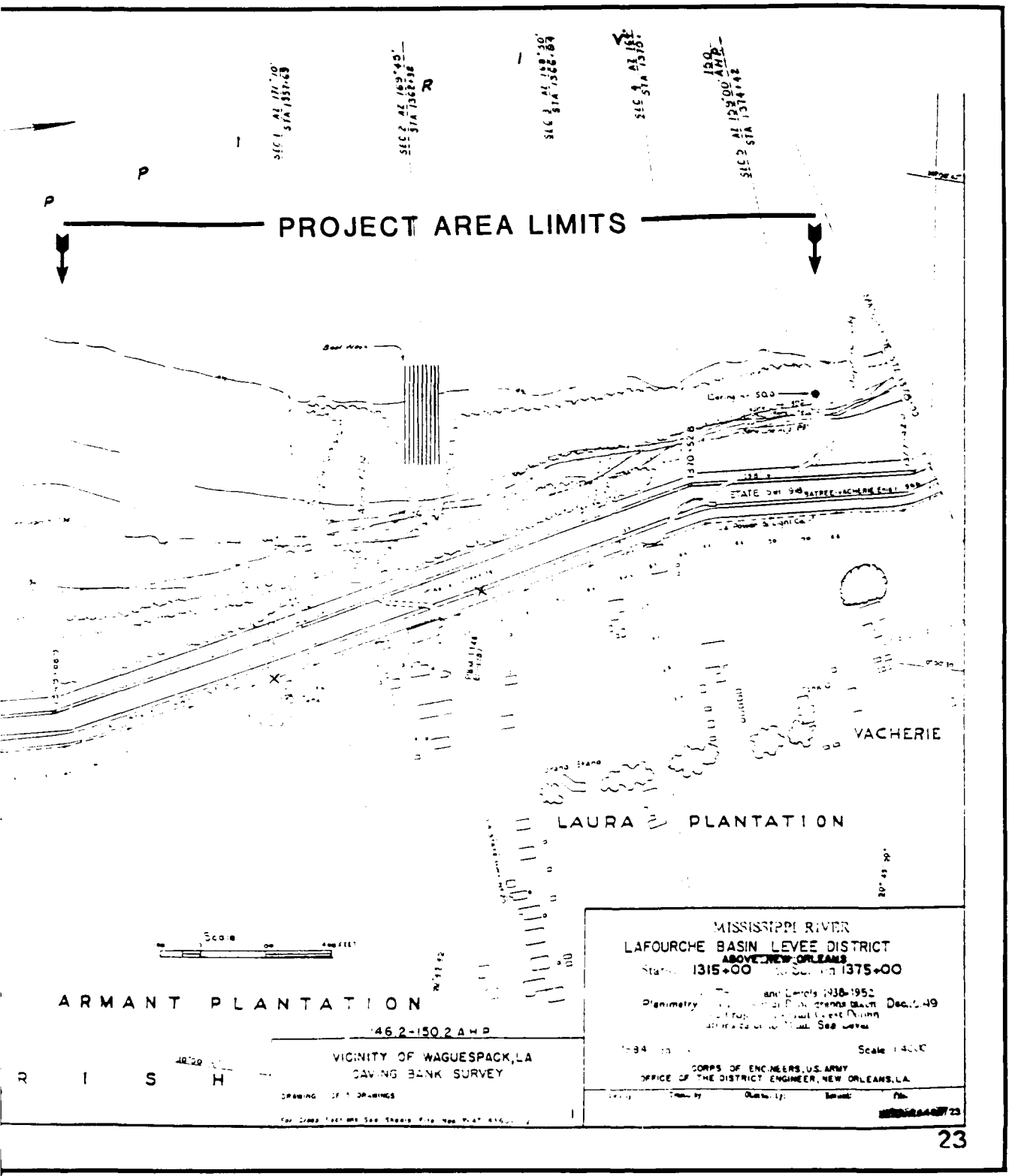
PROJECT AREA LIMITS
VACHERIE
LAURA PLANTATION
ARMANT PLANTATION
MISSISSIPPI RIVER
LAFOURCHE BASIN LEVEE DISTRICT
ABOVE NEW ORLEANS
1315+00
1375+00
VICINITY OF WAGUESPACK, LA
CAVING BANK SURVEY
CORPS OF ENGINEERS, U.S. ARMY
OFFICE OF THE DISTRICT ENGINEER, NEW ORLEANS, LA.
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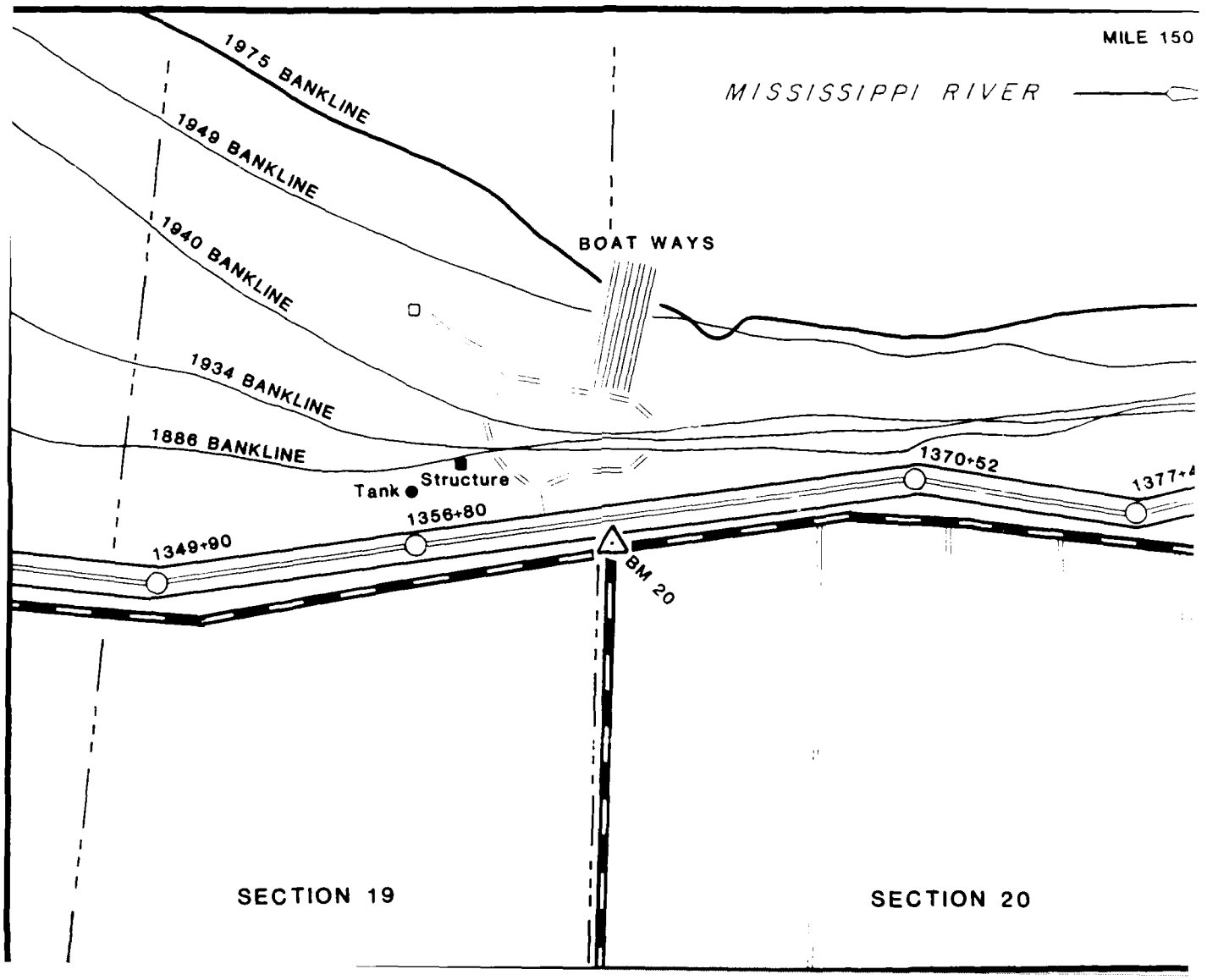
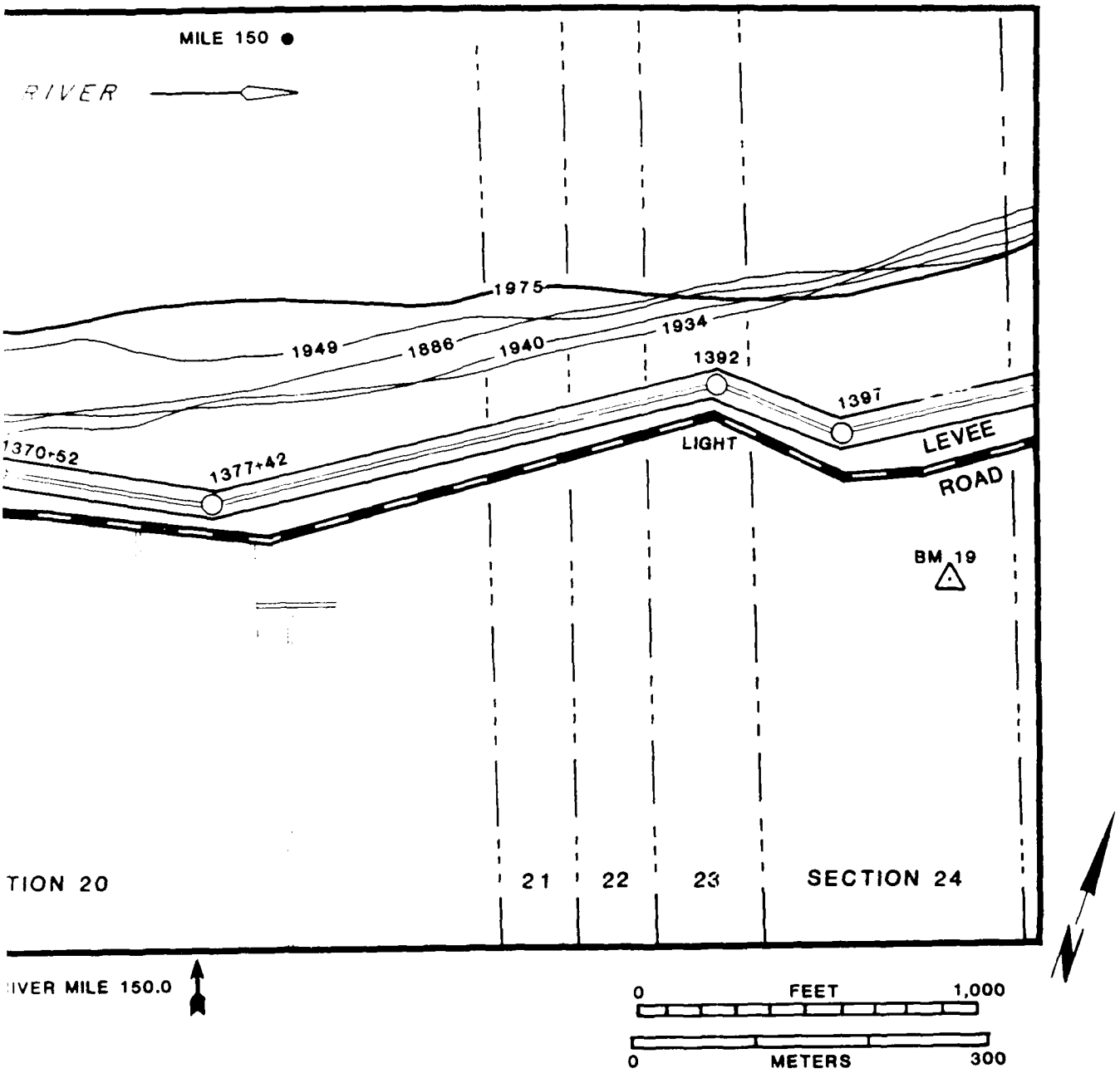
Table 6

