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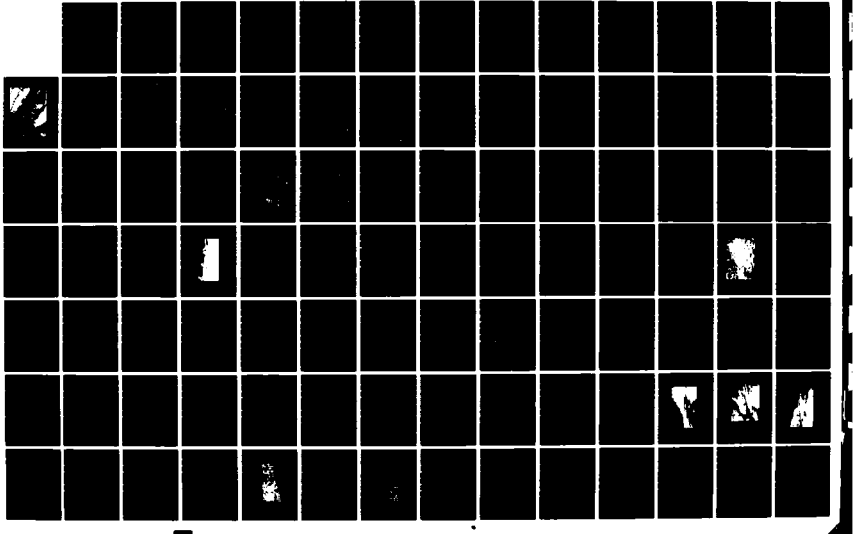

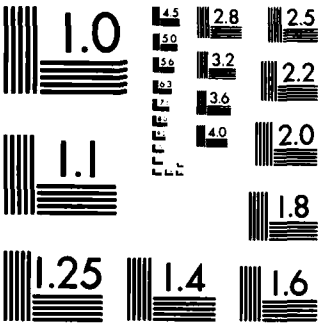

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CULTURAL RESOURCES SURVEY OF FIVE MISSISSIPPI RIVER REVETMENT ITEMS

FINAL REPORT

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R. Christopher Goodwin & Associates, Inc. conducted Cultural Resources Surveys of five Mississippi River revetment construction rights-of-way during late July and August, 1984. All five of these revetments are located within the State of Louisiana, on the grounds of historically documented plantations of the nineteenth and twentieth centuries. These plantations were engaged in the cultivation of rice and/or sugar cane. Activity areas and artifacts associated with historic plantations were encountered at several of the revetment areas. No prehistoric remains were recovered during the survey. The revetment survey

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areas consists of batture between the Mississippi and existing riverside levees.

The revetments surveyed, in ascending order on the Mississippi River are: 1) Port Sulphur, in Plaquemines Parish; 2) Vacherie, in St. James Parish; 3) Romeville, in St. James Parish; 4) Marchand, in Ascension Parish; 5) New River Bend, in Iberville Parish.

PORT SULPHUR (Homeplace Plantation) contains two sites with late nineteenth and twentieth century material. Site 16 PL 131 consists of redeposited material lacking contextual integrity, although in the vicinity of an historic hospital. Site 16 PL 132 is the former site of a late nineteenth and twentieth century church cemetery, which was removed in 1951. These two sites were determined to be non-significant.

VACHERIE contains a multi-component historic site, 16 SJ 40, with late eighteenth to early twentieth century material. In situ archeological features include privies and wood irrigation flumes associated with the cultivation of rice in this vicinity after the Civil War. The site was determined to be significant and additional work is recommended at this location.

ROMEVILLE contains a surface scatter of late nineteenth and early twentieth century artifacts. This site, 16 SJ 39, lacks contextual integrity and was determined to be non-significant.

MARCHAND contains two archeological features, one or both of which are associated with the historic Ashland-Belle Helene Plantation (16 AN 26). Feature M-100 is a brick scatter lacking contextual integrity, although possibly related to the plantation. This feature was determined to be non-significant. Feature M-101 is the brick foundation of a warehouse at the Ashland-Belle Helene Plantation landing. The feature is a significant structural remain of site 16 AN 26, and additional work is recommended at this location.

NEW RIVER BEND contains three sites with late nineteenth to twentieth century material. One site (16 IV 143) is a surface scatter lacking contextual integrity. A modern dump site (16 IV 144) contains very little material predating the second half of this century. Brick foundations, possibly of a boiler furnace, are in poor condition (16 IV 145). All three of these sites were determined to be non-significant.

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CHAPTER I

INTRODUCTION

This report describes the results of cultural resources survey of five Mississippi River revetment items, conducted pursuant to Delivery Order 006 of Contract No. DACW29-84-D-0029 with the U.S. Army Corps of Engineers, New Orleans District. During late July and August, 1984, archival study and archeological field survey of the five revetment project areas listed in Table 1 were undertaken, in order to locate, identify, and evaluate cultural resources within each project impact zone. The locations of the Port Sulphur, Vacherie, Romeville, Marchand, and New River Bend revetment project areas are shown in Figures 1 - 5.

Because of the compressed time frame for this project, archival research, including cartographic study, and fieldwork were begun simultaneously. Archival research initially focused on historic land use and on historic architectural improvements to each of the five survey areas. Priority was given to the recovery of map data and detailed property and structural descriptions. For most of the project areas, recent title histories were examined preliminarily for the purpose of establishing pre-subdivision chains of title. Sequences and trajectories of change in land use and property ownership then were examined for each of the project areas, in order to develop an interpretive framework for each of the project areas, as well as to provide a documentary context for use in the evaluation of the significance of recovered remains. The Ashland-Belle Helene Plantation site (16 AN 26), in the Marchand revetment area, is the only site dealt with in this study which is currently on the National Register of Historic Places. No prehistoric remains were encountered in any of the project areas, nor are there any recorded prehistoric sites in or adjacent to these areas. Site specific archival research also was undertaken after field work began, in order to obtain available information pertaining to the age, nature, and function of historic remains encountered during the course of archeological survey. Throughout archival research, special attention was given to the application of cartographic techniques to problems concerning the spatial organization of plantation properties, as well as to reconstruction of historic geomorphic settings.

Informant interview techniques, both formal and informal, were applied in an attempt to augment archival and historic sources, as well as to clarify the archeological record. As will be seen, oral informants provided substantial information for this project, and some informants aided historic archeological reconstruction tremendously. "Duke" Rivet, a descendant of the Fagots of Uncle Sam Plantation in the Romeville project area, provided a portfolio of material on that plantation that was compiled by his uncle. O.L. Haas, a descendant of the former owners of part of Magnolia Plantation in the Vacherie project area, provided substantial site specific information on nineteenth

TABLE 1. Catalogue of Five Mississippi River Revetment Items.

Revetment Item	River Miles	Range Number	Length in Miles	Transect Miles	Major Historical Associations
Port Surphur	M - 38.5 - 38.0-R	D - 60 to 30	.6	1.8	Home Place settlement
Vacherie	M - 149.5 - 148.5-R	D - 68 to 18	1.1	3.3	Magnolia and Crescent plantations; small farmsteads
Romeville	M - 160.3 - 159.7-L	D - 50 to 80	.8	2.5	Uncle Sam Plantation; small farmsteads
Marchand	M - 183.8 - 181.5-L	D - 59 to U-51	2.5	22.5	Ashland/Bowden/ Belle Helene Plantation(s)
New River Bend	M - 191.0 - 188.0-L	D - 280 to 104	3.25	29.25	Indian Camp, Maryland, Hard Times, and Rescue Plantations

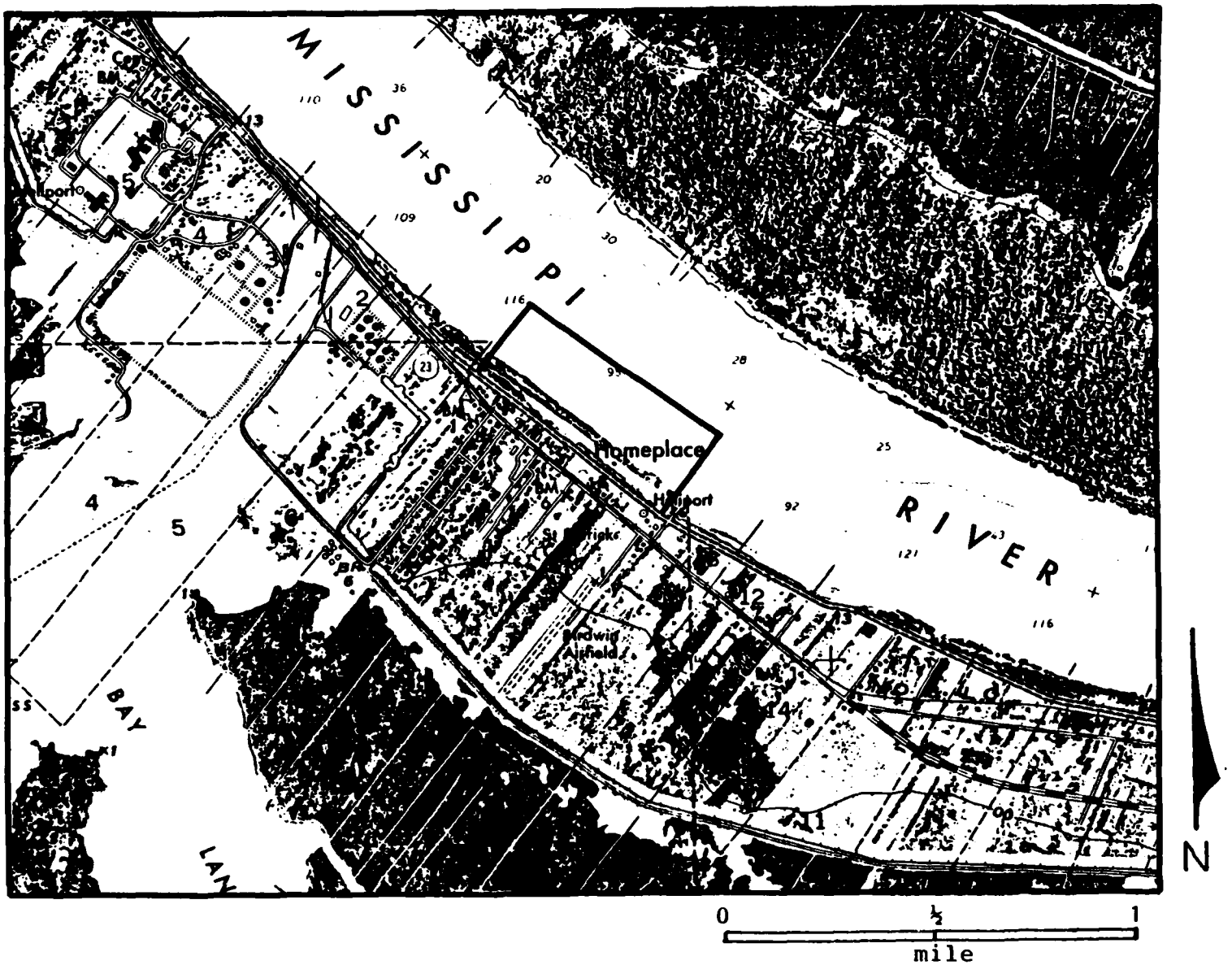


Figure 1. Excerpt from the Port Sulphur 7.5 minute U.S.G.S. Quadrangle showing the Port Sulphur project area.

century irrigation features in that area. Mr. John J. Vogt, Jr., of Port Sulphur, corroborated archeological observations of an old cemetery site within the borders of the Port Sulphur revetment area. Mr. Rod Lincoln of the Plaquemines Parish Historical Society also provided substantial unpublished notes and research materials pertaining to the history of the Port Sulphur area. Mr. Pierre Larroque of Jeanerette, Louisiana (see Appendix 1), provided data on the nature, structure, and function of steam powered engines.

Field investigations at each of the revetment project areas began with the establishment of survey grids and of topographic and horizontal provenience controls. Site datums, tied into known reference stations, were established, and survey baselines were staked at 20 m increments across the entire length of each project area. Major terrain features, such as river banklines, levees, vegetated areas, and borrows were surveyed and recorded, as well. Due to heavy vegetation and to large water-filled borrow pits, grid baselines at the Marchand and New River Bend project areas were established along the base of the existing levee, on the batture side. Offsets at 90 degrees were established, to facilitate control along the river bank. At Port Sulphur, two baselines were established; one followed the riverside slope of the articulated concrete levee wall, and the other traversed the batture at its approximate midpoint, parallel to the river. At the Vacherie and Romeville project areas, baselines also ran parallel to the river, proximal to the river's edge.

Following establishment of horizontal control, pedestrian survey of each project area was undertaken by a three to five man crew, using 20 m transect intervals. These survey transects were run parallel to the local baselines, and thus roughly parallel to the course of the Mississippi at each location. The project areas were divided into 20 m x 20 m collection quadrats for control of surface artifact recovery. The quadrats were defined by the 20 m increments along the revetment baselines, and by the midlines between pedestrian survey transects. Shovel testing was conducted by the survey crew at regular increments along the transects. Subsurface probing was conducted in the vicinity of observed cultural remains. Exposed bankline profiles were cleared in selected locations providing stratigraphic information. Archeological features were flagged, photographed, and map verified in the field. Potential site areas observed during the course of transect survey were revisited and examined more intensively, in an attempt to discern their nature, size, stratigraphy, and integrity. Archeological features were plotted on the project area maps. The areas surveyed were largely covered by willows and underbrush, forming typical batture woodland. Some sections of these project areas are scoured by the annual flooding of the Mississippi, with deposition of waterborne debris by the floodwaters. Many areas of the batture have also been employed as modern dump sites. The project areas thus have been altered in recent years by both human activities and natural forces. Recovery of cultural material is strongly affected by

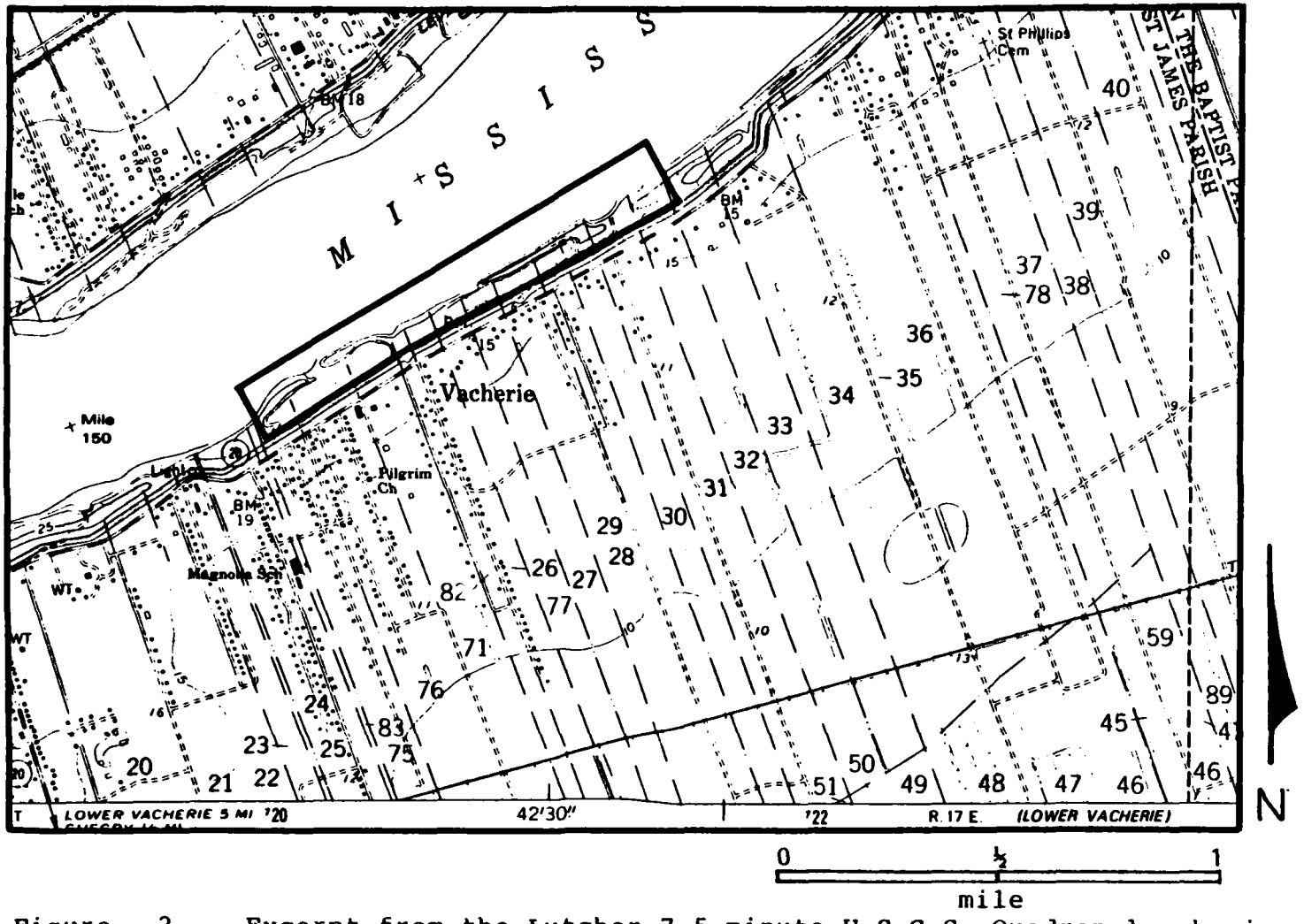


Figure 2 . Excerpt from the Lutcher 7.5 minute U.S.G.S. Quadrangle showing the Vacherie project area.

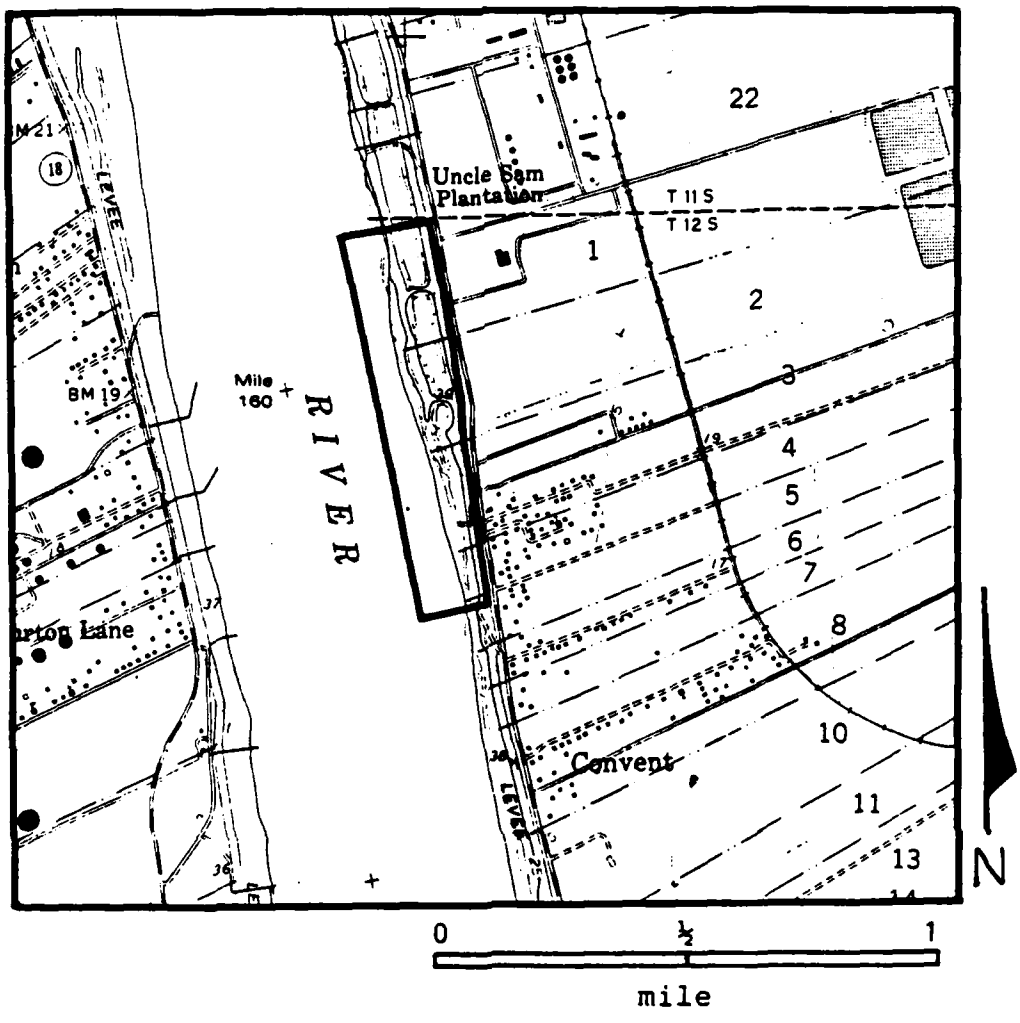


Figure 3. Excerpt from Convent 7.5 minute U.S.G.S. Quadrangle showing the Romeville project area.

these processes. Bankside features are exposed by river erosion, whereas other batture features may be covered by alluvial deposits or trash dumps. The condition of archeological features was assessed in terms of site formation and destruction processes. Stratigraphic data, observations on the natural setting, and other information germane to the elucidation of these processes were recorded in the field. These data, with archival and map information, allowed evaluation of site conditions and possible impacts on sites by river erosion.

As will be seen, two sites, 16 PL 131 and 16 PL 132, were recorded at the Port Sulphur revetment project area. Virtually the entire Vacherie revetment item comprised a large and multicomponent historic site, which was designated 16 SJ 40. One small and disturbed late nineteenth century domestic refuse deposit, designated 16 SJ 39, was found during survey of the Romeville revetment area. A brick scatter, site Feature M-100, and a massive tiered brick foundation, Feature M-101, were identified during survey of the Marchand revetment area. Site Feature M-101 represents the remains of the old Ashland Plantation riverside warehouse, a venue with a colorful history from the Civil War period at which time the plantation was owned by Duncan F. Kenner. The Ashland Plantation great house was listed on the National Register of Historic Places on May 4, 1979. The plantation has received the state site number 16 AN 26. Finally, three sites were recorded during survey of the New River Bend revetment area. Site 16 IV 143 comprised a discrete surface scatter of bricks and late nineteenth and early twentieth century ceramic sherds, near the location of Hard Times Landing. Site 16 IV 144 is the Carville Dump, a modern refuse disposal area on the batture downriver from the National Leprosarium. Site 16 IV 145 is a furnace feature that appears to have been associated with a boiler and steam driven engine. All of these sites are discussed more fully in the subsequent sections of this report.

Following completion of field work, archival, oral informant, and laboratory data were applied to the interpretation of each of the aforementioned sites. Laboratory analyses focused on the classification and on the identification of function and chronological placement of recovered remains. In addition, laboratory time was devoted to preparing the various collections for permanent curation at a designated repository.

The subsequent sections of this report, then, outline the methodologies applied in the archives, field, and laboratory; review the historic setting of the region, in an effort to delineate significant research questions pertaining to patterns and processes of social and economic change and adaptation; present a description of each of the survey areas, including its environmental and historical setting; and present the results of field work and laboratory analyses. Finally, this report presents conclusions and recommendations that address the appropriate cultural resource management techniques for each of the sites identified and analyzed during the course of this project.