ARCHEOLOGICAL IMPLICATIONS AND EXPECTATIONS WITHIN THE VACHERIE SURVEY PROJECT AREA BASED ON THE 1893 AND 1921 MISSISSIPPI RIVER COMMISSION MAPS; CAVING BANK MAPS; USGS TOPOGRAPHIC MAPS; AND, ON LEVEE DISTRICT MAPS

Location T12S, R17E	1893 MRC	1915 Levee District	1921 MRC	1930 Levee District	1952 Caving Bank	1962 USGS Quad
Irregular Section 19	Unimproved batture land with no structures adjacent to Armant Plantation No archeological expectations.	Unimproved batture land with no structures No archeological expectations	Armant Landing. Potential exists for pier supports, refuse, and miscellaneous features associated with landing operations	Unimproved batture land No structures No archeological expectations.	Improved batture land showing fuel tank, structure, boatways, and Armant Landing. Archeological expectations include retainer dikes surrounding fuel storage tank, evidence for storage tank, standing or ruined structural remains, cradles or cradleways, evidence for landing operations, and refuse associated with shipyard activities.	Improved batture land with abandoned structure. Expect structural features and associated artifacts.
Irregular Section 20	Unimproved batture land No archeological expectations	Unimproved batture land. No archeological expectations.	Unimproved batture land. No archeological expectations.	Unimproved batture land No archeological expectations	Improved batture land with boatways. Archeological expectations include cradles or cradleway and artifacts associated with boat operations	Unimproved batture land. No archeological expectations.