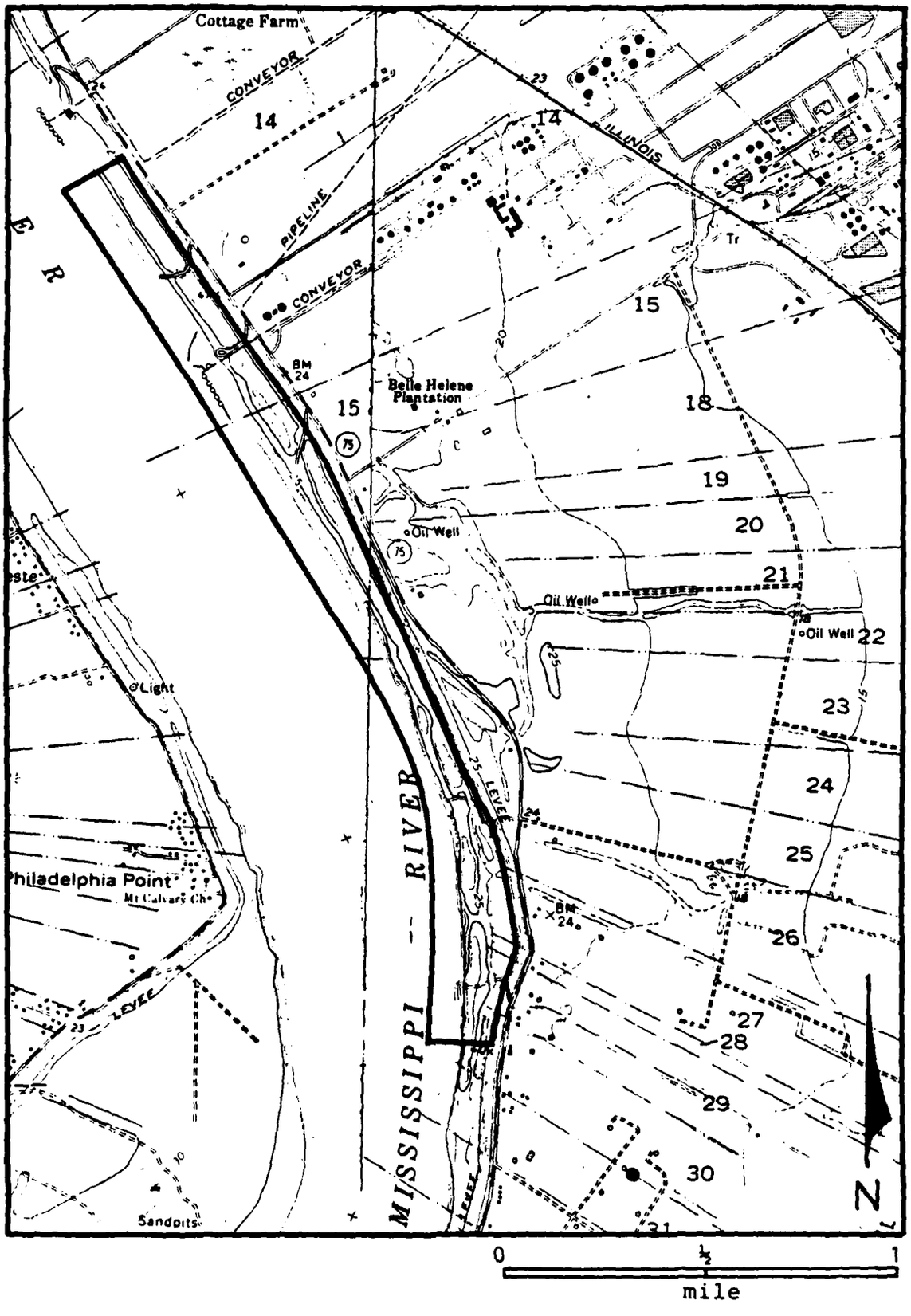


Figure 4. Excerpt from the Carville and Gonzales 7.5 minute U.S.G.S. Quadrangle showing the Marchand project area.

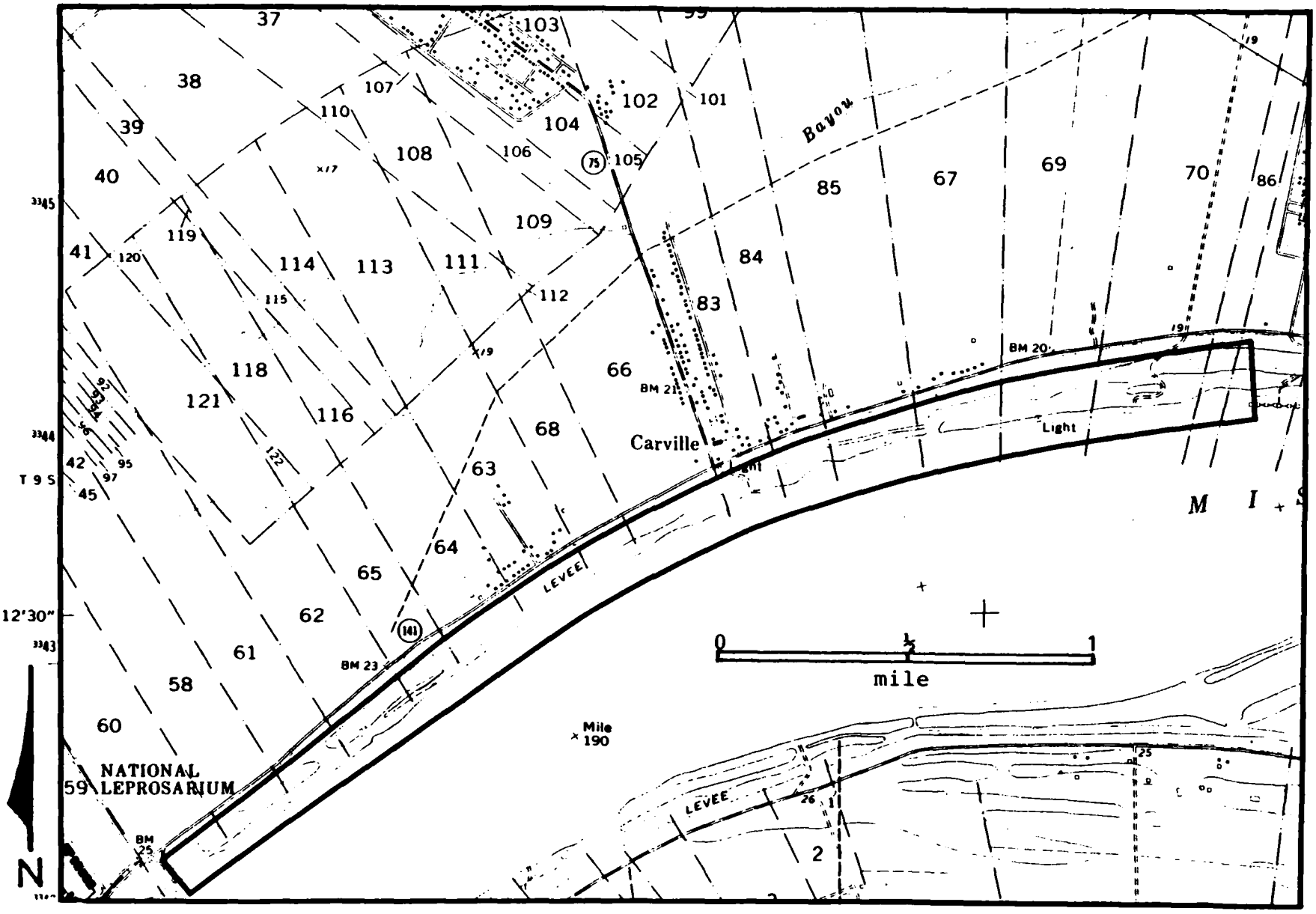


Figure 5. Excerpt from the Carville 7.5 minute U.S.G.S. Quadrangle showing the New River Bend project area.

CHAPTER II

AN ECONOMIC PERSPECTIVE ON THE HISTORY OF SOUTH LOUISIANA

The strategic military importance of the area that is now known as Plaquemines Parish was obvious to the early settlers. It can be seen in the number of fortifications built during the French colonial period. However, the potential of the land for cultivation was less than overwhelming:

> The sugar cane may be cultivated between the river Iberville and the city, on both sides of the river, and as far back as the swamps. Below the city, however, the lands decline so rapidly that beyond fifteen miles the soil is not well adapted to it (Heaton and Williams 1803:44).

Nevertheless, land was granted and settled, primarily along the river directly below New Orleans, where agricultural land was better. Census information from 1763 shows that these land grants were relatively large; several were larger than 100 arpents front. Of the 756 total arpents river frontage granted by the year 1763, 504 arpents were cultivated in corn and rice. The settlers in the area were relatively wealthy; as of 1763, there already were nearly three times as many slaves (345) as there were white settlers (123). In addition to rice and corn cultivation, stock raising was also important along the river below New Orleans. By 1763, there were 296 sheep and 1013 head of cattle in the area (Voorhies 1973:61).

The 1770 census gives a thorough description of the economy below New Orleans, and again presents an impression of a relatively wealthy plantation area. Below New Orleans, the majority of landholdings were large plantations in excess of ten arpents front. The population in 1770 was comprised of 334 white persons and 1647 slaves. Stock raising continued in importance, and 3247 head of cattle, 1660 sheep, and 466 hogs were counted in the census. Turkey, geese, chickens, ducks, and pigeons also were raised. Rice, corn, and sugar were grown in the area at this date, and lumber was milled there. However, indigo was by far the most important product (Voorhies 1973:250-251).

Indigo was a particularly labor efficient crop; one slave could plant and tend two acres of the plant and still have ample time to attend to his own provisions (Holmes 1967:340). Each plantation usually had its own indigo processing facility, since the manufacture of dye from indigo was relatively easy and required no expensive machinery. The cut plant was placed in a vat called a "steeper," and the indigo then was covered with water until fermentation occurred. The liquid by-product then was drawn off into another vat called a "beater," where it was agitated much like the churning of butter. A precipitate was formed in the solution

by adding lime water. The water was drawn off, and the indigo solids were placed in cloth bags to dry (Holmes 1967:344).

France had encouraged the production of indigo in the Louisiana colony, and this policy was continued during the Spanish period. By the time that the above-mentioned censuses were taken, Louisiana already was a Spanish possession. France ceded Louisiana to Spain in 1762 in the secret Treaty of Fontainebleau, although Spain did not take formal control of its new colony until August, 1769. Spain subsequently built additional fortifications in the colony, including several in what was then the post of Plaquemines, the area from the Balize to Pointe a la Hache. A Spanish fort was constructed near the French fort at the Balize early during the Spanish period, and Forts San Felipe and Bourbon were established at Plaquemines Bend on opposite sides of the river in 1792.

Eyewitness accounts of the period frequently contrasted with the favorable picture of the area below New Orleans given in the 1763 and 1770 censuses. Captain Philip Pittman, a British Officer, provides one such account of the area at the beginning of the Spanish period, ca. 1770:

> The island of Saint Carlos...is near the entrance of the Mississippi...there are houses for the residence of an officer, twenty soldiers, a pilot, and a chaplain. The reason of establishing this post is that assistance may be given to vessels coming into the river and to forward intelligence or dispatches to New Orleans: This is called the Balize as well as the French post, which lies two miles east of the entrance of the river, and was originally built with the same design, and as a defense for the mouth of the river; its situation (which is very low and swampy) would never admit of any strong fortification; but what there was, is now gone to ruin; nothing remains but the soldiers barracks and three or four guns en barbette. From this place nothing is to be seen but low marshes, continually overflowed, till we get within a few leagues of the Detour de L'Anglois, where there are some few plantations, most of which are but very late establishments, and are, as yet, but of very little consequence (Pittman 1906:38-39).

Thirty years later, the situation apparently was little changed, except that the settled land extended farther below New Orleans. Berguin Duvallon wrote in 1802 that:

> It is about fifteen leagues below New Orleans, that the settlements on the colony commence, which comprehend a tongue of land susceptible only of cultivation between the river and the swamps. After which, advancing confusedly beyond the elbow which forms the bend of the river called Le Detour des Anglais, and is so difficult to double, a small number of saw mills, some sugar-houses, and spots where vegetables are cultivated, disposed in a file one after another along the river's bank, present themselves to view (Davis 1806:19-20).

Thus, despite census data which suggest large plantations with a relatively wealthy planter population, eyewitness accounts indicate that large grants of land were offered in this area because only a narrow strip of land was suitable for agriculture between the river and the swamp. Nevertheless, the inhabitants of the area did produce a variety of crops and livestock, and the high proportion of slaves to free whites does indicate a degree of affluence in the planter class during the colonial period.

The settlement history of the area of present day St. James, Ascension, and lower Iberville Parishes provides a contrast to that of Plaquemines Parish. The former area, known as the Acadian Coast, was not as important strategically as the Plaquemines area, but the agricultural potential of the soil was much greater. The first French concession in this area was granted to the French Duke de Charost, and to the Marquis d'Anceny, his son. Their concession was located in the vicinity of the present day towns of Gramercy and Mt. Airy in St. James Parish. It originally was settled in 1720 by about 100 persons under the direction of Sieur de L'Epinet. The concession was abandoned two years later, when its stores and supplies were destroyed by fire (Bourgeois 1957:6).

Settlement in the St. James, Ascension, and Iberville Parish areas was intermittent during the next forty years, supposedly as a result of the presence of unfriendly Indian tribes such as the Houma and the Chitimacha (Bourgeois 1957:7). However, a few isolated plantations were founded in the area, as shown by the land claim of Mathias Frederic's heirs to the United States government in 1812. These claims state that six arpents claimed in the area of the present day town of Vacherie were cultivated as early as 1756 (Lowrie and Franklin 1834:266). Another parcel claimed by Frederic's heirs was granted as a twenty arpent concession in 1755 to Andre Neau (Lowrie and Franklin 1834:385). Both of these claims are within the Vacherie survey area. These plantations may or may not have been residential; Jacques Cantrelle held a plantation in St. James prior to 1763, but he did not move to the area until after 1769 (Voorhies 1973:201,441). Cantrelle named his twenty-eight arpent indigo plantation "Cabahannocer", which is Choctaw for "Mallard's roost." This plantation was located on the west bank of the river, across from the site of present day Convent, the Parish seat of St. James.

The first Acadian settlers in what was to become St. James Parish, three brothers named Mouton, settled ca. 1756 on the west bank near Vacherie, and near the previously mentioned Frederic claim (Arsenault 1966:201). Over 650 Acadian refugees arrived in Louisiana in 1765; the first group of 200 immigrated via Ste. Domingue (Haiti) (Rushton 1979:319). Pittman, writing ca. 1770, discussed the nature of and reasons for the Acadian settlement of Louisiana:

> The new settlements of the Acadians are on both sides of the river, and reach from the Germans to within seven or eight miles of the river Ibbeville (sic). 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 river "Iberville" referred to above today is known as Bayou Manchac. Thus, the Acadian settlement encompassed not just present-day St. James and Ascension Parishes, but the lower portion of Iberville Parish, as well.

In 1766, a group of 216 Acadians moved to Louisiana directly from Halifax, Nova Scotia. They settled in the St. James area, known then as "la premier cote des Acadiens" (the first Acadian coast), and in the Ascension Parish area near Donaldsonville, known as "la deuxieme cote des Acadiens" (the second Acadian coast) (Arsenault 1966:202). There was also a settlement of about 376 people at the town of St. Gabriel in 1769 (Clement 1952:192). By 1770, the extent of the first Acadian coast was approximately 16 miles on both the east and the west banks of the river, with the center approximately at College Point on the east bank and directly across the river from it (Bourgeois 1957:14). The area became known as "Cabahannocer," after Jacques Cantrelle's indigo plantation. Later, the name was applied to both the Acadian Coasts (Marchand 1931:20). The French phonetic spelling of the Choctaw word "Cabahannocer" has been modified a number of times historically; at present, the anglicized spelling "Cabanocey" is in current usage.

Examination of the "Census of Cabaanoce" (sic) of 1766 and of the "List of Acadians at Cabahannocee" (sic) in 1769, show the progress of the settlement. In 1766, there were 265 white inhabitants and sixteen slaves. Hogs were the most common stock, with a total of 95, while there were only 15 sheep. The inhabitants were well-armed; the settlement had a total of 98 men and boys over 15, and a total of 97 guns. A few large parcels of fallow land, belonging to Landry, Bigeou dit Voilette, Ducros and Populus, as well as the large plantations of Jacques Cantrelle and Louis Judice (Cantrelle's son-in-law), were listed in the census, but the vast majority of the Acadian coast inhabitants lived on small parcels of three to six arpents front. In 1769, there were 501 white settlers, 163 of whom were men bearing arms. In fact, 164 muskets were counted. There were 36 slaves, 512 head of cattle, 50 horses, 1,867 hogs, and 16 sheep. The majority of the land holdings still were six or less arpents river frontage (Voorhies 1973).

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

The situation in the Acadian settlements provides a contrast with the plantation area below New Orleans. The size of the plantations along the Acadian coast was far smaller, and there was less variation in the size of plantations than below New Orleans. There were dietary differences between the two areas, as well. The planters below New Orleans raised more cattle, while pig was the most common livestock item among the Acadians. Finally, the Acadians were poor, and they held very few slaves.

Berguin-Duvallon described the Acadians as he saw them in 1802. The picture he paints is very unflattering, although Berguin-Duvallon was not particularly impressed with any of Louisiana's inhabitants:

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

Paul Alliot, who also wrote during the first decade of the century, provides a more flattering picture of the "Acadian Coast," between New Orleans and Baton Rouge, and its inhabitants:

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

Beginning in the 1790s and continuing into the early nineteenth century, major changes took place in Louisiana's economy. The impetus to this change was the economic failure of indigo production. By the 1790s, indigo was becoming unprofitable. In terms of production costs, Louisiana's indigo could not compete in the world market with indigo produced in India. Indigo also was susceptible to insect blights, and it was sensitive to the weather. Consequently, crop losses could be severe. Furthermore, the crop exhausted the soil. And, an increase in the price of slaves in Louisiana made it difficult to obtain the labor necessary for indigo production on the plantations. Finally, the terrible smell of indigo production attracted disease-carrying insects, and the production of indigo polluted the streams between Pointe Coupee and the Yazoo River (Holmes 1967:346-348). During the 1790s, the cotton gin was invented, and Etienne de Bore developed a process enabling the commercially successful production of sugar from cane. Cotton and sugar rapidly became Louisiana's two major money crops.

The best areas for cotton cultivation were the areas north of Baton Rouge along the river and the Attakapas and Opelousas districts. But cotton also was grown as far south as St. James

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

During the early nineteenth century, the average yield of a superficial arpent of land was approximately 400 pounds of cotton, which was worth approximately $100.00. A skilled slave could cultivate three arpents of cotton (Robertson 1911:155), as compared to two arpents of indigo. Estimates of daily cotton yields picked by an adult slave ranged from sixty pounds of cotton per day which, when cleaned, would yield about twenty pounds (Robertson 1911:156), to 150 pounds picked per day (Taylor 1976:67). The yearly cycle of cotton production began with the plowing of fields in late winter or early spring. The corn and then the cotton was planted, and the fields were hoed to destroy weeds. Around the fourth of July, hoeing of the cotton fields was discontinued, as the cotton plants had grown sufficiently thick and tall to overtop the competing weeds. The crop was said to be "laid by" when it reached this stage. Slaves then turned their attention to gathering firewood and to harvesting corn. The

cotton bolls began to open in August, and the cotton picking season followed. Ginning commenced when about fourteen hundred pounds had been picked. The cotton then was pressed into bales of 400 pounds, and transferred to New Orleans by steamboat (Taylor 1976:66-67).

The plantation journal of Dr. James G. Carson's cotton plantation in Carroll Parish provides insight into the types of structures found on a Louisiana cotton plantation. Besides the plantation great house, an overseer's house generally was located near the slave quarters. The industrial area of the plantation included the cotton gin, a "rain shed" for the holding of cotton between picking and ginning, and a seed house where the cotton seed was stored. Other structures in this area included sheds for the repair and storage of tools and a kiln. Two wells and a smokehouse also are mentioned in the journal. Other plantation structures usually included barns for cows, stables for horses and mules, and a corn crib. A carriage house, kitchen, infirmary, and privies were located near the great house and in other habitation areas of the site (Reinders 1950:354-355).

The economic development of the area continued to be influenced strongly by geopolitical changes that were taking place during the early 1800s. In 1800, Spain ceded Louisiana to France in the secret treaty of San Ildefonso. France sold Louisiana to the United States in 1803, and ceremonial transfer took place in December of that year. In 1804 the United States Congress created the territorial government. The following year, Governor William C. C. Claiborne divided the Territory of Orleans into twelve counties including those of Iberville, Acadia (both Ascension and St. James) and Orleans (which included Plaquemines). The counties constituted electorial districts within the territory. Colonial administration of internal affairs had been based on ecclesiastical parishes, and the inhabitants of the territory preferred these jurisdictional units to the externally imposed counties as local administrative districts. On May 31, 1807, the Legislature passed an act dividing the territory of Orleans into nineteen parishes, including both St. James and Ascension Parishes (Brasseaux et al. 1977:11-12).

The transfer of the Louisiana Territory also stimulated American immigration into the area. Most of these incoming settlers were attracted by the opportunities presented by the new sugar and cotton industries in the area. Both sugar and cotton cultivation required substantial capital outlays for sugar mills, cotton gins, levees, and slaves. Small planters along the Mississippi River could not compete, and they began increasingly to sell their small holdings to the owners of large plantations or to wealthy speculators who wished to consolidate several small farms into single large plantations (White 1944:352).

Although cotton was grown early in the nineteenth century in St. James, Ascension, and Iberville Parishes, the area quickly became primarily a sugar producing region. Berguin-Duvallon

advocated the shift to sugar production at the turn of the century:

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

As a result of the shift to sugar cultivation, increasing numbers of small farms were sold and consolidated into plantations. This was due to the greater capital investments necessary for cane cultivation than were necessary for cotton agriculture. According to Schmitz (1977:108), in 1860 the average investment in machinery on a Louisiana plantation was $1,076.00. The average investment for a cotton plantation was slightly less than $828.00. However, the cost for machinery on a sugar plantation was far greater, with the average investment cost having been $9,900.00. Most of this cost was the expense of the sugar mill. Because of the relatively low expense of cotton production, it could be cultivated both by owners of large plantations and by slaveless, yeoman farmers (Taylor 1976:65). However, the total investment in a sugar plantation could exceed $200,000.00 (Taylor 1976:65), so that sugar cultivation was not practicable for small farmers. The attractiveness of cane cultivation derived from around a nine percent return on the planter's investment, while the return on a cotton plantation of 1,500 acres was about seven percent (Taylor 1976:67).

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, and peas and potatoes were planted in May and June. As in the case of cotton cultivation, field hands continued to hoe the crops until they were "laid by" around July 4. From then until the harvest, slaves gathered wood for the fuel needed in sugar production; levees were repaired, and ditches were cleaned. Harvesting of the crop began in October, and work continued virtually twenty-four hours a day until harvesting. Sugar production was completed in late December or early January. During this time, cane was cut and milled, seed cane was put up, and the ground was plowed (Sitterson 1953:112).

Many of the structures found on cotton plantations also were present on sugar plantations. On residential plantations, a great house, kitchen, offices, garconnieres, pigeonniers, and carriage houses all generally were present. The overseer had his own house, and the slaves lived in whitewashed, one or two-room cabins set in rows. Often there was a separate kitchen where the slaves' food was prepared (Sitterson 1953:92). Barns, stables, storage sheds, and privies also were present on sugar plantations. The major differences between sugar and cotton plantations were found in the industrial structures related to crop production: cotton plantations had a gin, while cane plantations had sugar houses.

The sugar house was the focus of the industrial complex of the plantation. In the early nineteenth century, these structures generally were made of wood; by 1850, most sugar houses were constructed of brick. Sugar houses (Figure 6) generally were 100-150 feet long and about 50 feet wide (Sitterson 1953:137). The mill (Figure 7) generally was powered by a steam engine; a few were driven by horse power. The mill was used for expressing juice from the cane, and it usually was housed within the sugar house, although detached structures for the mill also were utilized on Louisiana plantations (Sam Wilson, personal communication 1983). The most common method of cane juice clarification and evaporation was the open pan method. This method involved the use of a set of four kettles of decreasing size called, respectively, the grande, the flambeau, the syrup, and the battery. The kettles were set into a masonry structure usually about thirty feet long by seven feet wide, within which was the furnace and the flue for conveying heat to the kettles (Figure 8). The furnace was located under the battery, and an ash pit would have been located outside of the sugar house, adjacent to that structure. Both coal and wood were used to fuel the furnaces. The flue, at the opposite end of the kettle set, would have turned a right angle to the set and passed to the outside of the sugar house where it connected to the chimney (Sitterson 1953:141).

After the clarification and evaporation of the cane juices, they were emptied from the battery into shallow wood troughs, or coolers, and the sugar granules formed as the juice cooled (Figure 8). The coolers were ten to twelve feet long, four feet wide, and eighteen inches deep (Thorpe 1853:763). There usually were about sixteen coolers in a sugar house (Sitterson 1953:143). After the completion of granulation, the sugar and molasses in the coolers were packed into hogsheads, or barrels of approximately 1,000 pounds. The packing was done in the purgery, a room in the sugar house containing a large cement cistern overlain by timbers on which the hogsheads were placed (Figure 8). The hogsheads had holes in the bottom through which the molasses could drain into the cistern, leaving the granulated sugar (Thorpe 1853:763). A cane shed for storing cane as it was brought in from the field usually was attached to the sugar house on the same end as the mill (Sitterson 1953:137).