MILE 150
MISSISSIPPI RIVER
1975 BANKLINE
1949 BANKLINE
1940 BANKLINE
1934 BANKLINE
1886 BANKLINE
BOAT WAYS
Tank
Structure
1349+90
1356+80
1370+52
BM 20
SECTION 19
SECTION 20



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CHAPTER VI

FIELD INVESTIGATIONS

Methodology

Field investigations within the survey area were designed to identify and to characterize all cultural resources present; to determine the nature and vertical and horizontal extent of those resources; and, where appropriate, to assess the significance of any resources applying the National Register criteria (36 CFR 60.4). In addition, those resources were to be examined in light of construction plans within the project boundaries.

As required in the scope of services, an intensive pedestrian survey of the project area was augmented by subsurface testing. Transect lines were established at 20 m intervals between the riverside toe of the present levee and the Mississippi River bankline (Figure 8). Shovel testing at 50 m intervals along the six transects parallel to the river and to the present levee supplemented surface reconnaissance. Transects parallel to the river bisected open borrow areas within the project area. Although no standing water was present in any of the borrows at the time of the survey, low vegetation density and mud cracks across the surface indicated that the borrows are at least seasonally filled with water. Although the potential for archeological sites was assumed to be low throughout borrow areas, shovel testing procedures were followed strictly. Shovel tests were excavated to an average depth of 40 cm. Soils in each shovel test were examined for changes in texture and color, and for the presence of artifacts. In addition to the transect survey, all exposed banklines along the river bank were examined.

Following the initial survey effort, an intensive examination of identified resources was conducted in order to determine their vertical and horizontal limits, and the nature and character of the resource. This examination consisted of systematic shovel testing along compass bearings or rays. The center of the original find was designated as the center/origin of the test loci. From this center, rays spaced at 30-degree intervals were traversed. Additional rays were delimited as required by site size, configuration, and local terrain. Shovel tests were excavated at 10 m intervals along each ray until at least two consecutive sterile tests were encountered. Tests were excavated to a depth of approximately 40 cm. Sketch maps of sites showing the location of shovel test rays and topographic features were drawn, and photographs were taken.

Results

The pedestrian survey of the Mile 150.3 to 150.0 reach recovered one historical site, 16 SJ 52 (Figure 9). This site, located along Transect 4, consisted of a single-drum, chain-driven winch 10 m upriver from Shovel Test 6. The metal frame of the winch measured approximately 5.5 m in length, 1.75 m wide, and 2 m high. Cogs and pulleys were attached to the winch. The drum held a lengthy section of one-half inch wire cable. Next to the winch, on its downriver side, was a straight, six-cylinder gasoline engine block. Evidence of an engine platform or connecting drive shaft was lacking. A 250-gallon painted metal barrel also was associated with the winch.

Shovel testing at the site produced negative results, with one exception. Shovel Test 3 on Ray A produced several fragments of undiagnostic twentieth century bottle glass. Further inspection of the area uncovered a four-inch link metal chain and dog, used to arrest the motion of the winch drum, approximately 17 m from the winch along the 0° N line. The location of the winch and the associated artifacts in the field correspond to the ca. 1959-1960 location of the Maxime Rodrigue boatways formerly located in this area (Figures 1, 6, and 7). These ways, along with any cradles that may have been associated with them, were not identified in the field. These features, if they remain intact, either are underwater or they are buried below shovel depth under fluvial sediments. However, because no evidence of the formerly substantial ways was found, it is more likely that they were salvaged for their iron. The presence of the winch confirms the former presence of the shipyard.

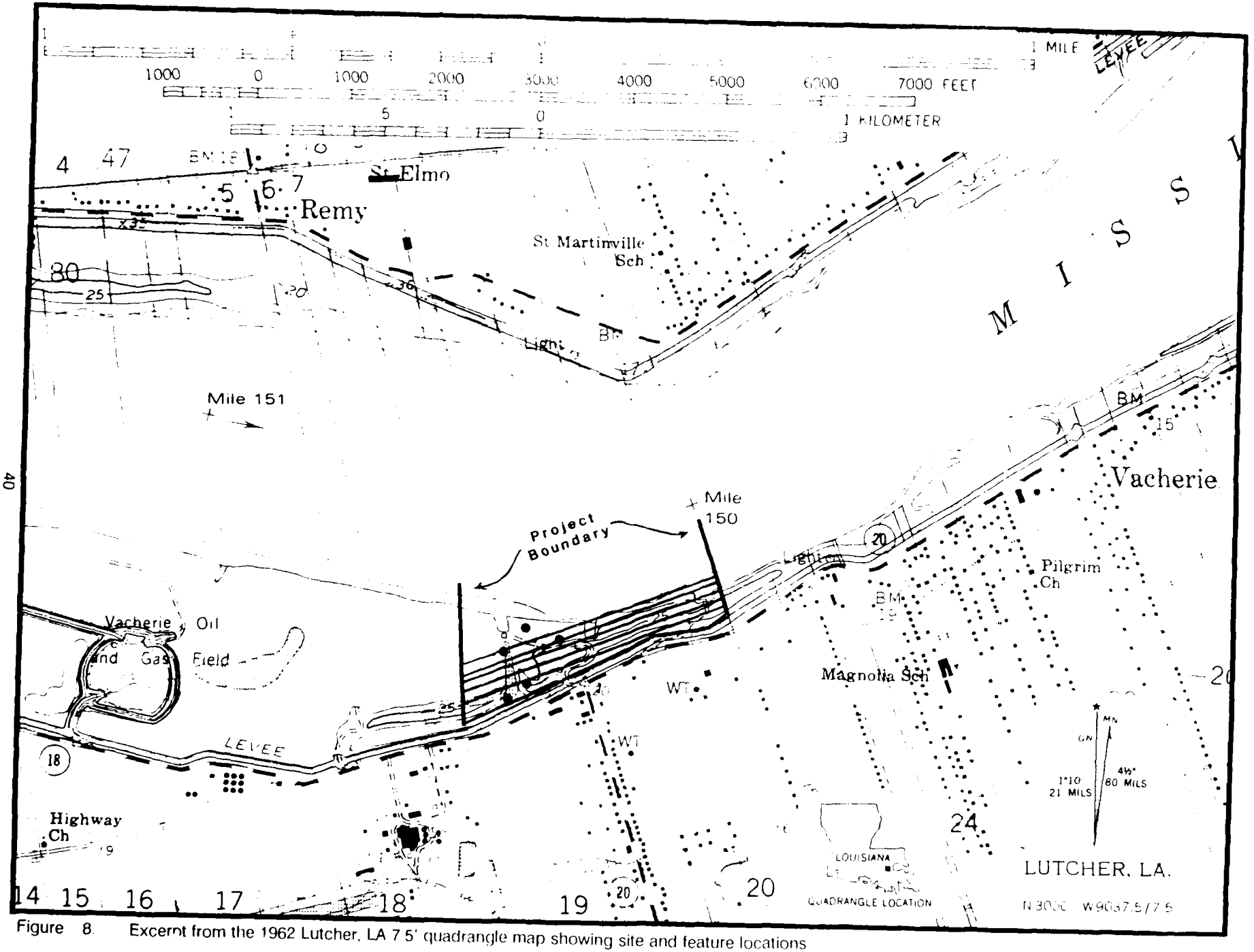

Figure 8. Excerpt from the 1962 Lutcher, LA 7.5' quadrangle map showing site and feature locations

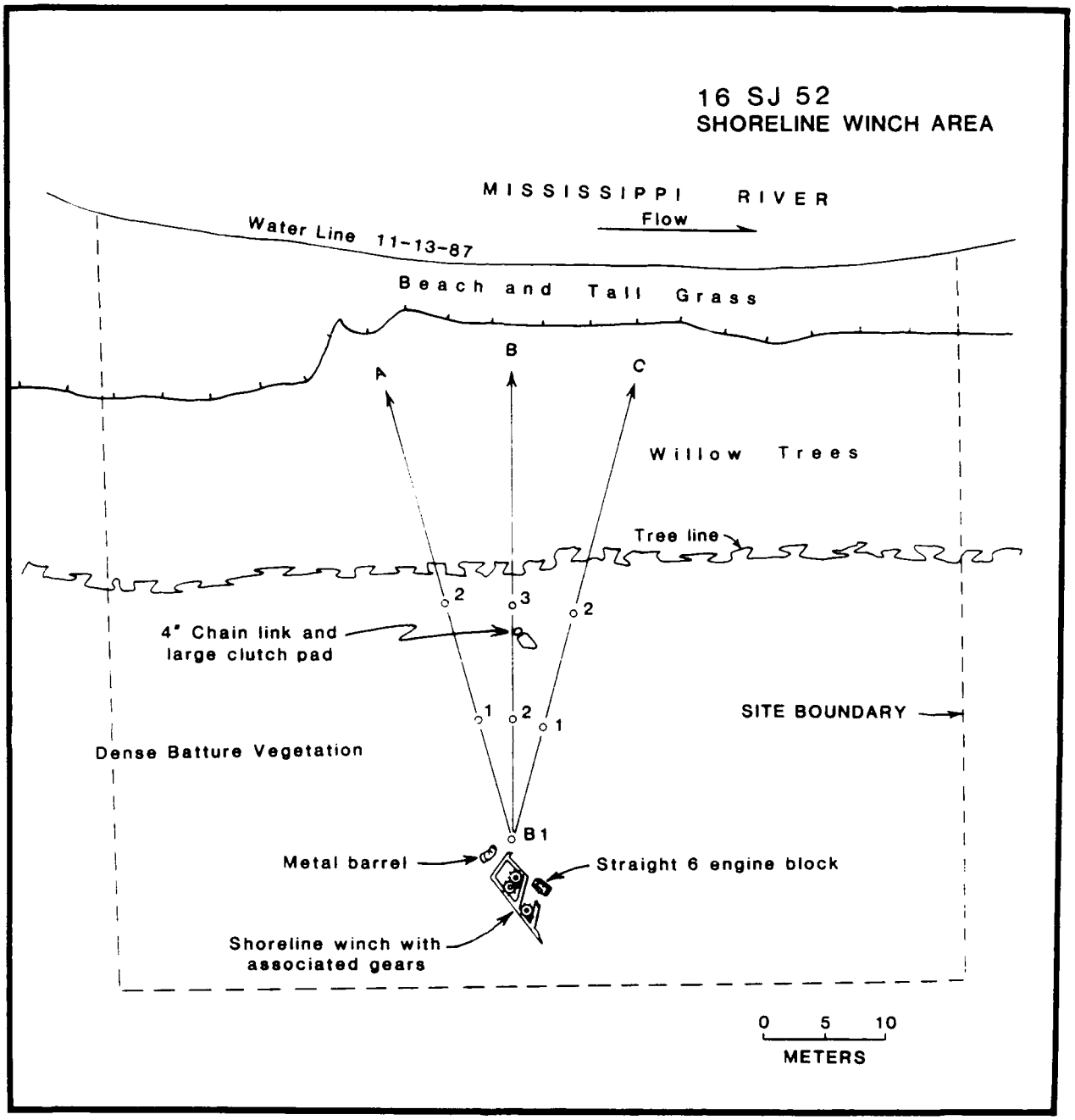

Figure 9. Site map of 16 SJ 52, exposed portion of the Maxime Rodrigue boatyard and ways (ca. 1960).

Four additional features were noted just upriver from the limit (Range U-114) of the present study area (Figure 4). These appear to be related to Site 16 SJ 52. Feature VS #1, a large cement tank, was located within a borrow area in the western portion of the project area, 35 m from the riverside toe of the present levee. It was visible on both aerial photo mosaics and on the Caving Bank Survey Maps (Figure 6). The tank is approximately 9 m high; it has a diameter of about 4 m. A concrete platform extends about 1.25 m near the top of the tank. The tank appears to have been form molded, since imprints from a wooden mold are present on the surface of the tank. Two 3 m long sections of concrete piled at the base of the tank indicate that the tank was once higher than at present. Metal re-bar reinforces the concrete and connects a number of wooden 2 in x 4 in boards to one end of each concrete segment. The concrete measures 0.17 m in thickness. Evidence for an attached iron ladder is apparent in the walls of the tank. Metal piping running through the tank wall is located on the south face of the tank near ground surface. The tank is situated in a large borrow area surrounded by a low earthen dike along the riverside toe of the present levee and bordered by a two-track road along the north and west.

Features VS #2 and VS #3 were identified as wooden piles and shoring planks in the west bank wall of a dredged channel which runs parallel to the entire length of the west boundary of the project area. Shovel test rays extending from VS #2 across and beyond the channel spoil bank did not produce any cultural remains. A metal nut and spring, along with some brick and coal, were present on the channel floor. A single brick embossed with "ST. LOU(IS) V & F. B(RICK) STAMP" was found at Feature VS #3.