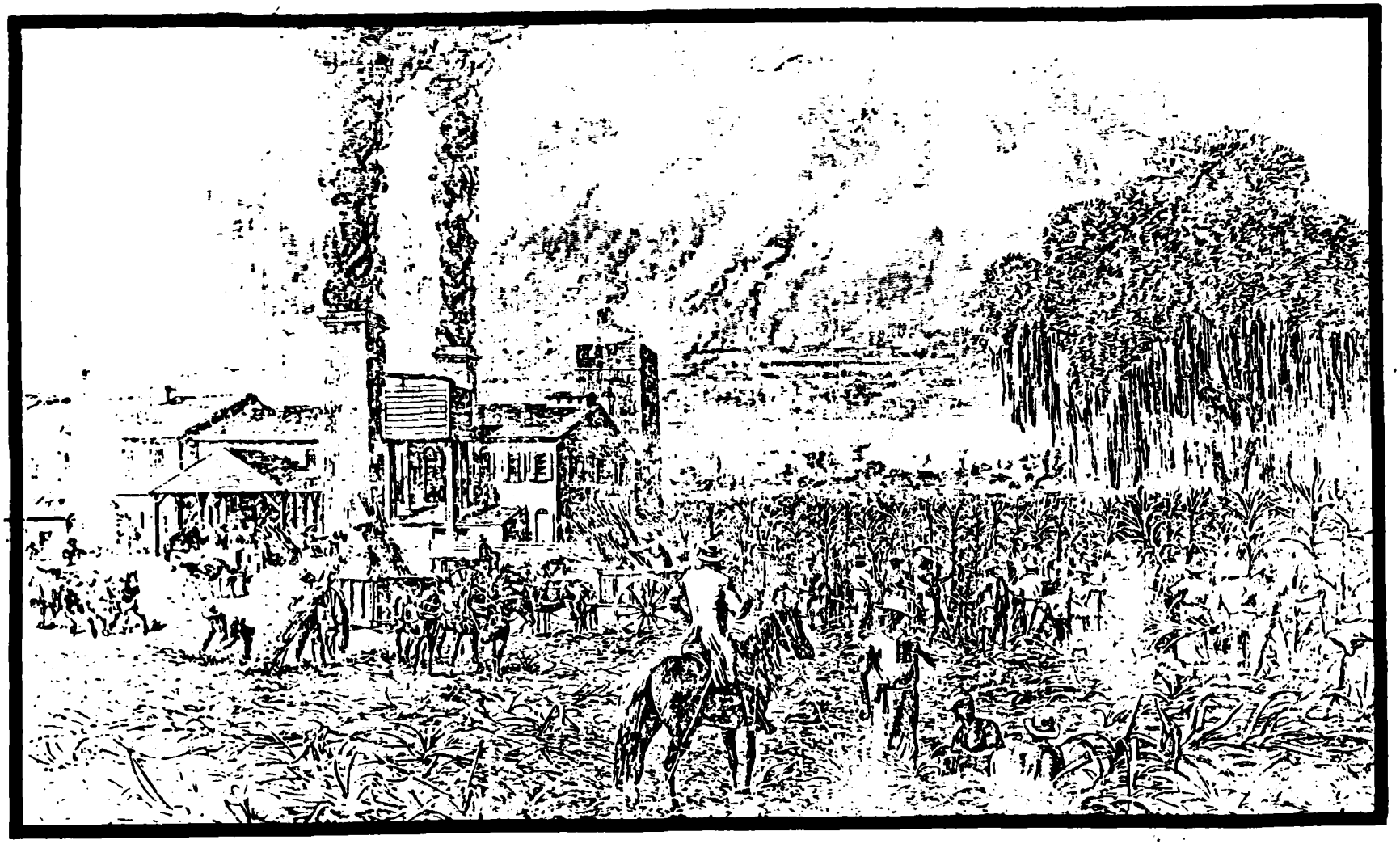


Figure 6. View of a sugar house from the cane fields (courtesy of the Louisiana Collection, Howard Tilton Library, Tulane University).

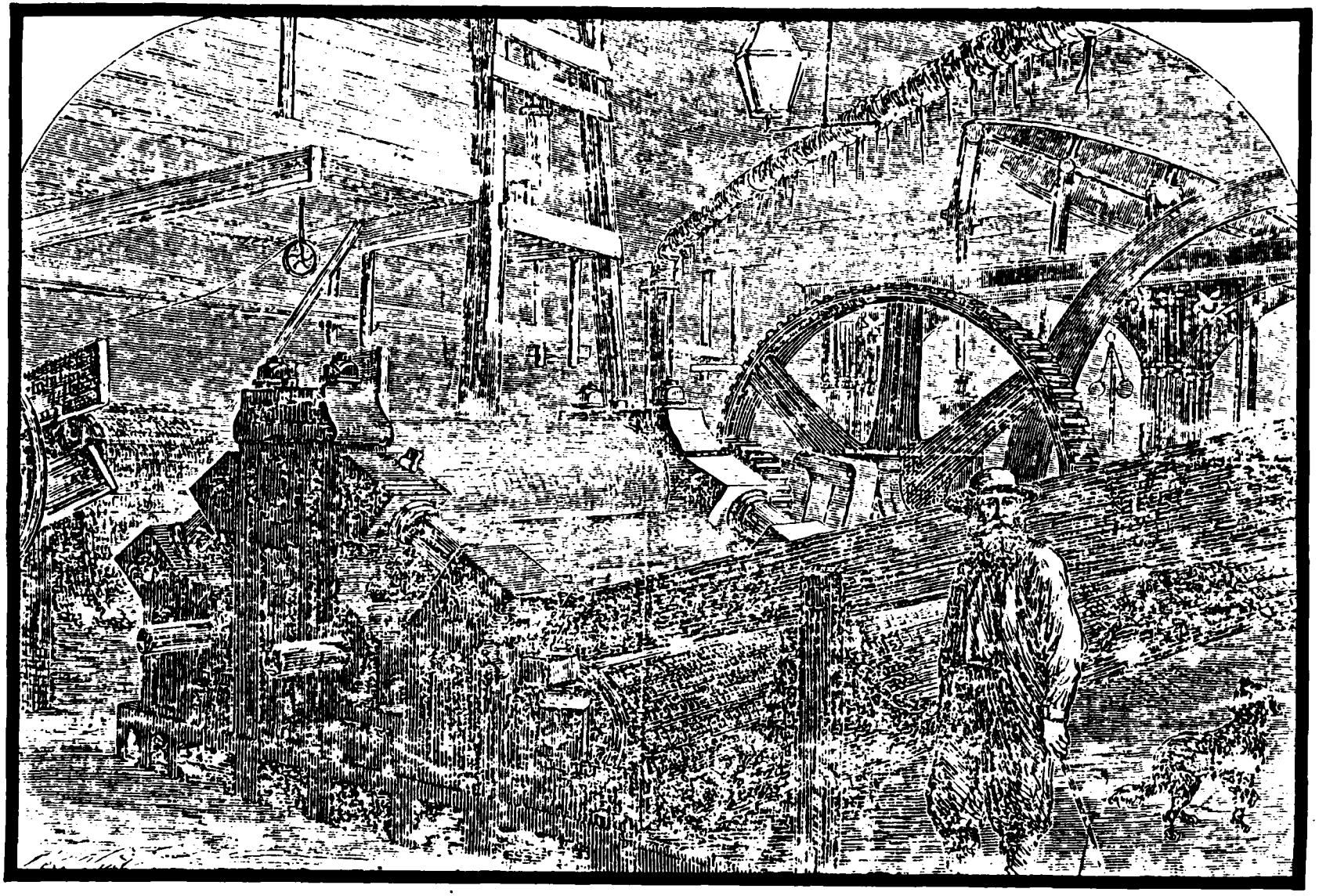


Figure 7. The sugar mill (courtesy of the Louisiana Collection, Howard Tilton Library, Tulane University).

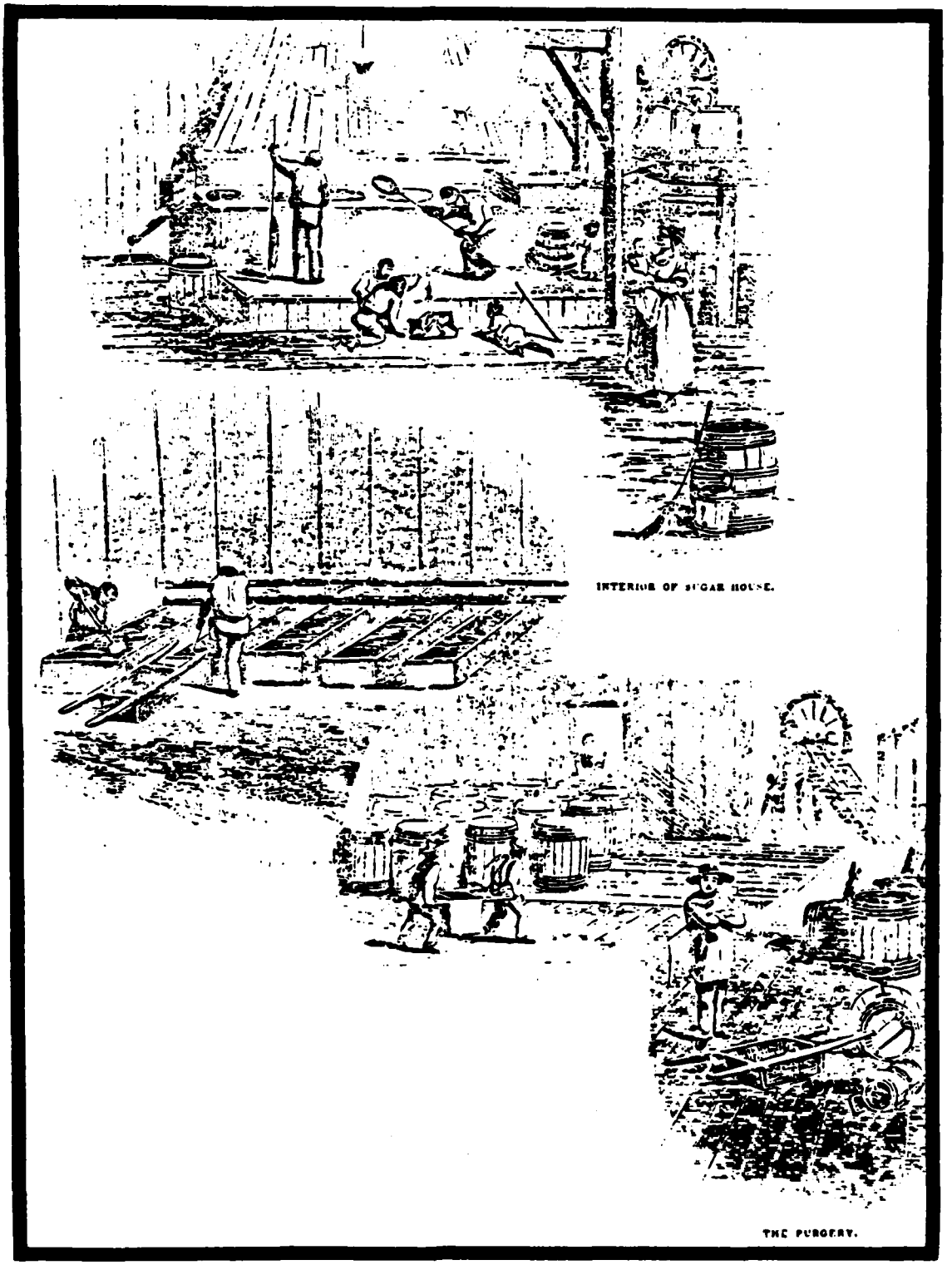


Figure 8. (A) The open pan method. (B) The coolers. (C) The purgery (Thorpe 1853).

Throughout the nineteenth century, advances were made in cane processing technology. In 1830, a Black creole, Norbert Rillieux, introduced the vacuum pan process. With this method, the sugar in the last stage of production was boiled to the point of granulation within a vacuum. A further refinement of this process was the multiple effects system which utilized escaping steam from one pan to heat an adjoining evaporator (Sitterson 1953:147). Still more technological changes occurred after the Civil War. The centrifuge came into general use at that time, as did the steam tram. The latter was:

> A series of vats with a coil of steam pipe at the bottom of each to do the boiling without direct action of fire, and thus preventing the inversion of sucrose into glucose... (Smalley 1887:116).

The centrifuge separated the sugar from the molasses. Both were placed in a revolving sieve, and the molasses was driven out as the sieve spun at 2000 revolutions per minute (DeBow 1851:89). This apparatus made a purgery in the sugar house unnecessary.

With some notable exceptions, the kinds of structures found on both sugar and cotton plantations, the cycles of labor thereon, and the scheduling of the plantation year in general were similar. Therefore, a degree of similarity also existed between activity areas on sugar and cotton plantations. Habitation areas of both included the great house, the overseer's house, and the quarter(s). These areas may or may not have been adjacent to each other; for example, a quarters area next to the great house would have housed domestics, while quarters for field hands would have been near the sugar mill. 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, tools, machinery parts, and the residue of cotton ginning or sugar manufacture.

Another chronicle of Louisiana written on the eve of the War Between the States by J. W. Dorr provides a picture of St. James, Ascension, and Iberville Parishes in 1860. Dorr apparently did not visit Plaquemines Parish, but he provides a very favorable view of St. James:

> 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 paradaisiacal climax of luxurious plantation rurality, and if they do not admire the aspects of the scenery--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 coats 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 no taste or so filled with prejudice as to be determined not to see anything worthy of admiration in any part of the South.

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).

Dorr was equally impressed with Ascension Parish:

> Donaldsonville is a well-built town of about two thousand inhabitants. It is laid out with right-angular regularity, and the streets are very pleasant, handsome residences being not unfrequent upon them, and handsome trees everywhere; snug and cozy dwellings, nestling amid flowers and foliage, in a way quite intoxicating to the blase' denizen of brick-and-mortardom, affected with the countryphobia which attacks most city dwellers about once a year in the same season that dogs have the hydrophobia. The population of Donaldsonville is almost exclusively Creole, there being but a small proportionate infusion of the Anglo-American breed of bipeds....
>
> Ascension is one of the largest sugar-producing parishes in the State, there being but three others which ordinarily make heavier crops. In the eastern part of it lay nearly the whole of the lands covered by the famous Houmas Land Grant, which several persons have heard considerable of before now. There are a large number of small farmers and poor settlers on these lands, which are valuable. The total area of Ascension parish is the extent of nearly 125,000 acres, of which about 85,000 are uncultivated, about 20,000 in cane, 17,000 in corn, and 400 in cotton. The cotton culture is carried on a small scale by small planters, located at a distance from the river banks, who cannot afford to go into the heavier business of sugar-making. The communication of the residents of the eastern part of the parish with New Orleans is frequently by way of the lakes, across Lake Maurepas, through Pass Manchac, and into Pontchartrain.
>
> ...Ascension pays a State tax of over $28,000, of which the mill tax for the support of public schools constitutes about one third -- nearly $9,000. There are eight school districts and twelve public schools and about 1300 educable children in the parish. The total population is between fourteen and fifteen thousand, of whom about seven thousand are slaves. There are four sugar refineries on a large scale, on the

> plantations of Messrs. Kenner, McCall, Hewitt and M'me Bringier; and a number of the most magnificent sugar estates in Louisiana are in this parish, chief among which may be mentioned the great plantations of Messrs. Burnside, Kenner, T. Landry, N. Landry, V. Landry, Manning, McCall, J. Hewitt, Doyle, Ventress, Jno. R. Thompson, Dr. Duffel, M'me Bringier, etc. (Pritchard 1938:1122-1125).

Dorr similarly enjoyed Iberville Parish. He noted that the value of the property in the parish was assessed at about $14,000,000. In 1860, there were 33,000 acres in cane, 22,000 in corn, and 1,500 in cotton. The population was about 5600 white and 10,000 slaves; there were only about 200 free men of color in the parish (Pritchard 1938:1129).

As might be expected, the War Between the States was devastating to Louisiana plantations. The planter's journal from Magnolia Plantation provides a picture of life in Plaquemines Parish at the beginning of the war:

> But (sugar) market dull--owing to the impossibility of shipping it--Poor sugars are hardly worth anything--1 1/2 to 2 1/4 cents for refining grades--I fear we shall not be able to do anything with our sugars as there is no way of distributing them thru the country. The blockade and the Rail Roads all occupied with carrying troops and supplies for our army. Sugars very scarce throughout the Confederacy and north... (Magnolia Plantation Journal, November 3, 1861; sic throughout).

Similarly,

> ... everything wanted for supplies in Shape of necessaries--very scarce and very high--Fabulous Prices (Magnolia Plantation Journal, November 8, 1861; sic throughout).

New Orleans fell to Yankee troops in 1862. Again, the Magnolia planter describes life in Plaquemines Parish under Northern occupation:

> We have a terrible state of affairs here Negroes refusing to work and women all in their houses. The negroes have erected a gallows in the quarters and give as an excuse for it that they are told they must drive their master... off the plantation hang their master etc. and that then they will be free. No one can tell what a day may bring forth.

> We are all in a state of great uneasiness. Mc Manus' negroes drove the overseer off and took possession of the plantation after Genl Dow made his raid upon it and took off the balc of sugar and molasses leaving some arms in possession of the negroes who immediately rose and destroyed everything they could get hold of picture portraits and furniture were all smashed up with crockery and everything in the house (Magnolia Plantation Journal, Oct. 21, 1862; sic throughout).

It was the sugar industry that was most seriously affected by the war. As seen above, prices fell, credit was tight, and it was nearly impossible to keep slaves on the plantation (Begnaud 1980:38-39; Goodwin and Yakubik 1982b). After the war, many planters lost their plantations due to financial difficulties. It would take years for Louisiana's sugar industry to recover from the war. The largest sugar crop made in the state prior to the war was that of 1861. For most of the remainder of the nineteenth century, sugar production did not even approach the scale obtained during the antebellum high. This was the result of:

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

The loss of a slave labor base encumbered the recovery, and former slaves were judged so uniformly to be lazy, evil, and a political strength to the foes of the former plantocracy that Bouchereau (1870-1871:XIX) formally endorsed the use of German and Chinese contract labor. Perhaps the greatest impediment to revitalization of the sugar industry was the pervasive lack of capital. Without money, sugar houses could not be rebuilt for the manufacture of sugar. Levees also could not be repaired, and as a result much of the former sugar plantation holdings were inundated. In response to this lack of capital, Bouchereau (1873-1874:XII; 1876-1877; 1877-1878:XX) repeatedly urged the separation of the agricultural and industrial aspects of sugar production. This was the "Central Factory System," where each planter no longer would own his own mill, and a centralized mill would serve the needs of many surrounding planters. The benefits of this system were obvious; the greatest labor expenditure was in the actual manufacturing of sugar from cane, and the centralized system helped to alleviate some of the planters' labor difficulties. It also assisted the planter who did not have the capital to rebuild his sugar house, and it allowed small scale planters to produce sugar without incurring the cost of a mill.

In many of the parishes, particularly in Plaquemines Parish where the land was naturally low-lying, rice cultivation was the response to the lack of requisite capital for sugar production.

Even St. James and Ascension, the great sugar producing parishes of the ante bellum period shifted to rice cultivation. 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 (Bouchereau 1877-1878:XX).

In a real sense, rice was the appropriate crop to plant after the War Between the States. While water from unmaintained levees ruined cane, it was necessary for rice cultivation. The cycle of rice planting began in February with the digging and clearing of ditches. In March, plowing began, and the crop was planted from the middle of March to late April. When the seed was sown, the fields were flooded with the "sprout flow" which lasted until the seed sprouted. The following "point flow" was left until the plants were three to four inches high; this served to kill encroaching grass and weeds, as well as protect the plants from birds. When the ground dried, it was hoed; it was hoed a second time about three weeks later. The next flood was the "long flow" which was left about a month. The fields were hoed a third and fourth time when dried, and finally the "lay-by-flow" was let in until the crop was harvested in September. The rice then was threshed and husked. By the latter part of the nineteenth century, this process was mechanized (Ginn 1940:550-551). If the rice planter did not have his own machinery, the rice was taken to a central mill. There were five such mills in New Orleans by the 1870s (Ginn 1940:552). Thus, an industrial component, such as was discussed for antebellum sugar and cotton plantations, might not be present on late nineteenth century rice plantations.

Control of the flooding of rice fields could be accomplished by different methods. In Plaquemines Parish, the ground was low lying, and apparently very little effort had to be expended to flood the fields:

> Brought to his door as regularly as the blossoms of spring return, he has only to open his sluices and pour the rich flood upon his field...(Wilkinson 1854:537).

Wilkinson (1854:537) also states that most farmers merely waited for "the water (to) pass...above their natural banks." These quotes suggest that the fields were flooded by the annual rise in the river, and that most farmers had little more than a simple sluice gate system constructed into the levee or a dam around their fields which was open or shut as needed. In an earlier article, Wilkinson (1848:54) describes the layout of a typical rice farm:

> ...in a farm of four acres front on the river...(there is) one ditch, four feet wide or more, four to five feet deep, running from the river to the swamp, with a dam or gate behind, at right angles, to this main ditch. At every half acre is a two foot cross ditch, with a bank behind it to confine the water about a foot high, or more. At the back of the field is a four foot ditch running parallel with the river, with a high bank on the outside to completely dam in the field, with a flood gate opening behind to gauge the height of water.

It was a single ditch which carried the water from the river to the fields. During years when the water did not rise sufficiently to reach this ditch, or subsided at an early date, the farmers were resigned to losing their crops. Wilkinson (1854:537) instead encouraged them to employ a small horse or steam powered water wheel in low water years:

> At the season of the year when this irrigation is acquired in this parish, the water is always within twelve or fourteen inches of the point from which free irrigation can be obtained. Now the ease with which water can be thrown to that height is very apparent to anyone who is familiar with the operation of a draining wheel, when water is thrown sometimes four and five feet high.

The water wheel, then, would serve to throw the water from the river into the main irrigation ditch when the river was not high enough to flow into the ditch naturally.

Another irrigation technique was utilized in the tidewater swamp of Georgia and South Carolina. An embankment was erected around the fields, and:

> Water was controlled by means of a wooden trunk in the embankment that connected the main (field) ditch with the river. The trunk was constructed with its floor at low tide level (Hilliard 1978:107).

A variation of this same technique was employed in nineteenth century Louisiana. However, instead of the trunk only having been constructed within a relatively small embankment, it was necessary to cut into the levee to build a trunk connecting the river with the fields. This method apparently was used in higher lying areas than Plaquemines.

Iberville Parish never engaged in rice cultivation on more than a very minor scale. Rather, farmers and planters continued to grow sugar, corn, and cotton, in that order (Harris 1881:163).

The lumbering industry, which had been important economically to the parish throughout the nineteenth century, continued as a major industry into the twentieth century. During the twentieth century, many of the former sugar plantations began to be utilized for stock raising (Clement 1952).

Despite the turnover to rice planting by many planters, both St. James and Ascension Parishes remained engaged primarily in sugar cultivation. The rich, fertile land of this area was particularly suited to sugar agriculture (Harris 1881:104-208; Stubbs 1895:16). Diversification occurred during the twentieth century when cane, cotton, and rice were grown, along with vegetables on the smaller farms. Today, large scale sugar growing and manufacturing continue to be important to both parishes, as are the various petrochemical and mineral industries.

By 1881, Plaquemines Parish had consumed all accessible lumber, so no further milling was done in the parish after that date. Sugar, rice, oranges, corn, and vegetables were cultivated with success into the twentieth century. Fishing and oystering were carried out on a commercial basis, and stock raising was important at this time (Harris 1881:182-189; Stubbs 1895:17). By the 1920s, there was a boom in orange growing (Montgomery and Finske 1945). This boom was short lived, since freezes in 1951 and 1962 destroyed most citrus trees in Plaquemines Parish.