Two watercraft, a tug and a barge, were designated as VS #4. The barge measured 36 m long by 7 m wide. Shacks are located in both fore and aft regions of the barge. The tug measures approximately 3 m wide by 12 m long. Artifacts associated with these vessels included a crane boom located near the riverside end of the barge; a metal tank 2 m wide by 17 m long; fiberglass hold doors; cradleways; sheet metal workings; and, concrete blocks. These watercraft and their associated remains possibly were sculled on land during operation of the boatways, or grounded and abandoned after a recent flood episode.

A final structural feature, visible on the 1962 Lutcher topographic quadrangle along a two-track roadway approximately 100 m west of Range U-114, could not be relocated in the field. The extension of the roadway leading to the structure and subsequent grading in this area resulted in the demolition or removal of the structure.

A fuel storage tank and a structure shown on Figure 7 appeared on the 1952 Caving Bank map of the batture. As indicated earlier, that map was updated and the boatways were added in 1959. Although that date is too late for the consideration of the boatways site (the Rodrigue boatyard) as a significant cultural resource applying the National Register Criteria, archeological analogy can help to explain the tank and structure. Based on archeological investigations at the Mound City Marine Ways, in Mound City, Illinois (Goodwin and Jones 1986), predictions about the patterning of a similar site can be generated. In addition to the existence of the ways, cradles that attached to the hulls of ships to haul them up the ways would have been necessary. At Mound City, a control or crane house controlled the winches so that the cradles could be pulled along the ways at a uniform speed, maintaining the correct horizontal position. The control house was located at the head of the ways. A machine shed at Mound City housed the machinery used to haul up the boats. A boiler house and air compressor shed generated the steam power for the winches. An administrative office also was present. Finally, two large steel fuel storage tanks surrounded by low earthen dikes were erected at Mound City between 1942 and 1960. Because of an absence of mechanical remains indicative of a machine shop in the vicinity of the structure shown on Figure 7, and since the modern age of the gas powered Rodrigue complex would preclude a boiler and compressor, the administrative office hypothesis is favored as an explanation for the structure under consideration.

CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

This report presents the results of archival investigation and cultural resources survey of the upstream extension of the Vacherie Revetment in St. James Parish, Louisiana. Archival and map research documented historic occupation and land use within the immediate project area. This research also identified various natural and anthropogenic processes that interacted to alter the physical configuration of the Mississippi River batture throughout the historic period.

Interpretations

Both historical and geomorphic information indicate that the segment of the Mississippi River located between M-150.3 and 150.0-R (Ranges U-114 to U-99) is a relatively low probability area for archeological or architectural resources. This expectation was confirmed through archeological survey and testing. Only one site, the Maxime Rodrigue boatways complex, was identified during the course of this project. The site, which dates from ca. 1959, does not possess the qualities of significance as defined by criteria outlined by the National Register. No further work within the M-150.3 to 150.0-R survey area is recommended.

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APPENDIX I

SCOPE OF WORK

SCOPE OF SERVICE

SURVEY AND DATA RECOVERY AT VACHERIE REVETMENT
ST. JAMES PARISH, LOUISIANA

CONTRACT NUMBER DACW29-86-D-0093

1. Introduction. This delivery order calls for two levels of archeological investigation within the Vacherie Revetment reach on the Mississippi River in St. James Parish, Louisiana (Figure 1, Mississippi River Aerial Mosiac File Nos. 34-35). Vacherie Revetment is a 3.7 mile long project of which approximately 2.5 miles have been constructed. Literature search, survey and testing of any discovered sites are required between Miles 150.3 to 150.0-R. Data recovery is required at 16SJ40, located between miles 149.5 to 148.6-R. These two investigations are incorporated under this delivery order but will be reported separately for management purposes. The delivery order period is 275 days.

2. Archeological Background. In 1984, R. Christopher Goodwin and Associates, Inc. surveyed the segment of Vacherie Revetment between miles 149.5 to 148.6-R under the auspices of Contract No. DACW29-84-D-0029. Site 16SJ40 was recorded as a 965m long, multi-component historic property, comprising remains from Magnolia and Crescent Plantations and multiple small nineteenth century habitations and businesses. The site was defined based upon profiles, features exposed in the bankline face, and artifact scatters on two terraces. Sealed deposits were identified dating from the late eighteenth century to 1917. Fourteen features were identified, one of which eroded from the bankline prior to completion of the survey. The initial survey recommended that the site be considered eligible to the National Register of Historic Places for the following reasons:

A. sealed cultural deposits ranging the breadth of the nineteenth century
B. the presence of eight rice flumes (a type of feature not previously identified on the Mississippi River batture) evidencing several periods of manufacture;
C. the opportunity to compare the assemblages of large landholdings with those of single family units from the same time period.

A brief inspection of the 16SJ40 on July 9, 1987 found some change in site conditions, but most features are still intact. Eight features were readily identified, not all of which appear to correspond directly with previously identified features. Very little artifactual material was observed eroding from the bankline with the exception of the Range U-51 vicinity. Two former levee roads are still visible in multiple locations.

3. Description of the Study Area. The study area will be confined to the Mississippi River batture between Ranges U-114 to U-99 (M-150.3 to 150.0-R survey reach) and Ranges U-68 to U-10 (data recovery reach). Excavation within

16SJ40 shall be sufficiently scaled to complete sampling from the entire extent of the site on the batture. Survey of the M-150.3 to 150.0-R reach shall cover the width of the batture.

4. General Nature of Work to Be Performed.

A. Phase 1 (Data Recovery from 16SJ40). Based upon prior knowledge of 16SJ40, the Contractor will prepare a detailed research design for data recovery as part of his proposal for this delivery order. The work to be performed by the Contractor requires site mapping, excavation of a sample of the site and archival research. All data will be analyzed, described and integrated into a scientific report of findings. All work will be performed within the context of an approved, detailed research design which emphasizes recovery and analyses of data relevant to specific research problems and the elements for which 16SJ40 was found eligible to the National Register of Historic Places.

Within 3 days of delivery order award, the Contractor will implement the field phase of the research design prepared as part of the proposal. All field work at 16SJ40 must be finished no later than October 2, 1987.

B. Phase 2: (Survey of Miles 150.3 to 150.0-R). The Contractor shall commence study of the M-150.3 to150.0-R segment by conducting a literature, map, and records review relevant to the project area. This review shall include but not be limited to study of historic maps, the State Archeologist'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. Specific data will be collected on the proposed construction item and on all sites located. The goals of the literature and records review are to 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 project area. 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 Contractor will conduct an intensive survey of the M-150.3 to 150.0-R reach. 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 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 innumerate 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.