CHAPTER III

THE HISTORIC ARCHEOLOGY OF THE PORT SULPHUR REVETMENT PROJECT AREA

The Setting

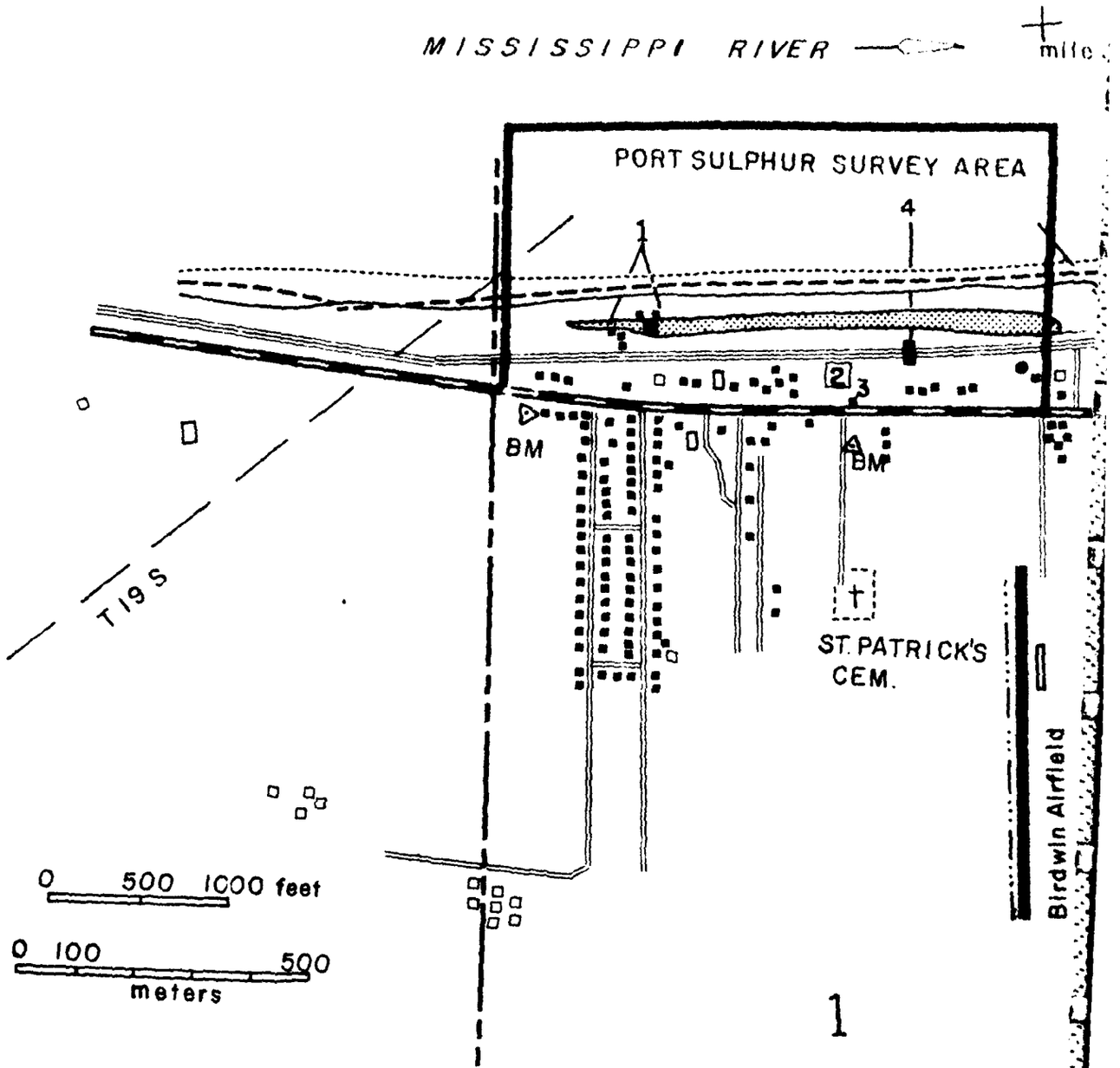
The Port Sulphur study area is located on the right descending bank of the Mississippi River between Miles 38.0 and M-38.5-R, and between levee stations 2330 + 48.2 and 2293.3, in Plaquemines Parish, Louisiana. The planned revetment will be located on the river side of the modern community of Home Place, which is immediately downriver from Port Sulphur on Highway 23 (Figure 9). The primary landmark for Home Place in the area under consideration here is St. Patrick's Church (Figure 10). Between the modern levee and Highway 23, a small cemetery also is present in front of the church. A larger cemetery is located behind the church. Both of these cemeteries are still in use, and contain above ground tombs as well as ground burials. The old St. Patrick's church cemetery site (16 PL 132) is located on the batture directly in front of St. Patrick's Church. It is immediately below the midpoint of the study area, on a thin strip of land between the river and a long water filled borrow pit that is located adjacent to the modern levee for virtually the entire length of the study area.

The limits of the project area are marked by two man made features. A shell road four hundred meters downriver of St. Patrick's Church crosses the levee, and leads to a shell landing on the river. This landing is 50 m below the downriver extent of the study area. The upriver limit of the project area coincides with a shallow channel that connects the river and the borrow pit.

The batture in the Port Sulphur study area has limited use. The landing located just below the lower end of the project area is used for boat launching. Boats and barges also occasionally are secured along the batture at various points. Some of these locations are on dry land during low water; most, if not all, of the batture is inundated during high water. The old St. Patrick's Cemetery was once an important feature of this batture land, but its abandonment and destruction have resulted in the discontinuance of any activities relating to it, such as burials, funerals, and mourning activities.

The Port Sulphur study area lies within a slight bend of the Mississippi River. Barataria Levee District bankline maps (Figure 9) indicate a general loss of about 20 m of batture to the river between 1905 and 1940. The present batture is heavily scoured, and the entire area is subject to periodic flooding. The soils comprise those of the Alluvial Land Association (USDA 1969), loamy and clayey soils not protected by levees.

The survey area is characterized by a low, wooded batture that has undergone substantial soil loss due to river action. Because



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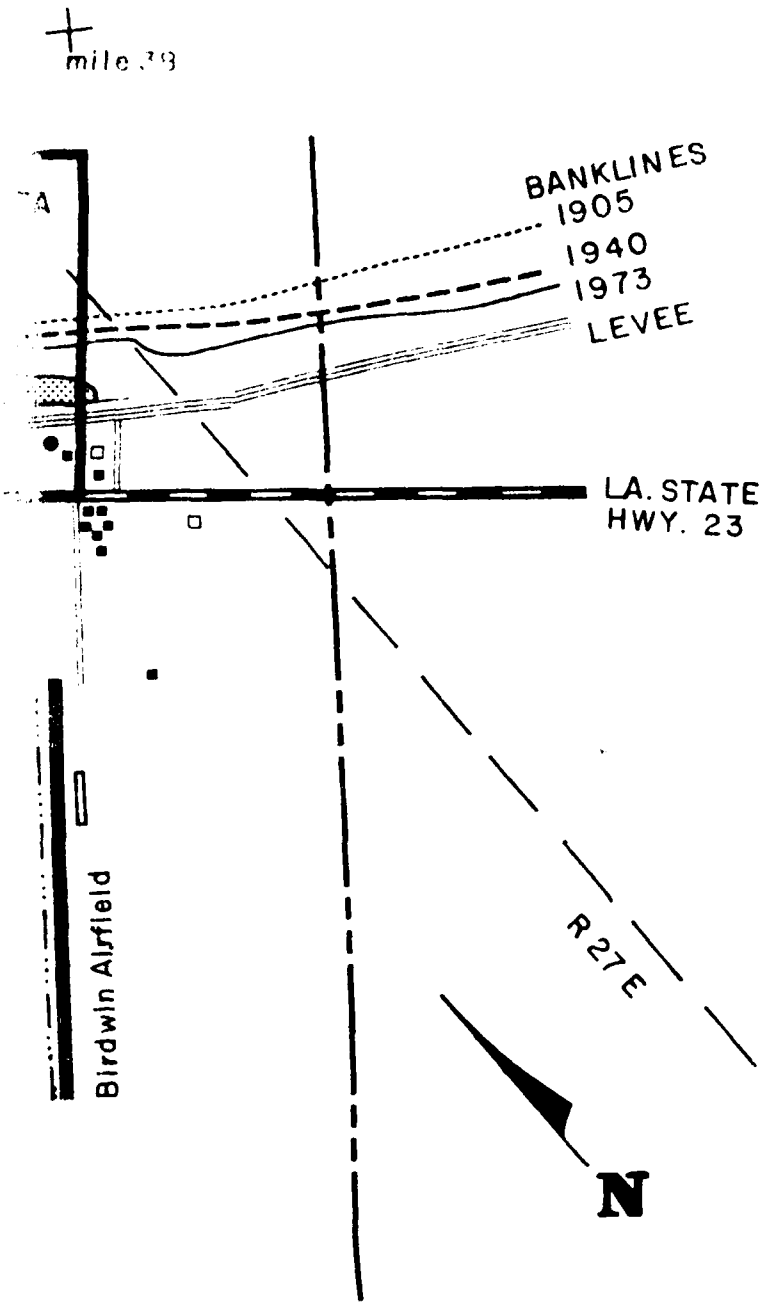


Figure 9. Scaled composite map of the U.S.G.S. quad sheet, showing the bankline locations for 1905, 1940 1973 and nineteenth century plats showing: 1) Bellevue Hospital site (Plat Book 9, Folio 20, NONA), 2) St. Patrick's Church Cemetery, 3) Former location of St. Patrick's Church, and 4) Former location of Plantation Church (COB73; Folio 356, Plaquemines Parish).

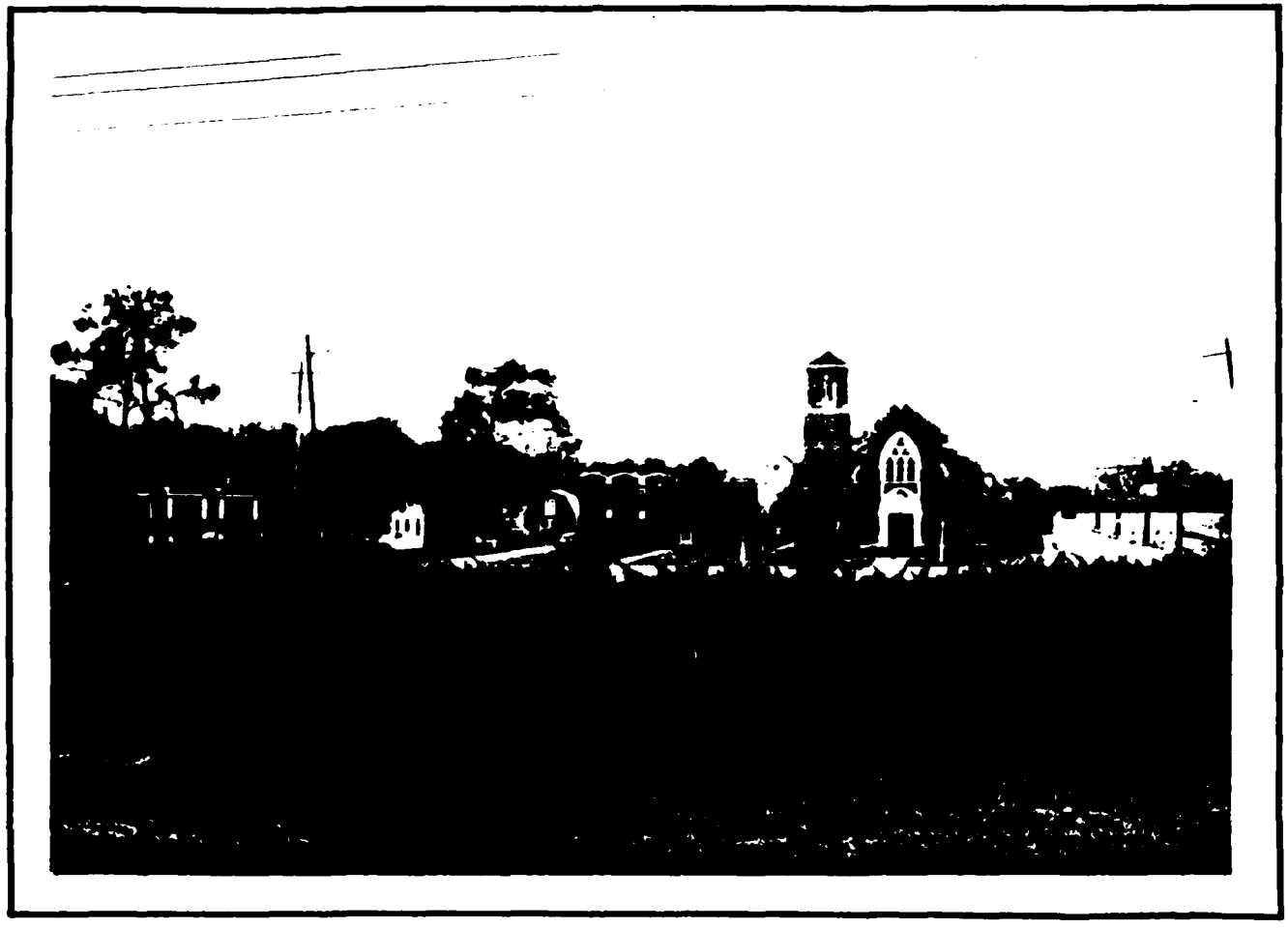


Figure 10. St. Patrick's Church at Home Place, from the modern levee.

of a history of hurricanes and inundation, stone rip-rap has been emplaced over most of the length of the project area, along the river's bankline. The only remnant topsoil in the area is associated with cultural features, such as asphalt, cement, and brick, which served to impede scouring locally. The old levee road is visible on some islands in the extensive borrow pit that occur between the modern levee and the wooded batture. Pioneer vegetation dominates along the batture.

Project Area History

The entire Port Sulphur revetment project area is located in Section 1 of Township 19 South, Range 27 East, in Plaquemines Parish, Louisiana (Figure 9). This area formerly contained the lower portion of the nineteenth century plantation known as Bellevue or Belle Vieux. Like many other districts around and in historic Plaquemines Parish, the district containing the project area originally was named after its early and prominent settlers. The Quartier Ronquillo extended from the lower end of what would become Magnolia Plantation (Goodwin and Yakubik 1982b) to the upper end of the Port Sulphur or Home Place area. The Quartier Guillot extended from the lower end of Quartier Ronquillo to the lower end of the Port Sulphur or Home Place area.

In 1848, this area was known both as Quartier Ronquillo, and as "Guillot Settlement." The name "Home Place" came into use some time after 1864. This was the term used by the landowner at the time, Patrick Lyons, to identify his property when he had goods delivered by boat (Rod Lincoln, personal communication 1984). A post office was established for the area between 1875 and 1880; it subsequently also was named Home Place.

Bellevue Plantation included part of both Quartier Ronquillo and Quartier Guillot (LaVigne 1954:14). The Port Sulphur project area lies within the downriver half of the Bellevue Plantation property, which was subdivided at the end of the Civil War. This plantation measured approximately eighty-eight arpents front on the Mississippi River, and it was forty arpents in depth. These plantation lands were in the possession of the Lanaux family prior to the early 1840s.

Archival records of the Lanaux family, a prominent Plaquemines Parish planting family during the early and middle nineteenth century, begin with familial information on Philippe Lanaux, the father of Bellevue's first recorded owner. Phillipe Lanaux, a native of Nantes, Bretagne, France, was married to Angela Bossonier (Bossonie, Bozonier) on October 19, 1783. Angela Bossonier Lanaux was born in New Orleans in 1764; she had nine children before her death in 1814.

Arnaud Lanaux was the fifth child of Phillipe and Angela Lanaux; he was born in 1797, and he married in 1847 at the age of fifty. Arnaud Lanaux was listed as Bellevue's first owner in the sugar and rice reports for 1845-46 (Champomier 1846). At that

time, Bellevue's owners were "D. and A. Lanaux." Information concerning Arnaud's partner, David Lanaux, is scant. He appears to have been Arnaud Lanaux's nephew or cousin. The partners' first sugar crop was recorded in 1849-50; it comprised 165 hogsheads (Champomier 1850). The Bellevue property continued to produce sugar until 1862, although in that year the sugar house was described as "destroyed" in the sugar and rice reports (Champomier 1862).

In 1850, the plantation was purchased by the widow of Arnaud Lanaux and by George Lanaux, the grandson of Philippe and Angela Lanaux and the son of Charles Julien Lanaux, Arnaud's brother. The vendor was David Lanaux (COB 17, Folio 24, Plaquemines Parish). This act of sale is confirmed in the sugar and rice reports for 1849 and 1850, which recorded a change in the owner/manager of the land from D. & A. Lanaux to G. Lanaux & Co. Interestingly, George Lanaux was classified as the "Overseer" in the 1860 Agricultural Census. Although his name was not listed in Schedule No. 1, A. Lanaux was listed as the trustee (Menn 1964:308). George Lanaux's age was listed in the census as thirty-three in 1860, and this age is corroborated in the family records.

The Bellevue property in 1860 had twenty-four slave dwellings which housed sixty-six slaves. It comprised 500 acres of improved land, and 300 acres of unimproved land. Livestock inventoried at that time consisted of four horses, forty asses and mules, twelve milk cows, thirty-two working oxen, fifteen sheep, forty swine and ten "other cattle." The plantation produced 5,000 bushels of Indian corn; one hundred and ninety-five 1,000-pound hogsheads of cane sugar; and, 12,000 gallons of molasses (Menn 1964:310-311).

Shortly thereafter, the War Between the States took a heavy economic toll on planters throughout the area, and Bellevue was no exception. According to LaVigne (1954:15),

> After the Civil War, many prominent French and Creole families were impoverished to such extent that they could keep only a small part of their plantation or they had to move away to homes in the city.

In May, 1865, Widow Lanaux conveyed half of her interest in the plantation to George Lanaux, giving him three undivided fourths of the property (COB 17, Folio 24, Plaquemines Parish). Also in that year, the entire plantation was subdivided into one-arpent lots. Lot one was located at the upriver boundary of the property, and lot eighty-eight represented the downriver boundary of the former plantation property. The Port Sulphur project area consists of lots sixty-two through eighty-two, located near the downriver or southern end of the former Bellevue Plantation holdings.

The Bellevue Hospital is shown on the Plat Book of this date. The facility was apparently a plantation hospital. One study of

American slavery notes that sick slaves were isolated to prevent the spread of contagious diseases. The confinement of ill slaves in a plantation hospital expedited the administration of prescribed medication or treatment, as well as discouraging feigned illnesses by the plantation hands (Fogel and Engerman 1974:I, 120). The Bellevue Hospital is not referred to in any historic source other than the Plat Book cited above; the dates of the structure, and the dates through which the building served as a medical facility, are not known.

Although the Lanauxs remained on a portion of their former holdings, many of the lots were sold shortly after 1865. Sugar and rice reports indicate that sugar production was not resumed after the war. Rather, conversion to rice cultivation was undertaken on the small farms that remained after the subdivision of Bellevue. During the post bellum period, virtually every land owner in the former Bellevue area produced rice (Bouchereau 1868-1917). Rice production continued in the area into the late 1880s, and rice crops were reported every year, with the exception of the 1871-72 and 1883-84 seasons when hurricanes damaged the area.

Patrick Lyons purchased several of the former Bellevue Plantation lots from the Lanauxs. On May 2, 1872, Lyons bought lots seventy-four and seventy-five; each of these lots measured one arpent front by forty arpents in depth (O. de Armas, May 2, 1872, NONA). The sale price for these two lots was $2600.00. Other lots acquired subsequently by Lyons included lot eight, which he sold to Mrs. Rebecca Chartier in 1884 (COB 25, Folio 118, Plaquemines Parish); lot sixty, which was sold to Charles Ballay in 1887 for $1000.00 (COB 27, Folio 428, Plaquemines Parish); and, lots thirteen and twenty-three, which he sold to Adlar Henry and Eugene Andry, Sr., respectively, during that same year (COB 28, Folio 511, Plaquemines Parish; COB 29, Folio 62, Plaquemines Parish).

In 1908, the land above lots seventy-one and seventy-two also was described as the "estate of Patrick Lyons" (COB 41, Folio 1130, Plaquemines Parish). It is evident, then, that much of the former Bellevue Plantation holdings were bought, and subsequently sold, by Patrick Lyons.

During the nineteenth century, many of the large plantations had churches, and historic records demonstrate the presence of such a church at Bellevue. According to Lavigne (1954:16),

> Without doubt there was one church on the Lanaux Plantation, which was located on the land where the Freeport Sulphur Company has a pipeline. Repeated levee setbacks make it difficult to designate the exact spot. In 1871, a tornado utterly destroyed this chapel so that not a piece of the remnants could be found.

Catholics in the area became interested in building a church after the Archbishop erected the Parish of Homeplace in the early 1870s. Patrick Lyons, Sr., sold a portion of his property for this purpose. He also used his business contacts in New Orleans to obtain low cost building materials. In 1883, the church was completed and a picket fence and a cemetery in the rear were erected. The church was called St. Patrick's, after the patron saint of Patrick Lyons. Mr. Lyons had provided much assistance to the church. The 1871 Mississippi River Commission map, which was updated and reissued in 1893, shows the project area under consideration here. The 1893 revision of the map depicts the location of the church property (Figure 11).

On October 1, 1893, a hurricane destroyed the steeple and the bell of St. Patrick's Church. A reporter for the Daily Picayune newspaper reported that the damage at St. Patrick's Church was "not extensive" (Armstrong 1983:218). Another hurricane destroyed the church so completely in 1915 that repair was impossible. In 1918, men from the church "dismantled the old church and salvaged most of the materials to build a new one..." (Hingle 1954:21). The site of the original St. Patrick's Church is located between the existing river levee and the route of Louisiana State Highway 23. The present structure of St. Patrick's Church is located on the opposite, western side of Highway 23 (Figure 9).

The old St. Patrick's cemetery was located directly on the line of a levee setback scheduled for 1952, and the levee board agreed to move the cemetery to the west side of the highway. All but two of the old tombs subsequently were demolished. Disinterment of the old cemetery occurred on October 22, 1951, and the remains were moved to the new cemetery (Hingle 1954:27).

Field Research

Transect survey of the Port Sulphur revetment project area (Figure 12) was performed by a three man team using 20 m transect intervals. Two baselines were established for the survey, along the riverside slope of the levee and at the midpoint of the batture. Both of these paralleled the river. The field crew conducted pedestrian survey transects over the entire width of the batture, between the edge of the Mississippi River and the water filled borrow pit parallel to the existing river levee. The sites of the Bellevue Hospital and of St. Patrick's former cemetery evidently were located wholly or partially within the project area right-of-way.

During the course of transect survey, two sites and a number of distinctive man-made and terrain features were noted. A low stone alignment perpendicular to the course of the river was located near the edge of the river, at N200, E200-215. This may have marked a property line; no artifacts were found in association with this alignment. At N250, E78, a 1 m x 2 m patch of thick asphalt was observed on an "island" in the borrow pit. The island is elevated 1.25 m above the water; it has small trees growing on it.

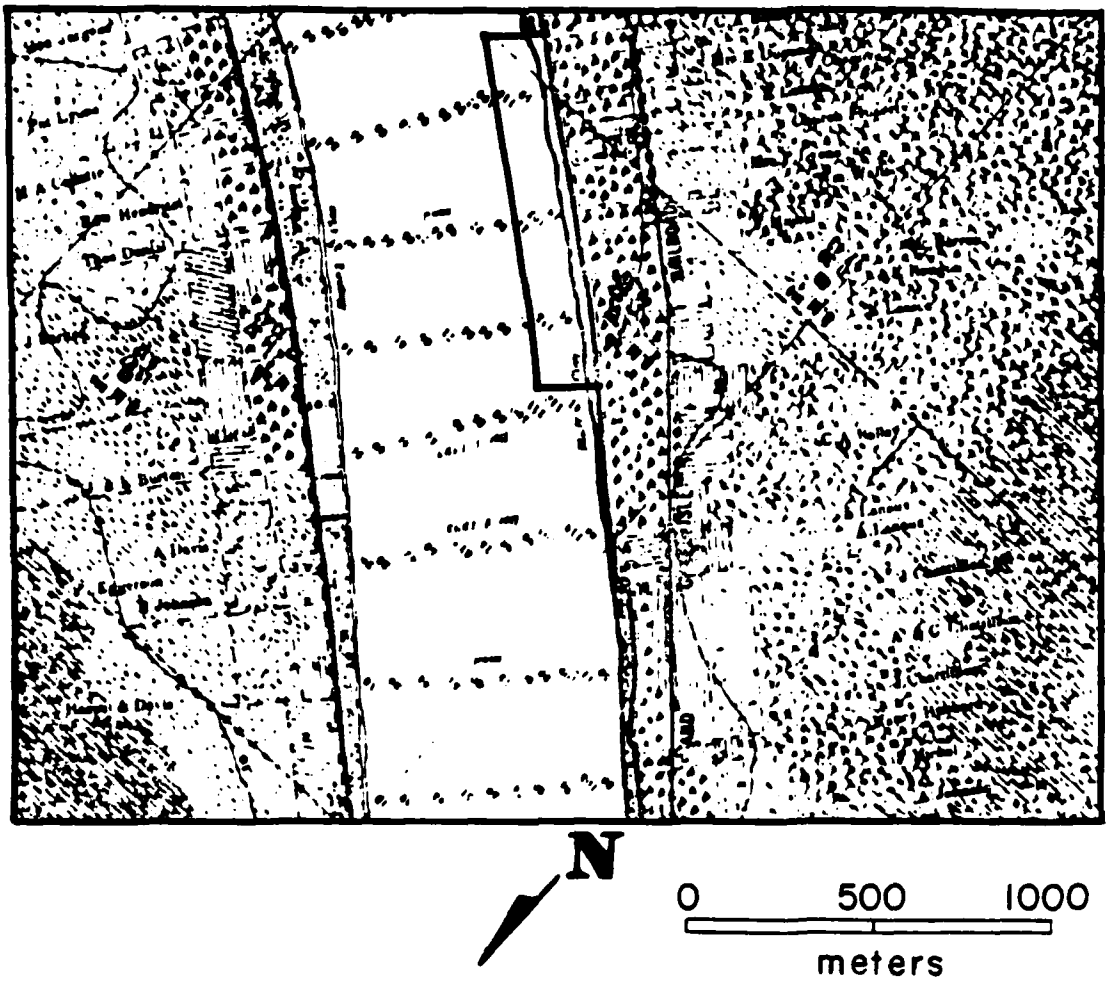


Figure 11. Excerpt of the 1871 Mississippi River Commission Map showing the Port Sulphur project area.