Maximum 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 and aerial mosaic project maps. The quadrangle maps will be used to illustrate site forms (see below). The project maps 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 and report illustrations of sites and the survey area will accurately reference grid locations in terms of levee stations or range markers in close proximity to the illustrated work area. The actual elevation (NGVD) of all buried deposits will be determined and mapped.

The Contractor will fill out and file state site forms with the Office of the Louisiana 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 will be recorded (using a simplified, standardized format selected by the Division of Archaeology and Historic Preservation), 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 Louisiana 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.

C. Phase 3: Data Analysis and Report Preparation. The Contractor shall prepare separate reports of investigation for the Phase 1 data recovery invesetigation at 16SJ40 and the Phase 2 survey and testing of the M-150.3 to 150.0-R reach. The same standards shall apply to both reports. All literature, map search, field and laboratory data collected from each reach will be integrated to produce separate, graphically illustrated, scientifically acceptable draft reports discussing the two work areas.

All survey, testing and/or excavation 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 Office of the Louisiana State Archeologist. The catalog system will include site and provenience designations.

Project impacts on all cultural resources located and/or tested in the M-150.3 to150.0-R reach 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 elibible to the National Register and assessed to be impacted by construction, the Contractor shall recommend mitigation alternatives. Inferential statements and conclusions will be supported by field, map or arcnival data. It will not be sufficient to make significance recommendations based solely upon the condition and 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.

5. 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, or problems encountered during the preceding month. 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 the draft report of survey and testing in the M-150.3 to 150.0-R reach integrating all phases of investigation will be submitted to the COR for review and comment 147 days after the date of the order. Five copes of the draft report of data recovery investigation at 16SJ40 integrating all phases of investigation will be submitted to the COR for review and comment 168 days after the date of the

order. The organization of the 16SJ40 report shall be determined through negotiation of the Contractor's research design.

The draft and final reports for the M-150.3 to 150.0-R study 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 appropriate mitigation procedures for each significant cultural resource.

The body of the M-150.3 to 150.0-R study report shall include the following: 1) introduction to the study and study area; 2) environmental setting; 3) review and evaluation of previous archeological investigations; 4) distribution of 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. In order to preclude vandalism, the draft and final reports shall not contain specific locations of archeological sites.

An estimate of the acreage surveyed for this project will be given in the M-150.3 to 150.0-R report introduction.

All written reports of both investigations 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 COR will provide all review comments to the Contractor on the M-150.3 to 150.0-R reach report within 45 days after receipt of the draft reports (192 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 preliminary final report within 222 days after delivery order award. Final comments will be returned to the Contractor within 236 days after delivery order award. The Contractor shall submit one reproducible master copy and 40 bound copies of the M-150.3 to 150.0-R reach report of investigation, and all separate appendices, to the COR within 266 days after work item award.

The COR will provide all review comments to the Contractor on the site 16SJ40 report of data recovery within 45 days after receipt of the draft reports (213 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 preliminary final report within 243 days after delivery order award. Final comments will be returned to the Contractor within 258 days after delivery order award. The Contractor shall submit one reproducible master copy and 40 bound copies of the site 16SJ40 report of investigation, and all separate appendices, to the COR within 289 days after work item award.

6. 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 Louisiana SHPO 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 with the Louisiana Division of Archaeology and Historic Preservation or in a repository selected by the State Archeologist. 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 Louisiana SHPO's office, or any other repository designated by the Government following acceptance of the final report. All artifacts to be permanenetly 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.

APPENDIX II

CLAIMS MADE TO THE UNITED STATES GOVERNMENT FOR LANDS WITHIN THE PROJECT AREA

CLAIMS MADE TO THE UNITED STATES GOVERNMENT FOR LANDS WITHIN THE PROJECT AREA

(Volume and Page Numbers Refer to the *American State Papers: Public Lands* [Lowrie and Franklin; Dickens et al. 1861])

Section 19: **Township 12S, Range 17E**

No. 22 Jean Marie Armant claims a tract of land, situate on the west side of the river Mississippi, in the county of Acadia, containing seven arpents and twelve toises front and forty arpents in depth, and bounded above by land of Mr. Godin, and below by land of Francisco Dominique Leboeuf.

There is a regular grant for six arpents and twelve toises front of this land in the year 1773, from Governor Unzaga, in favor of Saturnin Bruno, who purchased the remaining arpents in 1781, which has been inhabited and cultivated for more than ten years prior to the 20th of December, 1803. The present claimant holds under the title of said Bruno Confirmed (Vol. 2:260).

Section 20: **Township 12S, Range 17E**

No 424 Widow Dupare claims a tract of land, situate in the county of Acadia, on the right bank of the Mississippi, containing eight arpents sixteen toises and two feet front on the Mississippi, with a depth of eight arpents, and bounded on one side by lands of Saturnin Bruno, and on the other by lands of Peter Berteau. The evidence is this claim is the same, in substance, with that at No. 416 (Vol. 3:258).

No 416 It is proved that this land was inhabited and cultivated for more than ten consecutive years prior to the 20th December, 1803 (Vol.3:258).

All the claims reported in the foregoing species we are of opinion ought to be confirmed (Vol.3:262)

CLAIMS MADE TO THE UNITED STATES GOVERNMENT FOR LANDS WITHIN THE PROJECT AREA

(Volume and Page Numbers Refer to the *American State Papers: Public Lands* [Lowrie and Franklin 1834; Dickens et al. 1861])

VACHERIE REACH: ST. JAMES PARISH

Section 25: **Township 12S, Range 17E**

Antoine Frederic in conflict with Jacques Roman.

No. 105 Antoine Frederic [See Section 83, below]

No. 252 Jacques Roman claims a track of land, situate on the west side of the river Mississippi, in the county of Acadia, containing four arpents and fourteen toises in front, and forty arpents in depth, and bounded on the upper side by land of George Mouton, and on the lower by land of Mathias Frederic.

This land was surveyed in year 1771, in favor of Jaun Saunier, who obtained a complete grant of the same in the year 1773, from Governor Unzaga; the present claimant holds under said grant by virtue of successive sales. (Confirmed Vol. 2:280).

Section 83: **Township 12S, Range 17E**

No. 105 Antoine Frederic claims a tract of land, situate on the west side of the river Mississippi, *in the county of Acadia, containing four arpents eighteen feet and four inches in front,* and eighty arpents in depth, and bounded on the upper side by land of Louis Mouton, and on the lower by land of Charlotte Frederic.