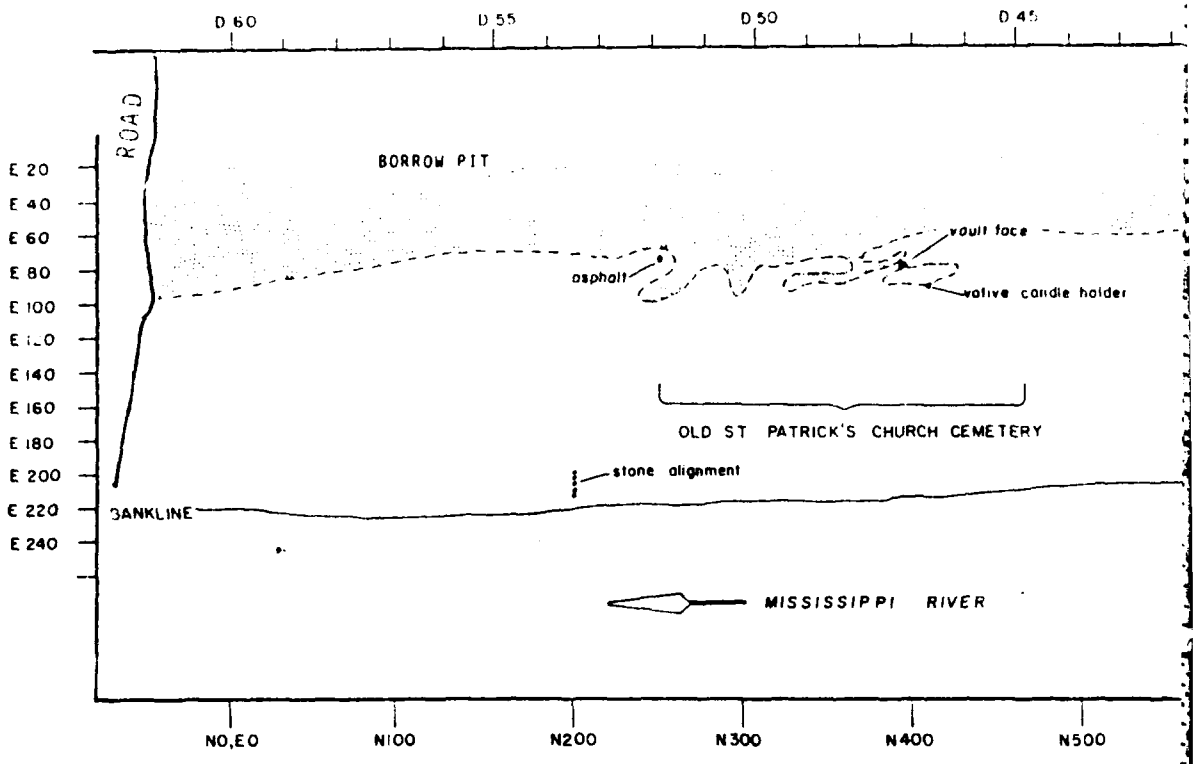
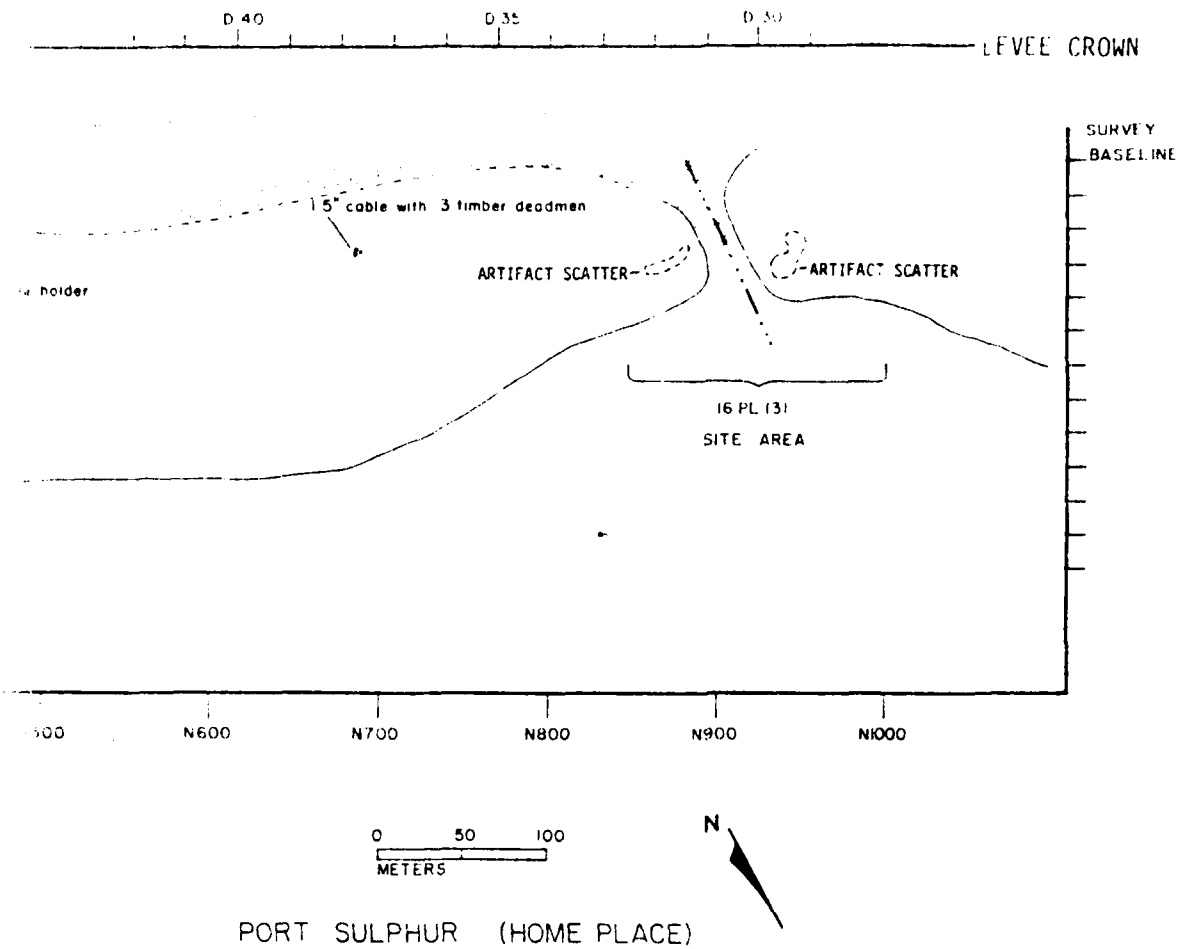


Figure 12. Site plan of the Port Sulphur survey area.



PORT SULPHUR (HOME PLACE)

REVETMENT AREA

At N410, E85, a mound of topsoil and clay 1.5 m in height, 20 m long, and 10 m wide is present (Figure 12). Remnants of above ground tombs from the old St. Patrick's Cemetery are present on this mound, which appears to be the last extant portion of the former levee in the project area. The tombs, of brick and mortar, have been damaged heavily (Figure 13). As noted previously, this cemetery is directly in front of the church and existing cemeteries at Home Place. No closure tablets or inscriptions were found, but blue slate paving accompanied the tomb fragments. A glass votive candle holder (dating from the twentieth century) was found at the site, and brick, mortar, asphalt, and slate samples were collected.

At N687, E78, three large, rectangular pilings or "deadmen" were found (Figure 12). They measured approximately 20 x 30 cm in cross section, and stood vertically in the batture within a 2 x 3 m area. One of the timbers had a thick iron bolt and nut driven through it; they clearly were used recently for securing barges, even though the batture was dry and exposed at the time of the survey.

At N863, E82, a clay mound measuring 2.5 m in height and 16 m long was present. Brick fragments, glass, asphalt, and shell were found associated with this mound, which probably is formed by spoil excavated from the small channel connecting the borrow pit with the river at N900. A second and corresponding mound was located at N945, E78, on the upriver side of the channel (Figure 12). Shell, wire nails, and glass, as well as the base of a nineteenth century wine bottle were found on the surface of this mound. Shovel testing in these mounds failed to provide evidence of in situ remains. The Bellevue Hospital was located in the vicinity of these two small mounds. The nineteenth century material recovered at the mounds might be associated with the hospital, but no diagnostic artifacts clearly indicative of the hospital site were identified. No nineteenth century material was found on the ground surface or in shovel tests in this vicinity, apart from the spoil banks. The hospital site prcbably has been destroyed or seriously disturbed. However, because of the presence of redeposited late nineteenth and early twentieth century debris in these spoil mounds from N860-1000 within the survey grid, a site form was filed with the State Archeologist, and the site was designated 16 PL 131. Because this deposit lacked contextual integrity and research potential, it is not viewed as a significant cultural resource.

After completion of transect survey and surface collection in the Port Sulphur project area, site specific investigation of the old St. Patrick's Cemetery site (16 PL 132) was undertaken. Shovel and probe tests were conducted across the entire former cemetery area, in an effort to discern the presence of any grave sites or interred remains. A stratigraphic profile was cleaned and drawn on the downriver land side of the elliptical cemetery mound, at N387-388. The profile showed the mound to consist of a

Figure 13. Remnant of a disturbed above ground tomb at the old St. Patrick's Cemetery at Home Place, Site 16 PL 132.

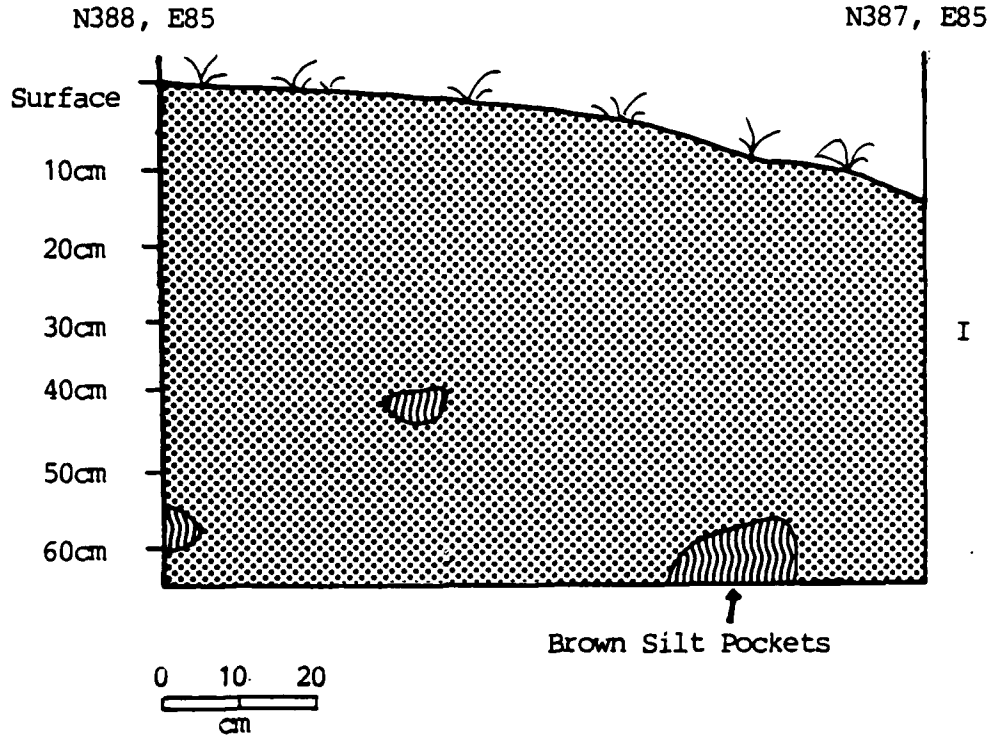
very dark grayish brown (10YR 3/2) silty clay, containing some bricks and brick fragments. The clay had occasional pockets of brown (10YR 5/3) silt in its basal profile sections (Figure 14). A limited number of bricks and brick fragments were encountered at shallow depths below the present ground surface. However, it appears that none of the old cemetery remains in its original context. Human remains, complete tombs, and tomb inscriptions all were absent from the site.

One of the tomb fragments that rests on the surface of the mound is the roof of an above ground tomb. This tomb roof, which is lying upside down on the downriver land side of the mound, is made of Portland cement that contains large numbers of Rangia shells. This distinctive tabby was an interesting characteristic of the site; samples of this construction material were taken for permanent curation. Tabby composed of cemented clam shells has been employed in South Louisiana since the mid-nineteenth century or earlier. Shells removed from prehistoric sites were used for construction of the tabby fill of Fort Livingston, the ante bellum fortification guarding the entrance to Barataria Bay (Swanson 1975:155-156).

A rectangular depression also was found in the silt, 11 m below the upriver extent of the cemetery mound. The depression was 1.2 m wide and 2.3 m long; a small portion of a brick tomb wall was partially buried at the midpoint of one of the long sides of the depression. The depression and associated wall fragment appear to be the remains of an above ground tomb. The cemetery mound itself appears to be a small portion of the former levee, which is shown close to the riverbank on nineteenth century maps (Figure 11). This segment of the early levee was preserved from complete loss to erosion by the stabilizing presence of the tombs. The remainder of the batture has been scoured and reworked by flood waters.

As noted previously, there is an archival record of the removal of the old St. Patrick's Church Cemetery in 1951 by the parishioners and the levee board in anticipation of a levee setback. According to Hingle (1954:27),

> The old St. Patrick's cemetery was lying directly on the line of the new levee and could not remain there. The levee board agreed to move it to the west side of the highway. They constructed a shell road leading along the west end of the church property to a plot 600 feet to the rear of the church. For two weeks trucks carried sand from the river to raise the cemetery 18 inches above the surrounding lowlands. All the old tombs, with the exception of two, were demolished and new ones built in the new location, all placed in perfect alignment so that now St. Patrick's can boast of one of the



PORT SULPHUR

KEY

Mound Matrix: Very dark grayish brown (10 YR 3/2) silty clay containing bricks and brick fragments.

Pockets: Brown (10 YR 5/3) silt loam.

Figure 14. Stratigraphic Profile from the old St. Patrick's Cemetery at Home Place, Site 16 PL 132.

> neatest cemeteries in many miles. On October 22, 1951, the remains in the old cemetery were carried to their new resting place. Many of the relatives of the deceased were present. November 1, 1951, the new cemetery was blessed by the Pastor.

The administration of the old and new St. Patrick's cemeteries remained under the uninterrupted control of the parish church, and all human remains presumably were removed from the threatened burial ground to the new location. The site 16 PL 132, constitutes the disturbed remains of the demolished cemetery. Due to the lack of contextual integrity, the site is not viewed as a significant cultural resource. Nevertheless, the ultimately destructive effect of a prior levee setback on the site is noteworthy.

CHAPTER IV

THE HISTORIC ARCHEOLOGY OF THE VACHERIE REVETMENT PROJECT AREA

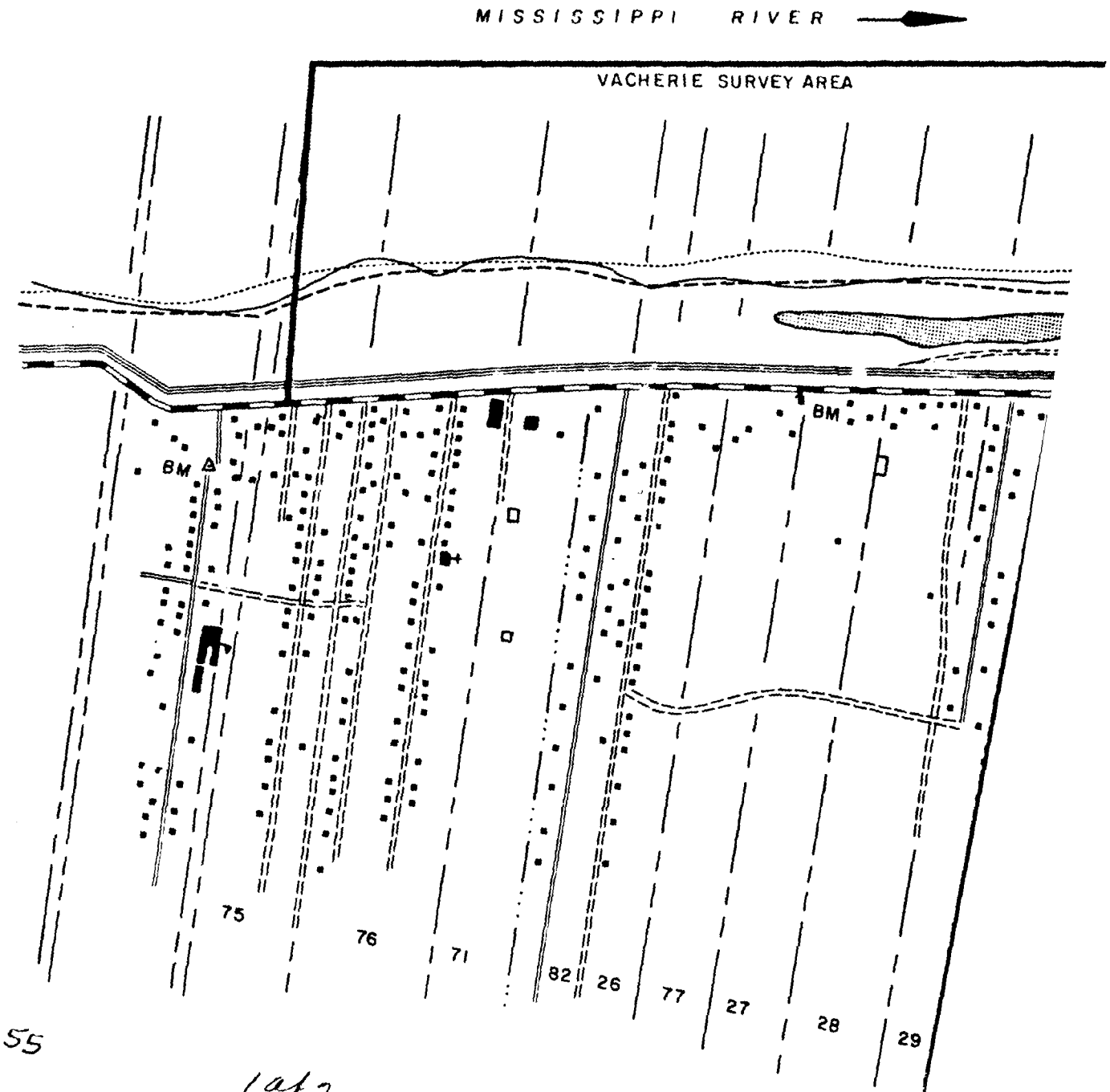
The Setting

The Vacherie revetment project area is located on the West (right descending) bank of the Mississippi River in St. James Parish, Louisiana, adjacent to the community of Vacherie (Figure 15). It is located between river miles M-148.5 and 149.5-R, and between levee stations 1407 + 53 and 1457 + 65. The project area comprises portions of Sections 26, 27, 28, 29, 30, 31, 32, 33, 71, 75, 76, and 77 of Township 12S, Range 17E.

The Vacherie area lies immediately below a slight bend in the river, where erosion is creating a cut bank. A point bar is developing on the opposite shore by Paulina. Historic records of the Lafourche Basin Levee District indicate a loss of up to 20 meters of some sections of the batture to the river between 1895 and 1949 in the immediate area of the planned revetment item (Figure 15). The 1918 levee is being eroded actively along much of its length; in sections, it is entirely destroyed. The surface of the batture behind the old levee appears to be relatively stable, and there is no evidence of river scouring in most portions of the Vacherie project area.

Soils of the project area comprise the Convent Silty Alluvial Land Association, which displays a mixture of sandy to clayey loam. The area is subject to annual flooding and deposition; in the field, finely laminated beds of recently deposited silt and clay were observed atop the old levee at some points. The basal soils in the existing cut bank correspond to the moderately slowly permeable silty land described in the Parish soil survey. Surface deposits consist of dark grayish-brown silt loam or silty clay loam, six to twelve inches thick. The subsoil is a stratified, grayish-brown silt loam and silty clay loam, faintly mottled with yellowish brown and gray (USDA 1973:13).

At the upriver end of the study area, there is a man-made point known as Haas Landing. The landing is as much as 5 m above the level of the natural batture, and it extends some 20-30 m further into the river than the rest of the batture. On September 5, 1984, three cypress irrigation flumes and a plank privy (Features 109-112) were recorded along the erosionary face of Haas Landing. Ten days later, on September 15, 1984, over 40 m of Haas Landing had fallen into the river. Although features 110-112 still were present, their loss to massive erosional impacts is imminent. Feature 109, a plank privy, had disappeared during the same ten day period. This current sequence of events illustrates the rapidity of geomorphic change and site loss in the Vacherie project area.



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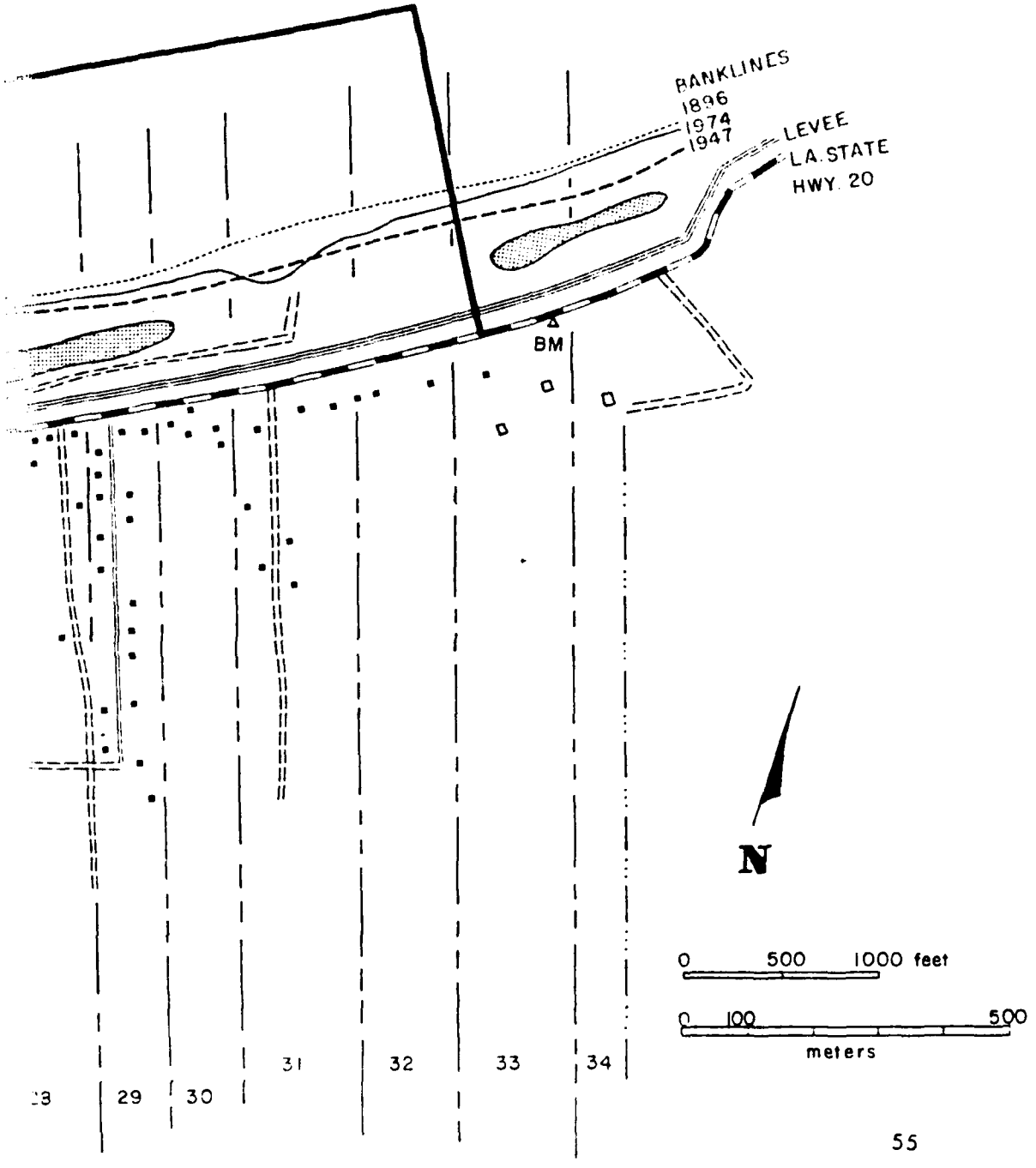

Figure 15. Scaled composite map of the U.S.G.S. quad sheet and banklines locations for 1896, 1947 and 1974 at the Vacherie survey area.