This is part of a tract of land of fourteen arpents ten toises and four feet in front, said to have been granted to Mathias Frederic, Sen. under whose title the claimant holds, as one of the heirs of his father. The first depth of forty arpents having been inhabited and cultivated for more than ten consecutive years, prior to the 20th December, 1803, the Board confirm; but reject the balance of forty arpents, the second depth. But see No. 308, page 285, respecting second depth (Vol. 2:268). [See Section 71, below]

Section 75: **Township 12S, Range 17E**

No. 106 Noel Gisdar claims a tract of land, situate on the west side of the river Mississippi, in the county of Acadia, containing two arpents nine feet and two inches in front, and eighty arpents in depth, and bounded on the upper side by land of Antoine Frederic, and on the lower by land of Francis Frederic.

This is part of a tract of land mentioned in the last No. 105; the claimant holds by right of his wife, one of the heirs of Mathias Frederic, deceased. The first depth of forty arpents having been inhabited and cultivated for more than ten years, prior to the 20th December, 1803, the Board confirm; but reject the balance. See No. 308, page 285, with respect to the second depth here claimed (Vol. 2:268) [See Section 71, below]

Section 76: **Township 12S, Range 17E**

No. 107 Francois Frederic claims a tract of land, situate on the west side of the river Mississippi, in the county of Acadia, containing four arpents eighteen feet and four inches in front, and eighty arpents in depth, and bounded on the upper side by land of charlotte Frederic, and on the lower by land of the heirs of Mathias Frederic, deceased.

This is part of a tract of land mentioned in No. 105, the claimant holds as one of the heirs to his deceased father. The first depth of forty arpents having been inhabited and cultivated for more than ten consecutive prior to the 20th December, 1803, the Board confirm; but reject the second depth of forty arpents (Vol. 2:268). [See Section 71. below]

Section 71: **Township 12S, Range 17E**

No. 308 Pierre Frederic, for himself, and for the infant heirs of Mathias Frederic, deceased, and also for Francois Frederic, Antoine Frederic, and Noel Guisclar, as husband of Charlotte Frederic, claims a tract of land situate on the west side of the river Mississippi, in the county of Acadia,containing fourteen arpents, and to the remaining six arpents and thirteen toises front the depth of eighty arpents, and which said tract is bounded on the upper side by land of Louis Mouton, and on the lower by land of Estevan Tupo.

In the year 1755, a tract of land of twenty arpents front, on the usual depth of forty, was granted by Louis de Kerberrec, at that time Governor, to Andre' Neau, which was afterwards transferred to one Delery, who, being unable to support the road and levee, twelve arpents of it were re-annexed by his consent, in writing, to the domain. The remaining eight arpents front, with the depth of forty, (part of the present claim,) passed, by virtue of successive sales, under the aforesaid grant, to Mathias Frederic; six arpents and thirteen toises in front, with the depth of forty, the balance of the tract here claimed, was granted to Juan Mouton by Don Louis de Unzaga, in the year 1773; and, in 1783, Mathias Frederic, who had become proprietor of said land, obtained a regular order of survey from Governor Miro, directing him to be put in possession of the second depth of the aforesaid six arpents and thirteen toises front. The tract now claimed is held under these several grants by the claimants, as heirs of Mathias Frederic, deceased. Confirmed.

N B This tract of land was divided among the aforesaid claimants, whose several respective claims have been regi and acted upon by the Board; but, in consequence of the title to the seco epth of the six arpents and thirteen toises mentioned above not having been recorded by Antoine Frederic, in claim No. 105, and by Noel Guisclar, in claim No. 106, whose shares included the said six arpents and thirteen toises, the second depth was rejected. The titles being here recorded, the second depth to said land is now d\confirmed (Vol. 2:285).

Section 82: **Township 12S, Range 17E**

Nos. 88 (below) and 308 (above) Pierre Frederic in conflict with himself.

Section 26: **Township 12S, Range 17E**

No. 88 Pierre Frederic, for the heirs of Mathias Frederic, claims a tract of land, situate on the west side of the river Mississippi, in the county of Acadia, containing three arpents thirteen feet and nine inches in front, and forty arpents in depth, and bounded on the upper side by land of Pierre Frederic, and on the lower by land of Francis Frederic.

This is a part of the land for which there was an order of survey in the year 1756, mentioned in No. 87; and it having been inhabited and cultivated ever since that period, until on and after the 20th December, 1803. Confirmed (Vol. 2:266).

Section 77: **Township 12S, Range 17E**

No. 117 George Autin claims a tract of land, situate on the west side of the river Mississippi, in the county of Acadia, containing two arpents in front, and forty in depth, and bounded on the upper side by land of George Lequel, and on the lower by land of Etienne Toupe.

It appears that this land was inhabited and cultivated on the 20th December, 1803, and that the same was continually inhabited and cultivated by those under whom the claimant holds for more than ten consecutive years next preceding. Confirmed (Vol. 2:269).

Section 27: **Township 12S, Range 17E**

No. 196 Etienne Toupe claims a tract of land, situate on the west side of the river Mississippi, in the county of Acadia, containing two arpents in front, and forty in depth, and bounded on the upper side by land of George Antin, and on the lower by land of Madame Trosler.

It appears that the claimant did actually inhabit and cultivate the land now claimed on the 20th December, than ten consecutive years next preceding. Confirmed (Vol. 2:276).

Section 28: **Township 12S, Range 17E**

No. 87 *Pierre Frederic* claims a tract of land, situate on the west side of the river Mississippi, in the county of Acadia, containing three arpents four feet and seven inches in front, and forty arpents in depth and bounded on the upper side by land of the heirs of Mathias Frederic, deceased, and on the lower by land of Christophe Troxler.

This is part of a tract of land of nine arpents and twenty-four toises in front, on the usual depth, for which there appears to have been an order of survey in the year 1756, from the French Government; the land having been inhabited and cultivated ever since the period, until on and after the 20th December, 1803. Confirmed (Vol. 2:266).

Section 29: **Township 12S, Range 17E**

No. 173 Christophe Trosler claims a tract of land, situate on the west side of the river Mississippi, in the county of Acadia, containing two arpents in front, and forty in depth, and bounded on the upper side by land of Pierre Mathias, and on the lower by land of Gabriel Rodrigues.

It appears that the land now claimed was inhabited and cultivated on the 20th of December, 1803, and that the same was continually inhabited and cultivated by those under whom the claimant holds for more than ten consecutive years next preceding. Confirmed (Vol. 2:274).

Section 30: **Township 12S, Range 17E**

No. 197 Gabriel Rodrigues claims a tract of land, situate on the west side of the river Mississippi, in the county of Acadia, containing two arpents in front, and forty in depth, and bounded on the upper side by land of Jean Rom, and on the lower by land of Christophe Trosler.