Page 2 of 2

Project Area History

During the nineteenth century, the Vacherie revetment project area was composed primarily of two plantation landholdings. Magnolia Plantation was located at the upriver portion of the project area in Township 12S, Range 17E, Sections 71, 75, 76, 82, and 83, and Crescent Plantation was located at the lower end of the project area in Sections 32 and 33. Several smaller tracts of land that were never consolidated into a larger plantation, and that remained small farms throughout their histories, were located along the river between these two plantations.

Crescent Plantation expanded to a seven and one-half arpents river front property late in the nineteenth century; however, during most of its history it was a two-arpent tract of land. Crescent Plantation came into the possession of Eugene Champagne as early as 1815 (COB 4, Folio 955, St. James Parish). Prior to that time, the land had been claimed by Etienne Toups (Lowrie and Franklin, 1834:269).

The Crescent Plantation holdings belonged to the Champagne family for nearly forty years. It apparently only produced small quantities of sugar during the period of the Champagne family's ownership (Table 2). In 1844, Champagne's property reported only fifty-two hogsheads of sugar (Champomier 1844). On May 15, 1852, the two arpent front property was sold by Adam Evariste Champagne and Adele Champagne (wife of Isidore Dufresne) to Theodule Trepagnier (COB 30, Folio 277, St. James Parish). During the next year, Edmond Trepagnier assumed control of the property (Champomier 1853). He maintained the property until 1860 (Figure 16).

Although the ownership of the land is somewhat unclear during this period, sugar reports suggest that the land may have been absorbed by the J. S. Armant Estate between 1860 and 1870. The chain of title becomes clearer in 1871, when A. Miltenberger & Co. was listed as the owner of Crescent. At that time, the plantation contained a brick sugar house with a shingled roof. In 1871, 157 hogsheads of sugar were produced, utilizing the steam, kettle, and open pan method of granulation (Bouchereau 1871). On February 2, 1874, Emile Legendre, the husband of Anais Armant, one of the heirs of John S. Armant, leased the plantation from A. Miltenberger & Co. for a period of one year. The rent charged was $5,000.00; this fee included the use of the buildings, sugar house, mules, carts, plows, and implements of husbandry. Legendre also was allowed the free use of the coal, corn and wood on the plantation. In return, Legendre was bound to leave on the plantation enough good cane to plant about 100 arpents of cane in 1875 (COB 40, Folio 313, St. James Parish). The property yielded 104 hogsheads of sugar, and 215 barrels of rice in the 1874-75 season.

Emile Legendre continued to lease the plantation until 1877. However, after 1874 the lessor of record was the Citizen's Bank of Louisiana (COB 40, Folio 558, St. James Parish). Legendre bought

Table 2. Sugar Production at Crescent Plantation 1844-1860, 1871-1900 (Bouchereau 1871-1900)

Year	Owner/Manager	Hhds Sugar	
1844	Evariste Champagne	52	
1845-46	"	32	
1849-50	Est. of Evariste Champagne	15	
1850-51	"	2	
1851-52	"	15	
1852-53	Theodule Trepagnier	--	
1853-54	Edmond Trepagnier	6	
1854-55	"	82	
1855-56	"	65	
1856-57	"	--	
1857-58	"	--	
1858-59	"	75	
1859-60	E. Trepagnier, 24; A. Trosclair, 12	36	
1871-72	A. Miltenberger & Co.	157	
1872-73	"	181	
1873-74	"	83	
1874-75	E. Legendre	104	215 bbls. rice
1875-76	"	80	340 bbls. rice
1876-77	"	172	1460 bbls. rice
1877-78	"	90	600 bbls. rice
1878-79	"	145	775 bbls. rice
1879-80	"	185	168 bbls. rice
1880-81	"	190	652 bbls. rice

Table 2. (Continued)

1881-82	"	76	435 bbls. rice
1882-83	"	--	5755 bbls. rice
1883-84	Est. Emile Legendre	--	3500 bbls. rice
1884-85	"Sundry Planters"	--	1605 bbls. rice
1885-86	Emile Legendre	--	1650 bbls. rice
1886-87	"	--	1100 bbls. rice
1887-88	Louis Himel	--	4000 bbls. rice
1888-89	"	--	3850 bbls. rice
1889-90	"	--	
1890-91	"	--	
1891-92	"	--	
1896-97	"	N.Y.	
1897-98	"	703,500 lbs.	
1898-99	"	758,520 lbs.	
1899-1900	"	422,476 lbs.	

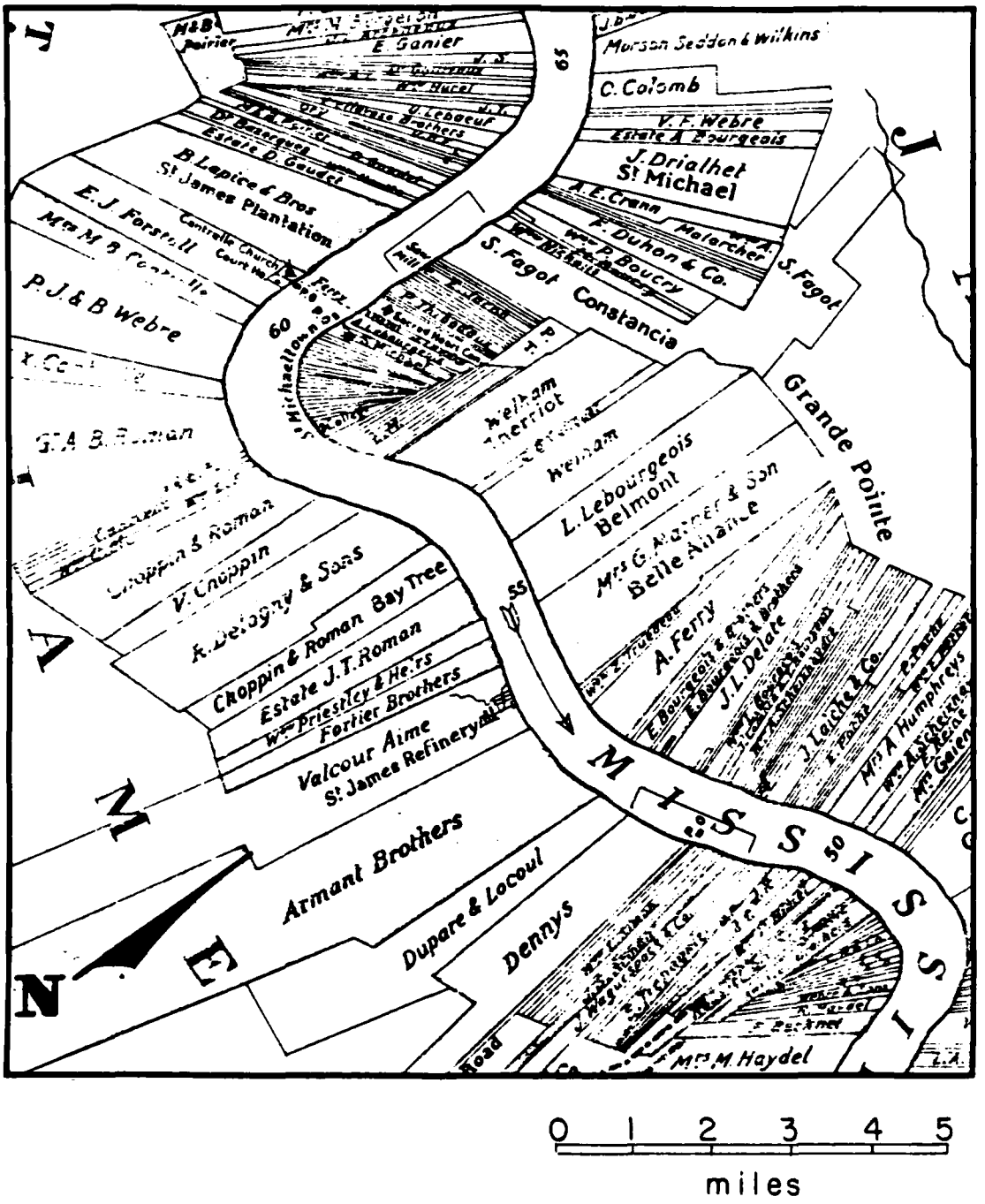

Figure 16. Excerpt from Norman's "Chart of the Mississippi River From Natchez to New Orleans" (1858) showing the Vacherie and Romeville project areas.

the property from the bank in 1877. At that time, the plantation was seven and one half arpents front. The consideration for the sale was $28,000.00 (Edgar Grima, Feb. 10, 1877, NONA). The sale included the buildings, sugar mill, mules, cattle, stock, carts, ploughs and farming tools on the property. Shortly thereafter, Louis Hymel gained possession of the land. Figure 17 shows Crescent Plantation in 1894, during the period of Hymel's ownership. In 1894, only five small structures were present on the plantation. No report of crop production was recorded until the 1897-98 season, when 703,500 pounds of sugar were produced (Bouchereau 1898).

As noted previously, the upper end of the project area included the area that became known as Magnolia Plantation. This land originally was claimed by the Frederic family in 1807 (Lowrie and Franklin, 1834:285, 266, 268). In that federal land claim, the early history of this portion of the project property was recounted, beginning with a 1755 concession to Andre Neau. The property granted consisted of a certain tract of land measuring twenty arpents front on the Mississippi River by forty arpents in depth. It originally was granted by Governor Louis de Kerlerec to Andre Neau, and later transferred to M. Delery. However, Delery was unable to support the road and levee in this area, and he consented to the reannexation to the French crown of twelve arpents front. The remaining eight arpents front by forty arpents deep passed, through a series of sales, to Mathias Frederic. Frederic also acquired six arpents and thirteen toises that had been granted to Juan Mouton in 1773 by Governor Luis de Unzaga. In 1783, Frederic obtained a regular order of survey from Governor Esteban Miro, thus securing the title to his fourteen arpents and thirteen toises property for his heirs. This parcel of land later was claimed by Pierre Frederic for himself, Francois Frederic, Antoine Frederic, Noel Guisclar, as husband of Charlotte Frederic, and for the infant heirs of Mathias Frederic, who by that time had deceased (Lowrie and Franklin 1834:285). This property is the earliest documented settled land in St. James Parish.

Between 1812 and 1827, Sosthene and Zenon Roman bought the tracts of land that were to become Magnolia Plantation. The upper portion, which consisted of eight arpents and fourteen toises front by forty arpents in depth, was bought from Mrs. Louise Patin, the widow of Jacques Roman, on May 2, 1812 (COB 5, Folio 385, St. James Parish). The Romans subsequently purchased a total of ten arpents front from the heirs and successors of Mathias Frederic. An additional four arpents front were purchased from Antoine Frederic on March 18, 1814 (COB 4, Folio 525, St. James Parish), bringing the Romans' holdings in the area to a total of twelve arpents and fourteen toises front. Two more arpents front were purchased from Mathias and Jean Baptiste Frederic in 1815 (COB 4, Folio 964, St. James Parish). Finally, four arpents at the downriver end of the present project area were acquired at the succession sale of Marie Frederic, widow of Francois Frederic, on May 14, 1827 (COB 10, Folio 89, St. James Parish). On January 26, 1831, Sosthene Roman bought the interest of Zenon for the above

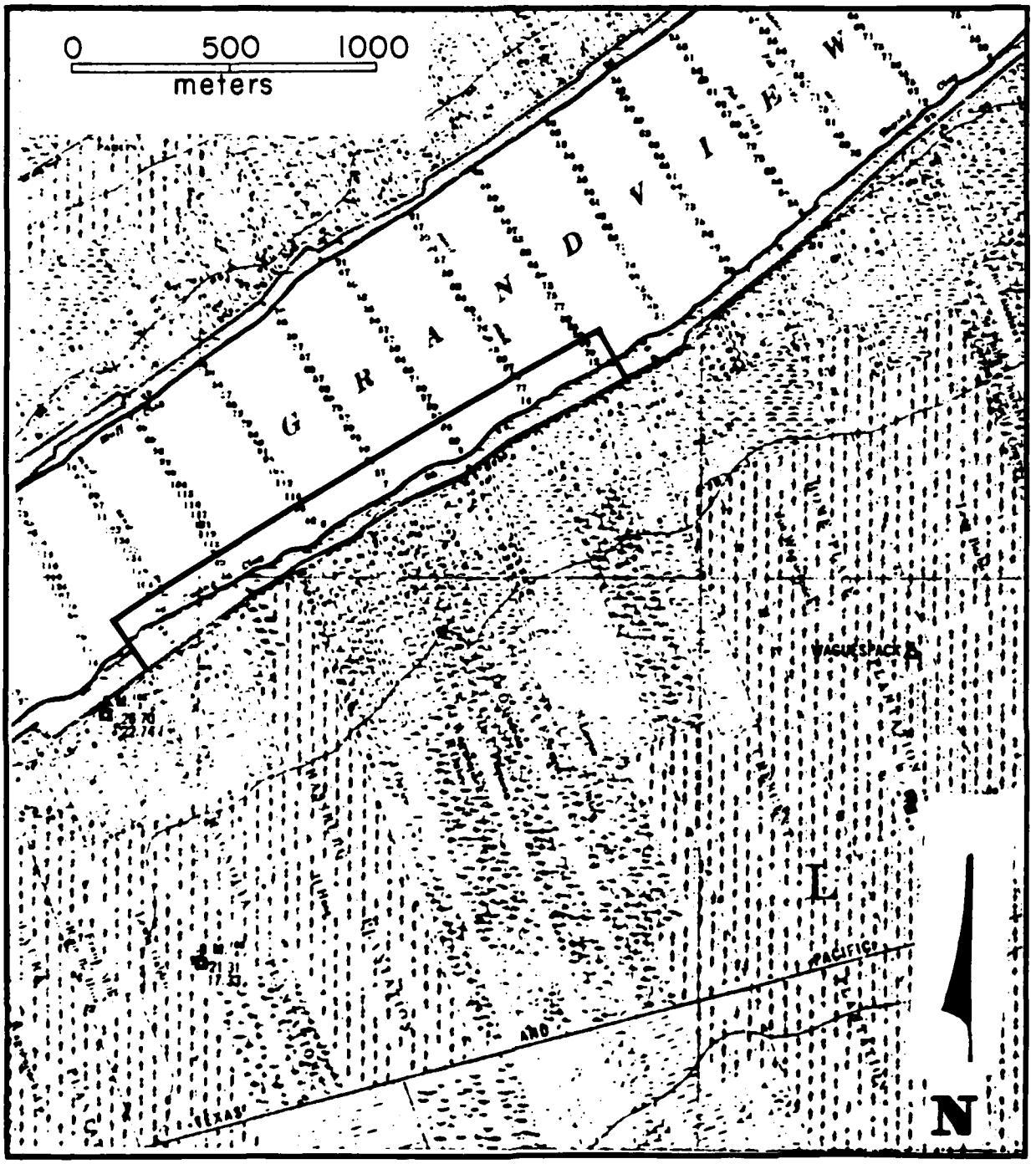

Figure 17. Excerpt of the 1876 Mississippi River Commission Map showing the Vacherie project area.

lands, as well as for other properties that they had owned jointly (COB 32, Folio 182, St. James Parish).

Magnolia Plantation was operated throughout the Roman tenure as a sugar plantation. It produced 570 hogsheads of sugar in 1844 (Champomier 1844). In 1857, Sosthene Roman sold the plantation to a partnership consisting of Jacob Denny, William Hieronymous, and Webb Ross for $270,532.39 (Theodore Guyol, May 20, 1857, NONA). The plantation at that time was described as measuring eighteen arpents and twenty-three toises front, bounded above by the property of Duparc and below by Valery Armant. The sale included all buildings and improvements, engines and machinery, stock, cattle, horses, mules, carts, wagons, farming utensils, and 120 slaves. In addition, 1148 shares of stock in the Citizen's Bank of Louisiana were conveyed at that time. The partnership held the plantation property for eight years (Figure 16). During this period, sugar continued to be the staple crop of the plantation. A record 900 hogsheads (Table 3) were produced during the 1861-62 season (Champomier 1862).

On November 15, 1865 a writ of seizure and sale was issued for the property (COB 40, Folio 38, St. James Parish), which was adjudicated to "the widow and a portion of the heirs of the late Sosthene Roman and Mrs. Marie Louise Roman wife of Euphemon S. Roman, one of the heirs of said Sosthene Roman." The consideration was $120,000.00, which was significantly less than the 1857 price. This reduction undoubtedly was due to the loss of the value of the slaves, following the Emancipation Proclamation.

Apparently, the Romans had financial difficulties, as well, during the early reconstruction period, because several years later their Magnolia properties featured heavily in a suit involving the Roman heirs; the partnership that had owned and lost the plantation previously; and, the Citizen's Bank of Louisiana. The Citizen's Bank of Louisiana had acquired possession of the plantation property on May 4, 1872, at a public sale resulting from the case of the "Citizen's Bank of Louisiana versus J. Denny, William T. Hieronymous, Webb Ross, and widow and heirs of S. Roman as actual possessors" (#440, 4th Judicial District Court, St. James Parish). The Magnolia property fronting the river subsequently was sold on December 9, 1881, to Elphege Poche. At the time of that sale by the Citizen's Bank, the property still consisted of eighteen arpents and twenty-three toises front, by eighty arpents in depth (COB 49, Folio 157, St. James Parish). All buildings, sugar house, fences, and appurtenances were conveyed at the time of that sale. The bank had let the land in question for cultivation during this period, since the sale to Poche was subject to a lease expiring on December 31, 1882. During the period from 1873 to 1881, the property produced rice exclusively. Significant quantities of rice were milled at Magnolia during the harvests of 1882-1883 and 1883-1884 (Table 4). As will be seen, there is today ample archeological evidence of the importance of rice cultivation in the Vacherie area prior to the turn of the last century.

Table 3. Sugar Production at Magnolia Plantation, 1844-1862 (Champomier 1844-1862).

YEAR	OWNER/MANAGER	Hhds. Sugar
1844	Sosthene Roman	570
1845-46	"	427
1849-50	"	397
1850-51	"	168
1851-52	"	418
1852-53	"	341
1853-54	"	577
1854-55	"	474
1855-56	"	180
1856-57	"	188
1857-58	Denny, Cox & Hyronemous (sic)	220
1858-59	J. H. Riggins & Co.	267
1859-60	"	361
1860-61	Estate of J. H. Riggins	278
1861-62	"	900

Table 4. Rice Production at Magnolia Plantation, 1868-1884 (Bouchereau 1869-1884).

YEAR	OWNER/MANAGER	BARRELS PRODUCED	
1868-69	P. Maspero & Co.	1500 (200 lb.)	
1869-70	"	1400	
1870-71	"	----	
1871-72	Mrs. S. Roman	----	
1872-73	Citizen's Bank	N.Y.	
1873-74	Victor Armant	560	
1874-75	Legendre & Poche'	1930	
1875-76	"	514	
1876-77	"	1260	
1877-78	"	780	
1878-79	Lange & Legendre	1714	
1879-80	"	127	
1880-81	"	865	
1881-82	Elphege Poche'	----	
1882-83	P. Monconduit & Co.	3630	Milled at Magnolia
	A. A. Jacob & Shares	3740	"
1883-84	P. Monconduit & Co.	2000	"
	A. A. Jacob & Shares	4000	"

Following this series of transactions, the property was subdivided. Poche sold two and one-fourth arpents of the land to Alexander Jacob on February 6, 1882 (COB 49, Folio 202, St. James Parish). He also sold a three arpent parcel to Hans Haas, listed as a resident of New Orleans, on January 3, 1883 (COB 48, Folio 275, St. James). On the 1877 Mississippi River Commission Map, which was drafted in 1894, this tract was labeled "Haasburg Plantation." Magnolia Plantation was shown immediately upriver from Haasburg (Figure 17). Haas' son, O. L. Haas (Personal communication, 1984), stated that his father built the last of the numerous rice flumes in the area during 1888 at Haasburg Plantation. Hans Haas relinquished control of this property, however, when served a notice of seizure on May 13, 1895 (COB 53, Folio 502, St. James Parish). The land was sold at a public sale in the suit entitled "George Haas vs. Hans Haas" (#1843, 4th Judicial District Court, St. James Parish). In June, 1895, Paul M. Lambremont, Jr. purchased the property at auction for $2,350.00. The sale included all buildings and improvements, twelve mules, one three-mule cart, two four-mule carts, two one-mule plows, eight two-mule plows, three four-mule plows, two one-mule plows, one six-mule plow, one stubble digger, one cultivator, one revolving harrow, one thresher, one engine boiler and pump, one syphon, gearings, harnesses and "all other movables thereon and thereunto belonging" (COB 53, Folio 502, St. James Parish). Two days later, Lambremont sold one arpent of the property to George Haas (COB 53, Folio 507, St. James Parish).

The Magnolia Plantation properties were held variously by the Frederic and Roman families, the Denny partnership, the Citizen's Bank, and Elphege Poche. Lesser parcels were held by Hans and George Haas, and by Paul Lambremont. Crescent Plantation, on the downriver side of the project area, was held by Champagne, Trepagnier, Miltenberger & Co., and Legendre. Ownership of the intervening farm areas, in Sections 26 - 32 and 77, were confirmed ca. 1812 in the form of small tracts of three or less arpents front each. From upriver to downriver, the claimants were the heirs of Mathias Frederic, George Autin, Pierre Frederic, Christophe Trosler (Trosclair?), Gabriel Rodrigues, and Jean Roman.

During the ante bellum years, annual sugar reports noted that a few farmers in this intervening area engaged in sugar cultivation. In 1857, a number of residences and commercial establishments also were present in this portion of the project area. These included: Armand & Sons' Store; Valery Armand (Armant); the Vacherie Landing Wood Yard; Henry Frederic, listed as a corn producer; Louis Emma's Store; Thelesfort Waguespack (also listed as Waigespack, sic), who grew corn; the Widows Michel Simon and Lefroid Simon, both listed as growing sugar; Amede Arcenaud (Arcenaux), a merchant; and, Drosin Luquet, Jr., John S. Armant, Joseph Waigespack (sic), Norbert Zeringue, and widow Drosin Luquet, all of whom produced sugar (Henry and Gerodias, 1857). After the War Between the States, a hiatus in economic activity in the area persisted for approximately ten years. During this period, little sugar was grown (Table 5). Rice cultivation began during 1875, and after this date a rapid growth

in the number of rice farmers in the area continued until ca. 1890. Oddly, reportage of rice crops within this area ceased abruptly in 1890.

Figure 17 illustrates the project area in 1894. Landholders at this time included J. and R. Oubre; J. Waguespack; Dr. O. Gaudet; F. Simon; T. Oubre; and, S. Luquet. At this time, few fields appear to have been in cultivation. However, numerous small buildings indicative of extensive residential development were present.

To recapitulate, it is clear from the archival record that the Vacherie area produced substantial and fairly consistent amounts of rice during the final quarter of the nineteenth century (Tables 2, 4, and 5). The archeological record of rice cultivation is observable in a series of cypress flumes visible along the batture at low water. These flumes also play a role in the oral history of the area. According to O. L. Haas (personal communication, 1984), the majority of the flumes were constructed prior to 1888. The number and regular spacing of the flumes within the project area suggest that one flume may have serviced each of the farms. Although the design of these flumes was determined largely by function, technology, and available materials, both their distribution across the Vacherie project area (Figure 18) and their morphological similarity indicate at minimum the large scale adoption of a specific agricultural technology. The construction of irrigation systems as a community effort would have been particularly efficient for small-scale farmers, particularly in the post bellum period when labor was in short supply. In addition, a number of tenant properties were present, as indicated in the 1889 and 1890 sugar and rice reports (Bouchereau 1889-1890). Thus, intensive rice cultivation during the late nineteenth century in the Vacherie area appears to represent an adaptation to the post bellum environment that cross cut economic strata, and that served small and large farmers alike.

Between 1875 and 1890, rice production totally surpassed sugar as the major cash crop of the area. Crescent Plantation, which produced both rice and sugar until 1882 (Table 2), was the one notable exception. Between 1887 and 1890, the areas above and below the present project area were again producing sugar; the parcels at Vacherie continued to cultivate rice exclusively. After 1896, Crescent Plantation, with Louis Hymel as planter, was the only property in the project area that reported any sugar production. Sugar was produced there from 1897 to 1906; 703,500 pounds of sugar were reported for the 1897-98 season, and a sugar house was present on the property.

Field Investigations

Pedestrian transect survey and surface collection at Vacherie were undertaken by a five man crew, using 20 m quadrat control blocks. The transect interval applied also was 20 m. During the course of survey, the locations of stratified cultural

Table 5. Sugar and Rice Production of Farms Between Magnolia & Crescent, 1844-1890 (Champomier 1844-1862; Bouchereau 1869-1890).

Year	Owner/Manager	Hhds. Sugar
1844	L. Simon & Co.	84
	J. S. Armant	380
1845-46	Simon Bros.	100
	J. S. Armant	340
1849-50	Simon Bros.	89
	Gen. J. S. Armant	365
1850-51	Simon Bros. & others	55
	Gen. J. S. Armant	312
	J. Waguespack & Sons & others	62
1851-52	A. Falgout	50
	Simon Bros.	88
	J. S. Armant	338
	J. Waguespack et al	70
1852-53	A. Falgout	58
	Simon Bros. & others	175
	J. S. Armant	350
	J. Waguespack & Sons & others	82
1853-54	A. Falgout	98
	Simon Bros. et al	160
	J. S. Armant	616
	J. Waguespack & Sons	118
1854-55	A. Falgout	102
	Simon Bros. et al (75 hhds. burnt)	75
	J. S. Armant	466
	J. Waguespack & Sons	141
1855-56	A. Falgout	84
	Simon Bros. et al	49
	J. S. Armant	286
	J. Waguespack et al	92
1856-57	A. Falgout	36
	Simon Bros. et al	6
	J. S. Armant	210
	J. Waguespack et al	15
1857-58	Augustin Falgout	124
	Simon Bros. et al	54
	J. S. Armant	250
	J. Waguespack	101

Table 5. (Continued)

Year	Owner/Manager	Hhds. Sugar
1858-59	A. Falgout	55
	Simon Bros. et al	65
	J. S. Armant	235
	J. Waguespack et al	130
1859-60	M. Bourgeois	24
	A. Falgout	48
	Leufroy Simon	60
	Est. J. S. Armant	195
	J. Waguespack & Sons	72
1860-61	M. Bourgeois	24
	A. Falgout	100
	Leufron Simon	46
	Est. J. S. Armant	275
	J. Waguespack & Sons	56
1861-62	M. Bourgeois	63
	A. Falgout	103
	L. Simon	120
	Est. J. S. Armant	520
	J. Waguespack & Sons	237
1868-69	J. V. Armant & others	---
	H. Oubre	---
	Simon Bros.	---
	Est. J. S. Armant	160
1869-70	J. V. Armant	---
	H. Oubre	---
	Simon Bros.	---
	Est. J. S. Armant	13
	J. Waguespack	65
1870-71	Simon Bros.	N.Y.
	Est. J. S. Armant	200
1871-72	Simon Bros.	18
	Silver Luquet	6
	Telesford Waguespack	6
1872-73	Simon Bros.	29
	Silver Luquet	4
	Telesford Waguespack	9
1873-74	Simon Bros.	20
	Silver Luquet	4
1874-75	Dominique, Bouy & Co.	---
	Simon Bros.	36

Table 5. (Continued)

Year	Owner/Manager	Hhds. Sugar
1875-76	John V. Armant James Hubbell M. Frederic Dominique, Bouy & Co.	Total of 730 bbls. of rice
1876-77	John V. Armant James Hubbell M. Frederic Dominique, Bouy & Co. Simon Bros. F. Oubre Silver Luquet	Total of 1670 barrels of rice
1877-78	John V. Armant James Hubbell M. Frederic Dominique, Bouy & Co. Simon Bros. F. Oubre Silver Luquet	Total of 2400 barrels of rice
1878-79	J. V. Armant M. Frederic Dominique Bouy & Co. J. Oubre O. Waguespack T. Kilbert Widow Michel Simon Dr. P. C. Tircuit Dr. O. Gaudet P. C. Simon T. Oubre Widow F. Simon S. Luquet	Total of 3493 barrels of rice
1879-80	J. V. Armant M. Frederic Dominique Bouy & Co. J. Oubre O. Waguespack T. Kilbert Widow Michel Simon Dr. P. C. Tircuit Dr. O. Gaudet P. C. Simon T. Oubre Widow F. Simon S. Luquet	Total of 152 barrels of rice and 1 N.Y.

Table 5. (Continued)

Year	Owner/Manager	Hhds. Sugar
1880-81	J. V. Armant M. Frederic J. Oubre Widow F. Simon	Total of 279 barrels of rice
1881-82	J. Oubre Simon Bros.	95 bbls. rice
1882-83	None Listed	
1883-84	None Listed	
1884-85	H. Haas & Co. A. Jasmin J. Oubre Widow T. Waguespack J. Luquette	Total of 3219 bbls. rice
1885-86	Schexnyder & Co. Mrs. Alex Jacob & Co. H. Haas et al. A. Jasmin J. Oubre D. Bouy O. Gaudet	Total of 6320 bbls. of rice
1886-87	H. Haas et al. A. Jasmin J. Oubre D. Bouy O. Gaudet	Total of 4757 bbls. of rice
1887-88	H. Haas Dr. O. Gaudet	Total of 1210 bbls. of rice
1888-89	Haas & tenants Oubre Widow T. Waguespack Alcide Kilbert Dr. Oscar Gaudet Widow Froizin Simon T. Oubre's tenants S. Louquete (sic) T. Davis et al.	Total of 6066 bbls. of rice

Table 5. (Continued)

Year	Owner/Manager	Hhds. Sugar
1889-90	Haas & tenants Oubre Widow T. Waguespack Alcide Kilbert Dr. Oscar Gaudet Widow Froizin Simon T. Oubre's tenants S. Louquete (sic) T. Davis et al. F. Kroll James Hubbell Jules Hubbell Kilbert & Waguespack Dr. P. C. Tircuit	Total of 3464 bbls. rice and 6 N.Y.

remains exposed in profiles along the irregular river terrace also were noted. Similarly, a number of archeological features were observed, mapped, and recorded during the archeological reconnaissance. As will be seen, most artifacts collected from the Vacherie project area had been washed out of the erosionary face of the river terrace, and were encountered on the clay beach (Figure 18). Some artifacts also were found on top of the terrace. The Vacherie project area is depicted in the site plan, Figure 18. A list of archeological features at Vacherie is contained in Table 6.

One striking feature of the Vacherie project area is the fact that stratified cultural remains are exposed and visible in the erosionary face of the river terrace from N290-N955 (Figure 19). Throughout this 665 m long area, gravel and oyster shell lenses representative of relict levee roads are present, as are concentrations of domestic habitation refuse dating from the early through late nineteenth century. The uppermost gravel levee road lens dates from 1917 (O.L. Haas, personal communication 1984). An earlier, distinct oyster shell levee road lens also is present in a number of locales along the river cut bank, where it is located 15 - 30 cm below the 1917 levee road.

In a number of locales, artifacts are present in concentrations on the surface of the lower river bank terrace, below the cut bank. In other portions of the survey area, no artifacts were recovered. The extreme downriver segment of the study area was lacking in visible cultural remains; the lowermost quadrat or block where artifacts were present and collected was located at N260-280, E480-500. The uppermost collection locus that produced artifacts was located at N1140-1160, E520-540. Above N1160 (Figure 18), no cultural refuse or artifacts were observed or collected, with the exception of several wooden irrigation features recorded for this upriver portion of the study area.

Perhaps the most striking set of archeological features at the Vacherie project area consists of eight cypress plank rice irrigation flumes that ante date 1888. Six of these (Table 6, Figures 20 and 21) average 50 - 60 cm in width, where they are exposed on the river side of the batture cut bank. Although weathered, their general condition is good. They were assembled with nineteenth century square cut nails. Two other irrigation flumes, located at the upriver end of the project area in the vicinity of Haas Landing, are larger and of more recent manufacture. They exhibit less weathering, and the top or cover planks of these two flumes remain intact. Furthermore, these flumes were the last installed, according to O. L. Haas (personal communication 1984), who stated that they were constructed by his father in 1888. These data provide an indication that the six more downriver flumes may have been constructed closer to the advent of rice cultivation on a large scale in the Vacherie area, shortly after the advent of the Reconstruction period.

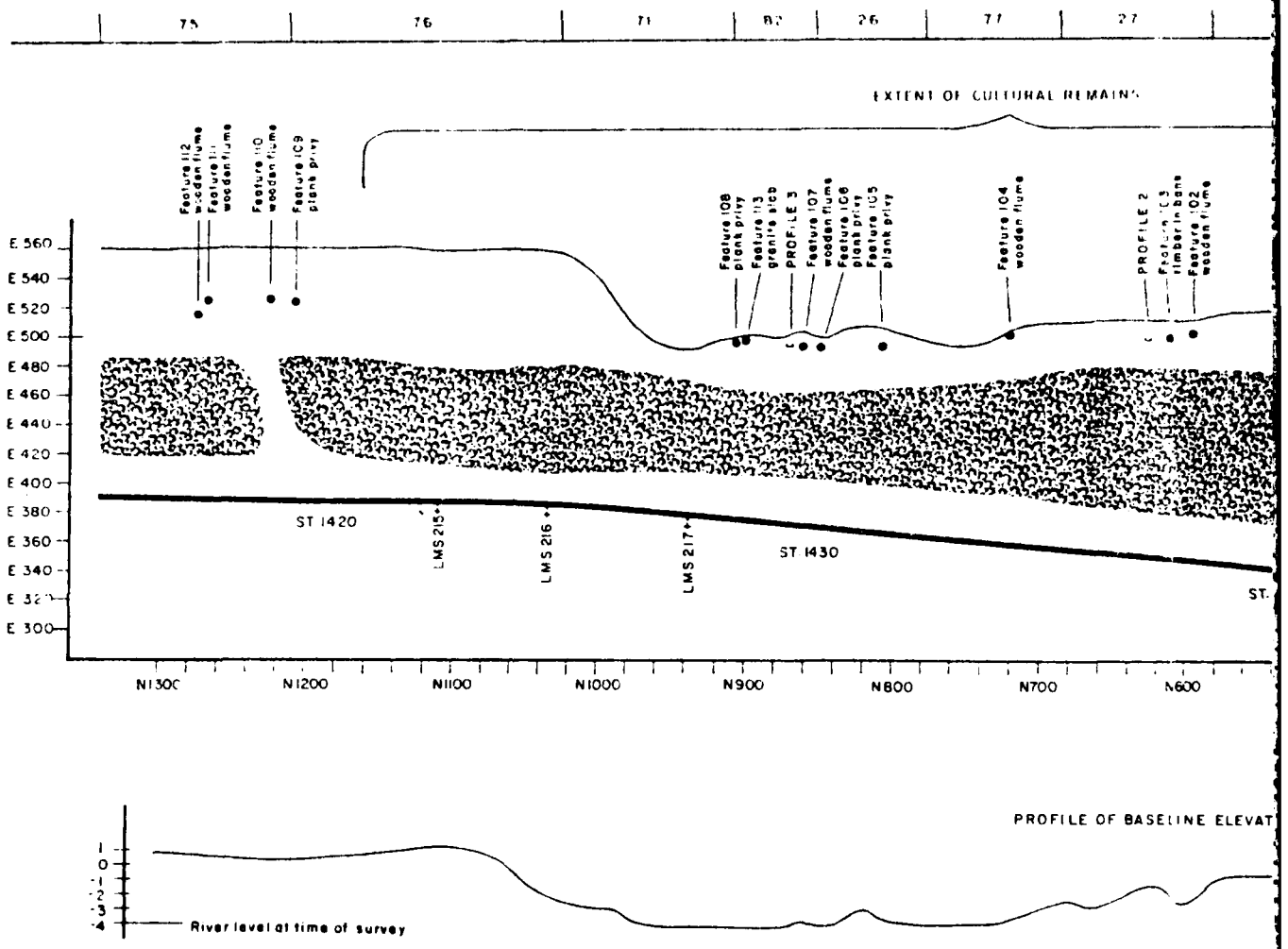

Figure 18. Site plan of the Vacherie survey area.

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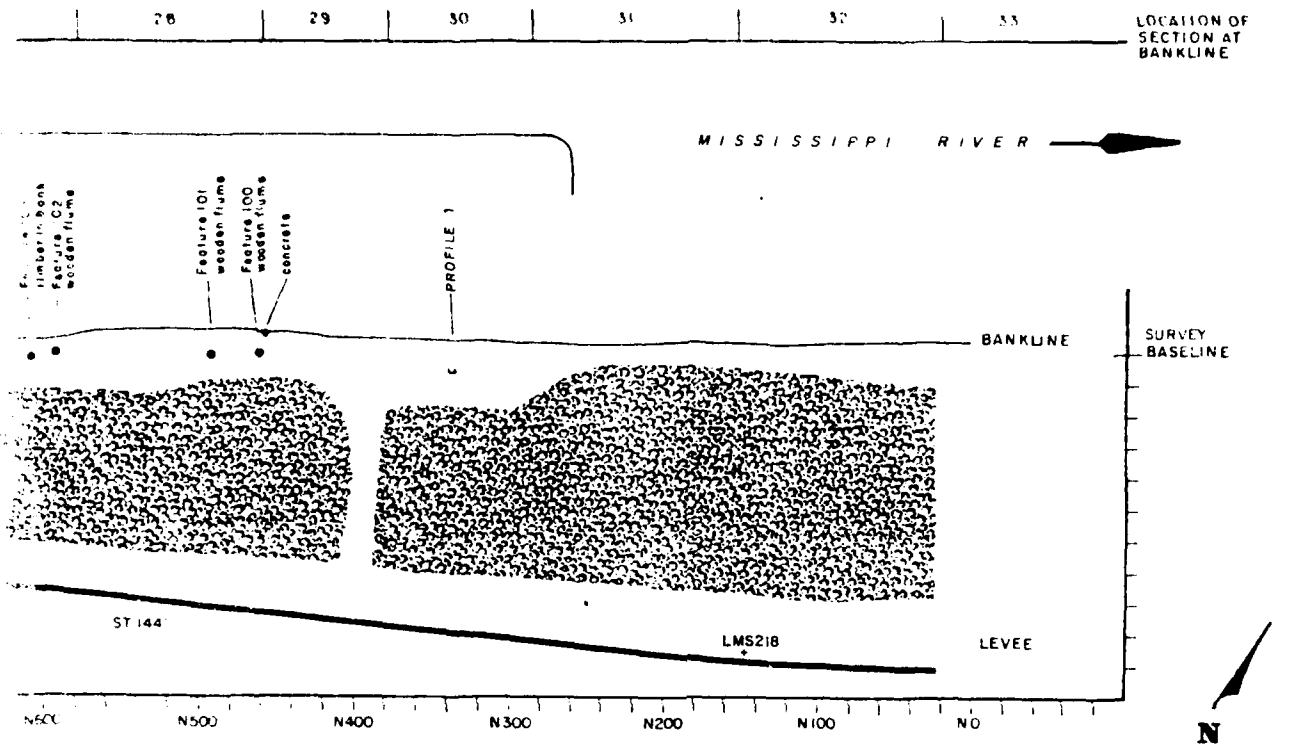

VACHERIE

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TABLE 6. Archeological Features at Vacherie, 16 SJ 40.

Feature 100	N461 E499	Cypress flume with 18" diameter metal pipe inside.
Feature 101	N498 E500	Cypress flume on shell beach
Feature 102	N596.5 E500	Cypress flume exposed on river at bank
Feature 103	N608 E497.5	Cypress timber eroding out of bank, 30 cm below surface; runs parallel to bank
Feature 104	N719 E493	Cypress flume in mid-bank 1.5 m below surface; has top cover board intact
Feature 105	N808 E492	Plank privy; vertical cypress planks on top of bank
Feature 106	N848 E492	Plank privy; vertical cypress planks on top of bank
Feature 107	N860 E492	Cypress flume extending from cut bank
Feature 108	N905 E490.5	Cave-in at plank privy with vertical cypress planks along sides; dense concentration of artifacts eroding out of bank
Feature 109	N1207 E521.5	Plank privy on bank at high area in upriver section (Haas Landing)
Feature 110	N1222 E522	Cypress flume eroding out of top of bank at high area in upriver section (Haas Landing)
Feature 111	N1266 E524	Cypress flume with cover; looks more modern than others -- 110 cm. wide
Feature 112	N1272	Cypress flume with cover; near and analogous to Feature 111. 1 m wide
Feature 113	N899 E494.5	Granite slab on beach immediately downriver from Feature 108; slab is 130 cm long, 50 cm wide, and 8.5 cm thick. Long axis parallels river

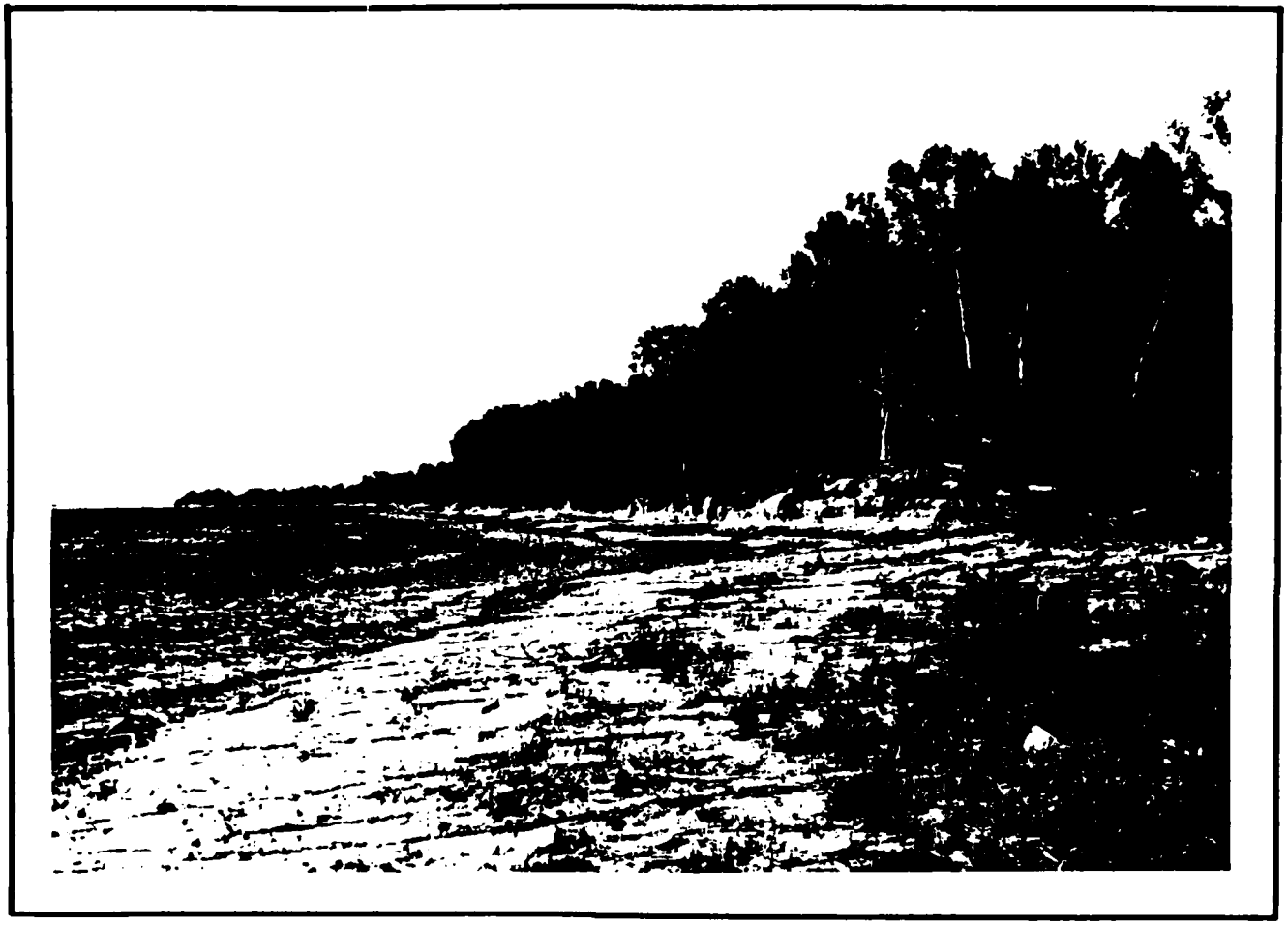

Figure 19. View of the Vacherie project area from N1000.

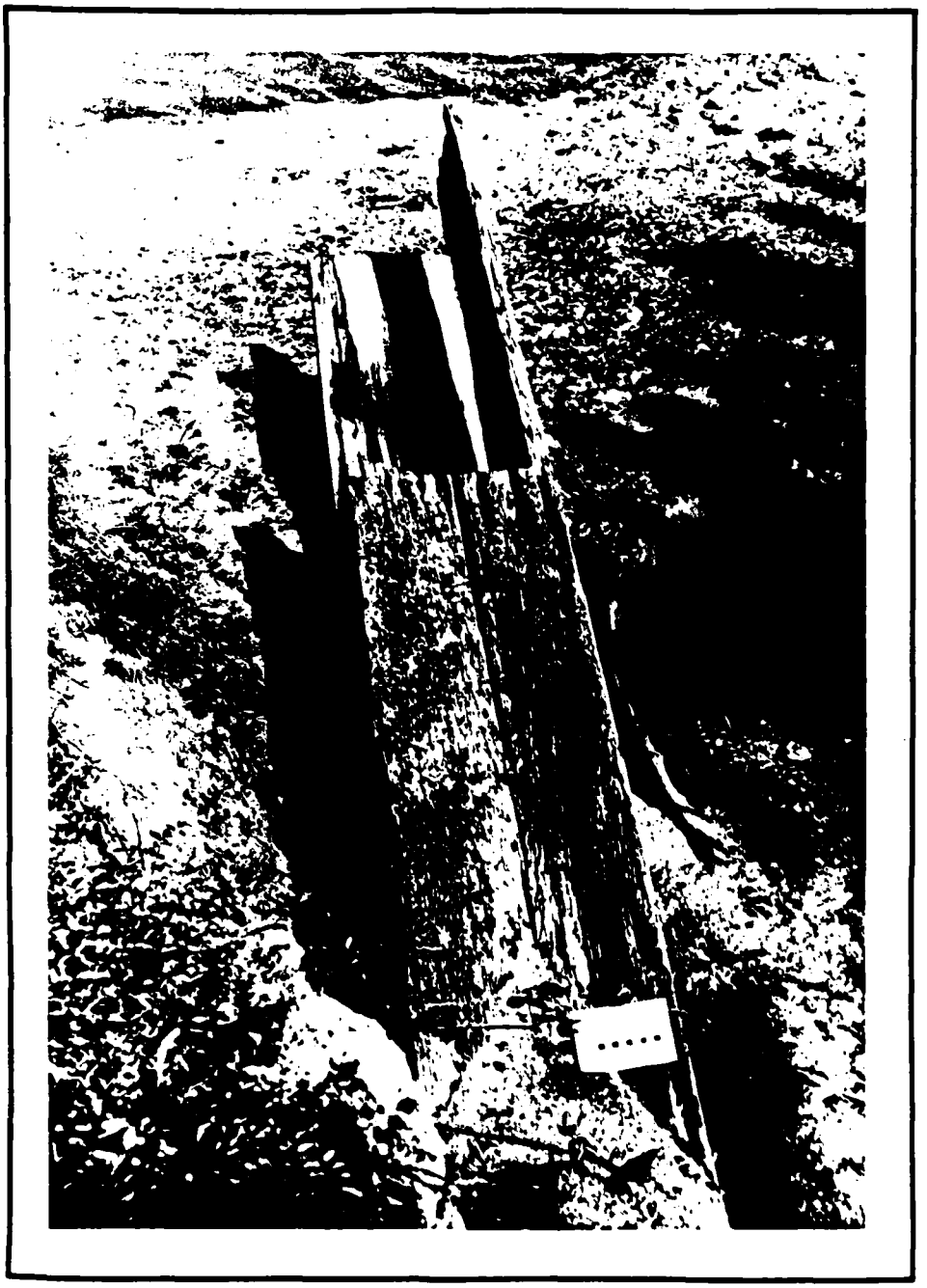

Figure 20. Cypress irrigation flume (Feature 104) at Vacherie.