It appears that the claimant did actually inhabit and cultivate the land now claimed on the 20th December, 1803, and that the same was continually inhabited and cultivated by him, or those under whom he claims, for more than ten consecutive years next preceding. Confirmed (Vol. 2:276).

Section 31: **Township 12S, Range 17E**

No. 18 Jean Rom claims a tract of land, situate on the west side of the river Mississippi, in the county of Acadia, containing three arpents and twenty-four toises in front, and forty arpents in depth, and bounded on the upper side by land of Gabriel Rodrigue, and on the lower by land of Baptiste Luquel.

It appears that the claimant did actually inhabit and cultivate the land now claimed on the 20th December, 1803, and that the same was continually inhabited and cultivated

for more than ten consecutive years next preceding. Confirmed (Vol. 2:260).

Section 32: **Township 12S, Range 17E**

No. 29 Baptiste Luguet claims a tract of land, situate on the west side of the river Mississippi, in the county of Acadia, containing two and a half arpents in front, and forty arpents in depth, and bounded on the upper side by land of Jean Rhom, and on the lower by land of Evariste Hautin.

It appears that the land now claimed was inhabited and cultivated on the 20th December, 1803; and that the same was continually inhabited and cultivated by the claimant, or those under whom he claims, for more than ten consecutive years next preceding. Confirmed (Vol. 2:262).

Section 33: **Township 12S, Range 17E**

No. 241 Louis Falgout claims a tract of land, situate on the west side of the river Mississippi, in the county of Acadia, containing two arpents and twenty-six toises in front, and forty arpents in depth, and bounded on the upper side by land of Jean Baptiste Chenier, and on the lower by land of Pierre Olivier.

It appears that the land now claimed was inhabited and cultivated on the 20th December, 1803, and that the same was continually inhabited and cultivated by those under whom the claimant holds, for more than ten consecutive years next preceding. Confirmed (Vol. 2:279).

Section 34: **Township 12S, Range 17E**

No. 347 Pierre Olivier claims a tract of land, situate on the west side of the river Mississippi, in the county of Acadia, containing five arpents in front, and forty in depth, and bounded on the upper side by land of William Billon, and on the lower by land of Louis Talgout.

It appears that the land now claimed was inhabited and cultivated on the 20th December, 1803, and that the same was continually inhabited and cultivated by the claimant, or those under whom he claims, for more than ten consecutive years next preceding. Confirmed (Vol. 2:289).

APPENDIX III

SITE FORM

SITE RECORD FORM

LOCATIONAL DATA

SITE NAME: Vacherie Survey 87-5 **STATE SURVEY NO:** 16 SJ 52
Maxime Rodrigue Boatyard

OTHER SITE DESIGNATION: None

SITE LOCATION AND APPROACH: At the Junction of LA 18 and LA 20, in the town of Vacherie, take the dirt road over the levee, and travel approximately 487 ft. until the road turns sharply to the West. Travel 75 meters along a azimuth 72° (East) to site.

PARISH: St. James

USGS QUADS. 15 MIN: Mt. Airy 15' **7.5 MIN:** Lutcher Quadrangle 1962 Photorevised 1980

GEOGRAPHIC COORDINATES: Lat. 90°43'58"N Lon. 30°00'35"W

UTM COORDINATES: Zone 15 E 7188767 N 332152

_____ OF THE _____ OF THE _____ Just North of, and adjacent to **SECTIONS** 19 and 20, **TOWNSHIP** 12S, **RANGE** 17E

PHYSICAL SETTING

LANDFORM: Batture

GEOMORPHIC PROCESSES: Levee deposits, erosion

ELEVATION & RELIEF: 20' Above MSL 0-3% slopes

NEAREST WATER: Mississippi River

POSITION WITH RESPECT TO TERRAIN: Located on level, well-drained loose silty soils

SOIL CHARACTERISTICS: Convent soil associations, loose, dusty silt loam

FLORAL COMMUNITIES: Black Willow, Cottonwoods, Blackberry, Switch Cane, grasses

FAUNAL COMMUNITIES: Beaver, rabbit, nutria, lizards, fish, mussels, insects

NEAREST KNOWN SITE: Vacherie 16 SJ 40, .5 miles downriver

SITE DESCRIPTION

SITE SIZE: 4 x 17 m

CONFIGURATION: Elliptical

DENSITY OF CULTURAL MATERIALS: Sparse

DEPTH OF DEPOSIT/STRATIGRAPHY: No subsurface deposits

FEATURES: Boat winch, gear chains and gearing

DATING/CULTURAL AFFILIATION: Mid-1900s (ca. 1959)

PRESENT CONDITION/PRESERVATION: *Poor, deteriorating*

PRESENT USE: Undeveloped

PRESENT AND FUTURE IMPACTS: Large borrow areas have destroyed the integrity throughout site. Some filling in along the river and subsequent terraforming has occurred along the 150.3 river mile mark.

COLLECTIONS

SURVEY/EXCAVATION METHOD: Pedestrian survey, shovel testing

DESCRIPTION OF MATERIAL: Modern screw top (machine made), clear bottle glass

SITE EVALUATION

RESEARCH POTENTIAL: Lacks potential

STATE OR NATIONAL ELIGIBILITY: Not Significant

RECOMMENDATIONS: No further work

RECORDS

OWNER/TENANT AND ADDRESS: Unknown

INFORMANTS: Elton J. Oubre, Thibodaux, LA

PREVIOUS INVESTIGATIONS:

COLLECTIONS & AVAILABILITY: No collection made

PHOTOGRAPHS & MAPS ON FILE: R. Christopher Goodwin & Associates, Inc., 5824 Plauche Street, New Orleans, LA 70123

REFERENCES:

Wojtala, James M., Lawrence L. Hewitt, George W. Shannon, Jr., and R. Christopher Goodwin
1987 *Survey and Data Recovery at Vacherie Revetment Phase 2: Survey of Miles 150.3 to 150.0-R.* Report submitted to the United States Army Corps of Engineers, New Orleans District, New Orleans, Louisiana.

RECORDED BY: R. Christopher Goodwin & Associates, Inc.
James M. Wojtala, Crew Chief

DATE: November 1, 1987

ADDITIONAL REMARKS

The metal frame of the winch measures approximately 5.5 meters in length, 1.75 meters wide, and 2 meters high. Various cogs and pulleys are attached to the winch. The drum holds a lengthy section of 1 1/2" wire cable. An engine block is associated with the winch as well as 4" metal chain segments and dog for arresting the motion of the winch drum.

This shoreline winch may have been used to pull boats up a set of boatways which were located directly to the north of the winch. These boatways which were owned by Mr. Maxime Rodrigue were built in the late 1950s. Presently, there is no evidence of the boatways on the surface of the batture or in the river.