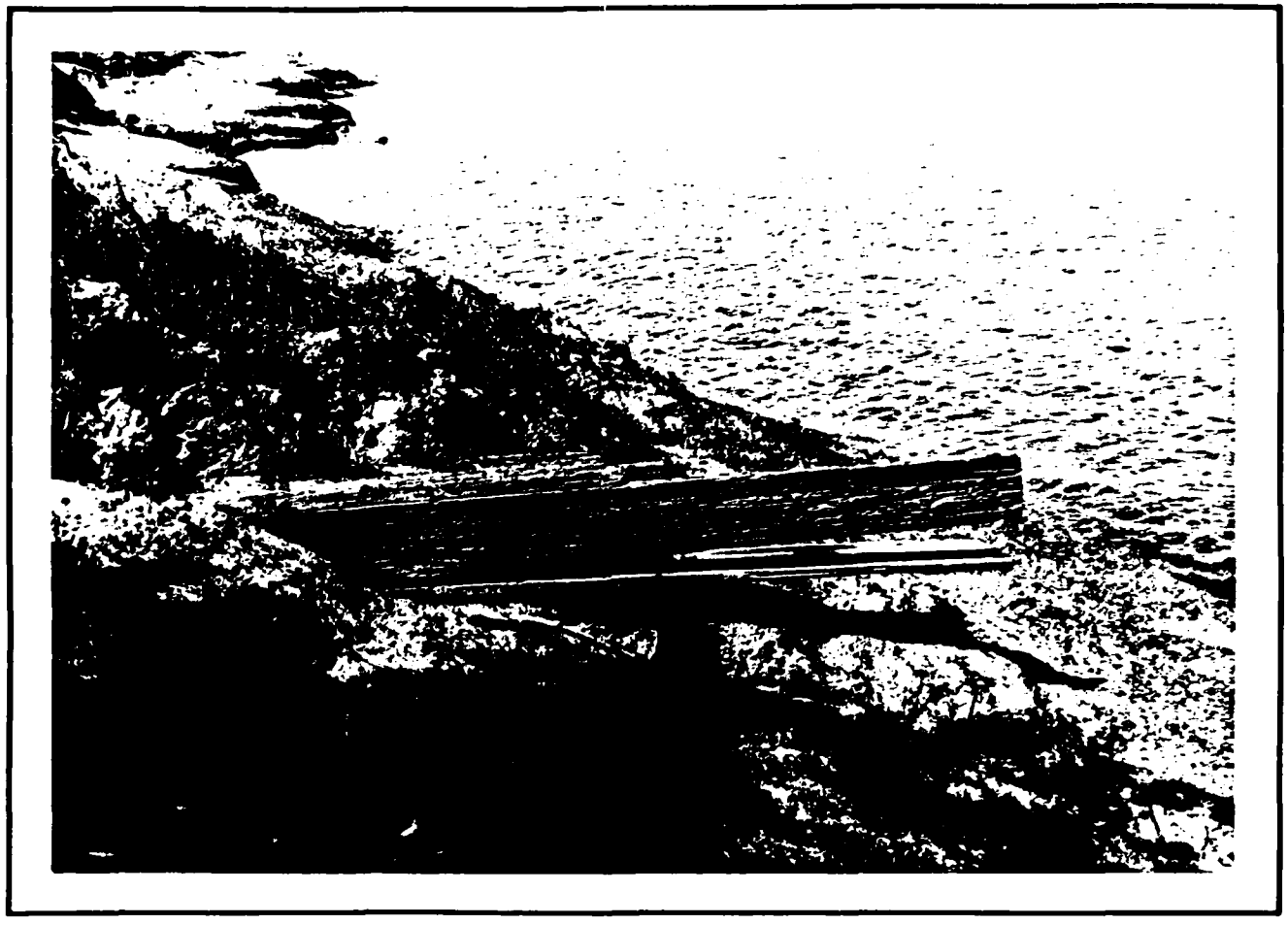

Figure 21. Cypress irrigation flume (Feature 104) at Vacherie.

Four cypress plank privies also were observed and recorded at the Vacherie site, which has been designated 16 SJ 40. These were located at N808, E492; N848, E492; N905, E490.5; and, at N1207, E521.5 (Figure 18). The lower three privies were located adjacent to or on the edge of the aforementioned 1917 gravel road. The uppermost plank privy was located at Haas Landing. The plank privy at N905, E490.5, designated Feature 108, was actively eroding from the river cut bank, and artifacts were exposed both in profile and along the river terrace below the cut bank. Artifacts from the immediate vicinity of features were controlled, collected, and recorded using feature designations and proveniences. The collection from Feature 108, the eroding plank privy, consisted primarily of nineteenth century glass and ceramic sherds. As will be seen, the ceramic sherds produced a mean ceramic date of 1846.9.

A substantial number of artifacts were collected during field investigations at Vacherie. The fact that this area still is utilized for refuse disposal suggests that much of the material collected originally was discarded in a similar fashion.

Stratified cultural remains were found to extend from N290 to N955. This latter grid coordinate coincides with a bay-like erosionary area. It may be assumed that stratified cultural remains, including former levee roads and refuse deposits, continued further upriver than N955, before the river washed them away.

In an attempt to obtain stratigraphic control for the project area, as well as to discern evidence of site formation and destruction processes, a series of three profiles were cleaned and mapped along the river cut bank. The venues of these stratigraphic profiles were selected based upon a set of criteria that included presence of the 1917 gravel road, which provided a known terminus ante quem for deeper deposits, adequate height of exposed riverbank to allow the cleaning and drawing of several superimposed strata, and the visibility in the surface of the cutbank of strata below the 1917 gravel road. In addition, these profiles were placed at substantial increments, in order to provide representative coverage across the project area (Figure 18).

Stratigraphic Profile 1 (Figure 22) was cleaned and drawn at N338.5 - 340, E489.60, near the downriver end of the stratified remains, which, as noted earlier, begin at N290. The base of the terrace profile is 170 cm below the surface of the relict levee. Stratified historic remains were observed under recent overbank deposits, in a context similar to that recorded for site M 151 L, Bourbon Plantation in St. James Parish (Goodwin, Yakubik, and Gendel 1983). Superficial sedimentary deposits were characterized by sandy units overlain by muddy units. Several cycles of sandy and muddy layers may be present within natural levee deposits, each cycle representing an individual flood. Initially, sand is deposited as flood waters overtop the bank and

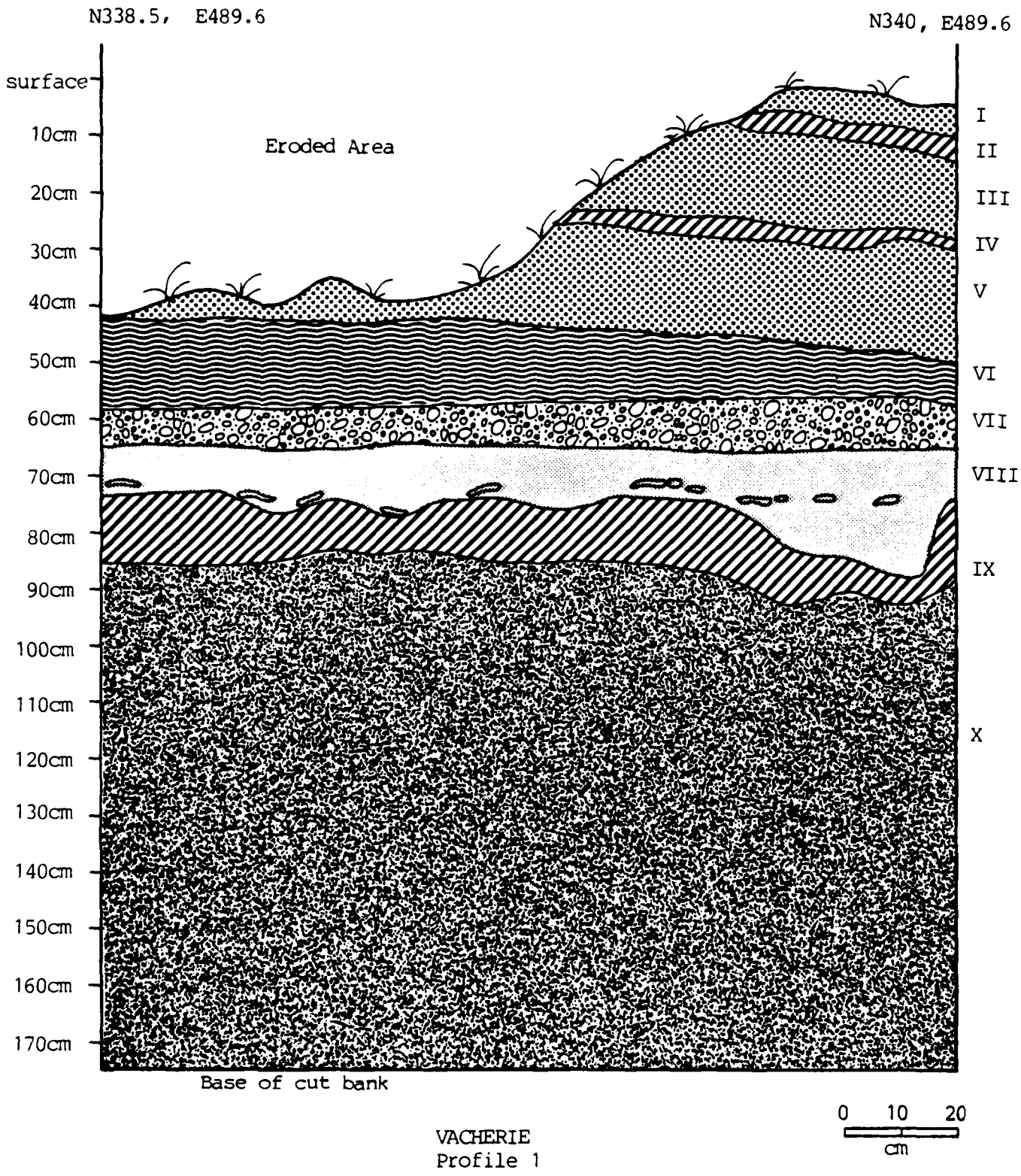

Figure 22. Stratigraphic Profile 1 at Vacherie.

Figure 22. Stratigraphic Profile 1 at Vacherie, 16 SJ 40.

KEY

Stratum I:	Very dark gray (10YR 3/1) silty clay
Stratum II:	Brown (10YR 5/3) silt loam
Stratum III:	Very dark gray (10YR 3/1) silty clay
Stratum IV:	Brown (10YR 5/3) silt loam
Stratum V:	Very dark gray (10YR 3/1) silty clay
Stratum VI:	24 sub-strata; alternating layers of very dark gray (10YR 3/1) silty clay and brown (10YR 5/3) silt loam
Stratum VII:	Old gravel road; chert gravel interspersed with coal and cultural remains
Stratum VIII:	Dense very dark gray (10YR 3/1) clay containing oyster shells and artifacts
Stratum IX:	Brown (10YR 5/3) silt loam; sterile
Stratum X:	Very dark gray (10YR 3/1) clay with dark yellowish brown (10YR 4/4) mottling; sterile

velocity is reduced, followed by the deposition of finer deposits as flood waters recede, allowing finer grained materials to drop out of suspension. Evidence of numerous recent flood events may be seen in Stratigraphic Profile 1 at Vacherie (Figure 22). In the upper 45 cm of the profile (Strata I-V), three layers of very dark gray silty clay (10YR 3/1) interbedded with two layers of brown silt loam (10YR 5/3) were present. Stratum VI (40 - 52 cm below surface) was comprised of 24 sub-strata. The sub-strata comprised alternating layers of the same soil types described for Strata I-V.

Stratum VII was the old gravel road previously discussed. It was found at 52 - 60 cm below surface, and it consisted of a very compact chert gravel interspersed with coal and artifactual remains, such as nails. A 2 cm thick charcoal lens was observed overlying the gravel road in places. Stratum VIII, at 60 - 75 cm below surface, comprised a dense, compacted, very dark gray clay (10YR 3/1) interspersed with oyster shells. A large, heavily corroded iron bolt also was found in this stratum. Stratum IX, at 70 - 80 cm below surface, was sterile brown silt loam (10YR 5/3) comparable in structure and origin to the soils described for Strata II, IV, and VI. Stratum X, at 80 - 170 cm below surface, was a very dark gray clay (10YR 3/1) with yellowish brown mottling (10YR 4/4). This basal stratum was sterile (Figure 22).

Stratigraphic Profile 2 was located at N621 - 622.5, E498, near the center of the stratified remains exposed in the cut bank. It did not exhibit the extent of recent overbank deposits that were present in Profile 1. However, the gravel road and associated artifacts were present (Figure 23). Stratum I was a brown (10YR 4/3) silty clay that extended to 18 cm below ground surface. This stratum, like Strata I-V of Profile No. 1, shows evidence of erosion by overbank runoff. Stratum II was the gravel road, at 15 - 25 cm below surface. Stratum III, at 25 - 37 cm below surface, was a dark grayish brown (10YR 4/2) dense clay interspersed with oyster shells. Brick fragments were present in this stratum, as were three corroded cut nails. Stratum III also contained a fragment of a metal key and another iron fragment.

Stratum IV, at 37 - 45 cm below surface, consisted of sterile dark yellowish brown (10YR 4/4) silty clay. Stratum V, at 45 - 117 cm below surface, was a very dark grayish brown (10YR 3/2) clay with dark yellowish brown (10YR 4/4) mottling. This was the sterile basal river clay described for Profile 1.

Stratigraphic Profile 3 was located at N867 - 868.5, E491, near the upriver extent of the stratified remains (Figure 24). The upper 50 cm of this profile (Strata I and II) has been eroded away at the downriver end by recent runoff, similar to the conditions described for Stratigraphic Profile 1. Stratum I, at 45 cm below surface, consisted of a dark brown (10YR 3/3) silty clay. Stratum II, observed at 40 - 50 cm below surface, constituted the old gravel road. Stratum III, at 45 - 55 cm below surface, was a dense, very dark gray (10YR 3/1) clay that underlies

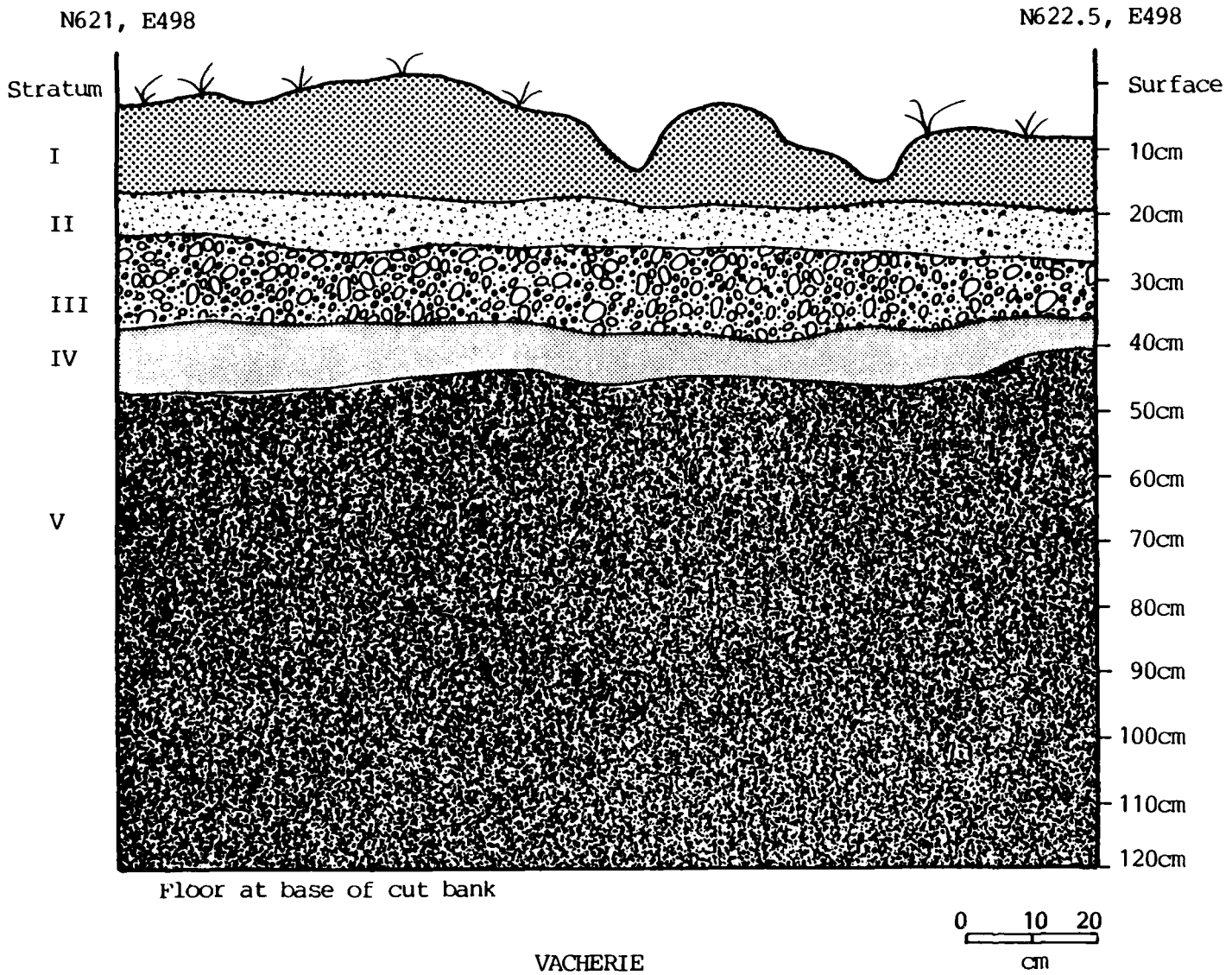

Figure 23. Stratigraphic Profile 2 at Vacherie.

Figure 23. Stratigraphic Profile 2 at Vacherie, 16 SJ 40.

KEY

Stratum I:	Brown (10YR 4/3) silty clay
Stratum II:	Old gravel road; chert gravel interspersed with coal and cultural remains
Stratum III:	Dense dark grayish brown (10YR 4/2) clay interspersed with oyster shells, brick fragments, and metal artifacts
Stratum IV:	Dark yellowish brown (10YR 4/4) silty clay; sterile
Stratum V:	Very dark grayish brown (10YR 3/2) clay with dark yellowish brown (10YR 4/4 mottling); sterile

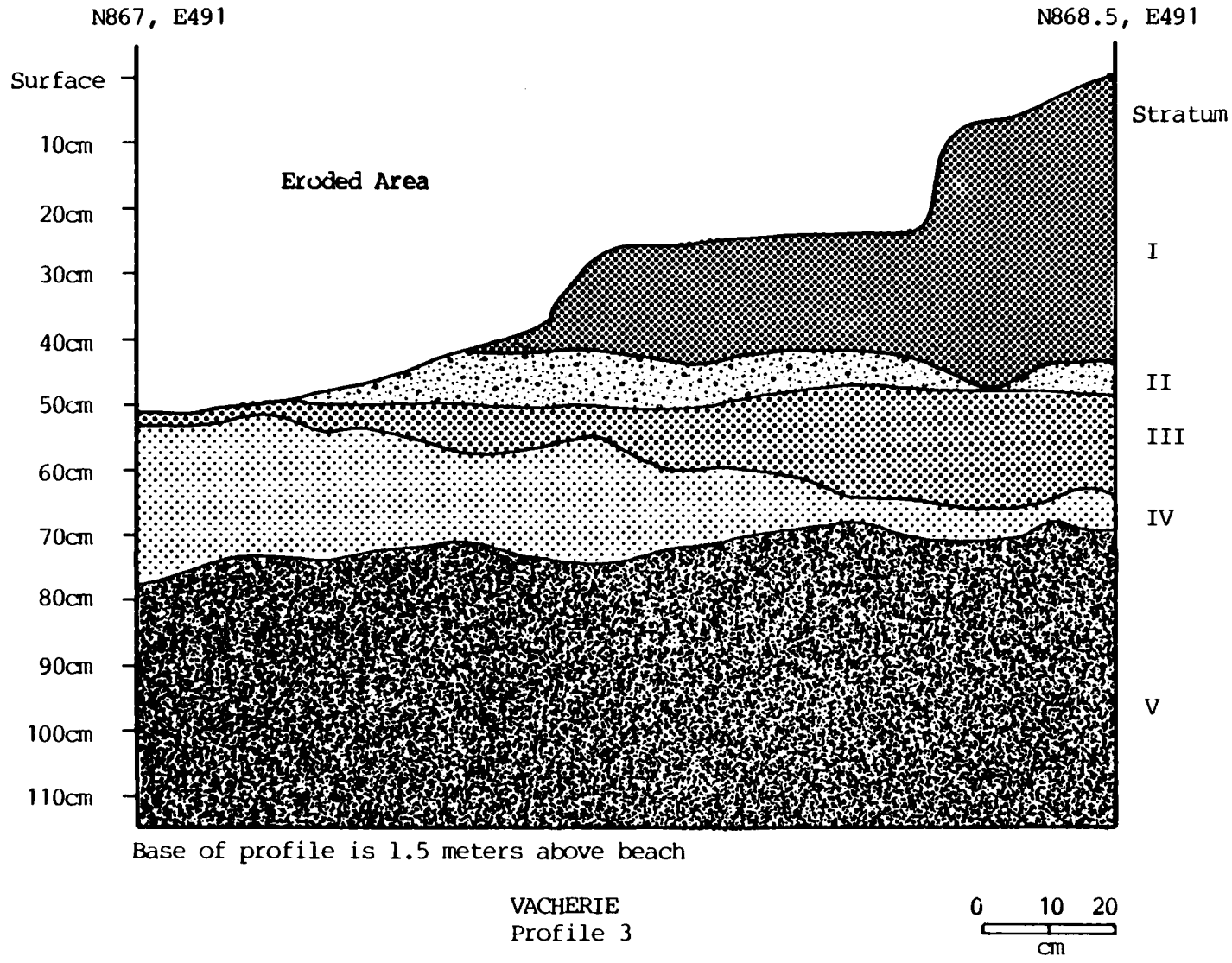

Figure 24. Stratigraphic Profile 3 at Vacherie.

Figure 24. Stratigraphic Profile 3 at Vacherie, 16 SJ 40.

KEY

Stratum I:	Dark brown (10YR 3/3) silty clay
Stratum II:	Old gravel road; chert gravel interspersed with coal and artifacts
Stratum III:	Very dark gray (10YR 3/1) clay
Stratum IV:	Brown (10YR 5/3) clayey silt loam; sterile
Stratum V:	Very dark grayish brown (10YR 3/2) clay with dark yellowish brown (10YR 4/4) mottling; sterile

the gravel road throughout the Vacherie site area. This clay deposit often contained oyster shells, although such shells did not occur in this profile. This stratum was only 2 cm thick at the downriver end of the profile, and it increased in thickness to 20 cm at the upriver end.

Stratum IV, at 55 - 70 cm below surface, was sterile brown (10YR 5/3) clayey silt loam. This stratum was 25 cm thick at the downriver end of the profile, and it tapered to 5 cm thick at the upriver end. Stratum V, at 70 - 115 cm below surface, was the sterile basal river clay. Again, the matrix was a very dark grayish brown (10YR 3/2) clay with dark yellowish brown (10YR 4/4) mottling. The 115 cm depth of this profile represents the bottom of the erosionary face on the terrace. Below 115 cm, a talus slope overlies the beach, which was 265 cm below ground surface.

CHAPTER V

THE HISTORIC ARCHEOLOGY OF THE ROMEVILLE REVETMENT PROJECT AREA

The Setting

The Romeville revetment project area is located on the East (left descending) bank of the Mississippi River in St. James Parish. It lies in front of and partially upriver from the community of Convent (Figure 25). The project area is between river miles M-160.3 and 159.7-L, and levee stations 3516+93 and 3547+44. It comprises portions of Sections 1, 2, 3, and 4 of Township 12S, Range 4E (Figure 25).

The lower limit of the area is about 5 kilometers above College Point. The site of the historic Nita Crevasse lies between two to three kilometers above the upper limit of the project area. The upper half of the survey area comprised part of the river frontage of the nineteenth century Uncle Sam Plantation, now the site of a chemical plant.

The uppermost third of this river segment, and much of the bank upriver to the Nita Crevasse, is eroding. Maps prepared by the Corps of Engineers for the Caving Bank Survey of the Mississippi River indicate a general loss of 15 to 20 m of batture between 1879 and 1914. The bankline remained relatively stable through the 1950s, except for isolated caving of the bank. The upper limit of work roughly marks the site of bank caving in 1939-1940. In addition, the batture frontage of Uncle Sam Plantation suffered a general loss of land to the river between 1962 and 1981, as indicated by the photo revised USGS 7.5' Convent quadrangle (Figures 3 and 25). The river currently threatens, by localized caving, to cut into the upper of two borrow pits within the batture. The middle third of this revetment segment has shown no significant change in bankline during the last century.

The lowermost third of the survey area is gaining in area; a wide belt of silty sand has been deposited parallel to the levee. This accretionary pattern also was observed throughout most of the 2.5 km portion of the batture below the lower limit of the survey area. Recently deposited silty sand in the downriver part of the project area is cut by gullies or washes that run from the levee to the river. The soil of the segment in general is of the Convent Silty Alluvial Land Association (USDA 1973). These periodically flooded, undulating battures are composed of moderately permeable Convent and moderately slowly permeable silty soils. The Convent soils usually have a surface layer of dark grayish-brown silt loam, 5 to 15 inches thick. The surface layer can range from fine sandy loam to clay loam. The subsoil is a stratified, grayish-brown silt loam and silty clay loam faintly mottled with yellowish brown and gray (USDA 1973).

mile 160

MISSISSIPPI RIVER

CONVENT

4

3

2

88

14/2

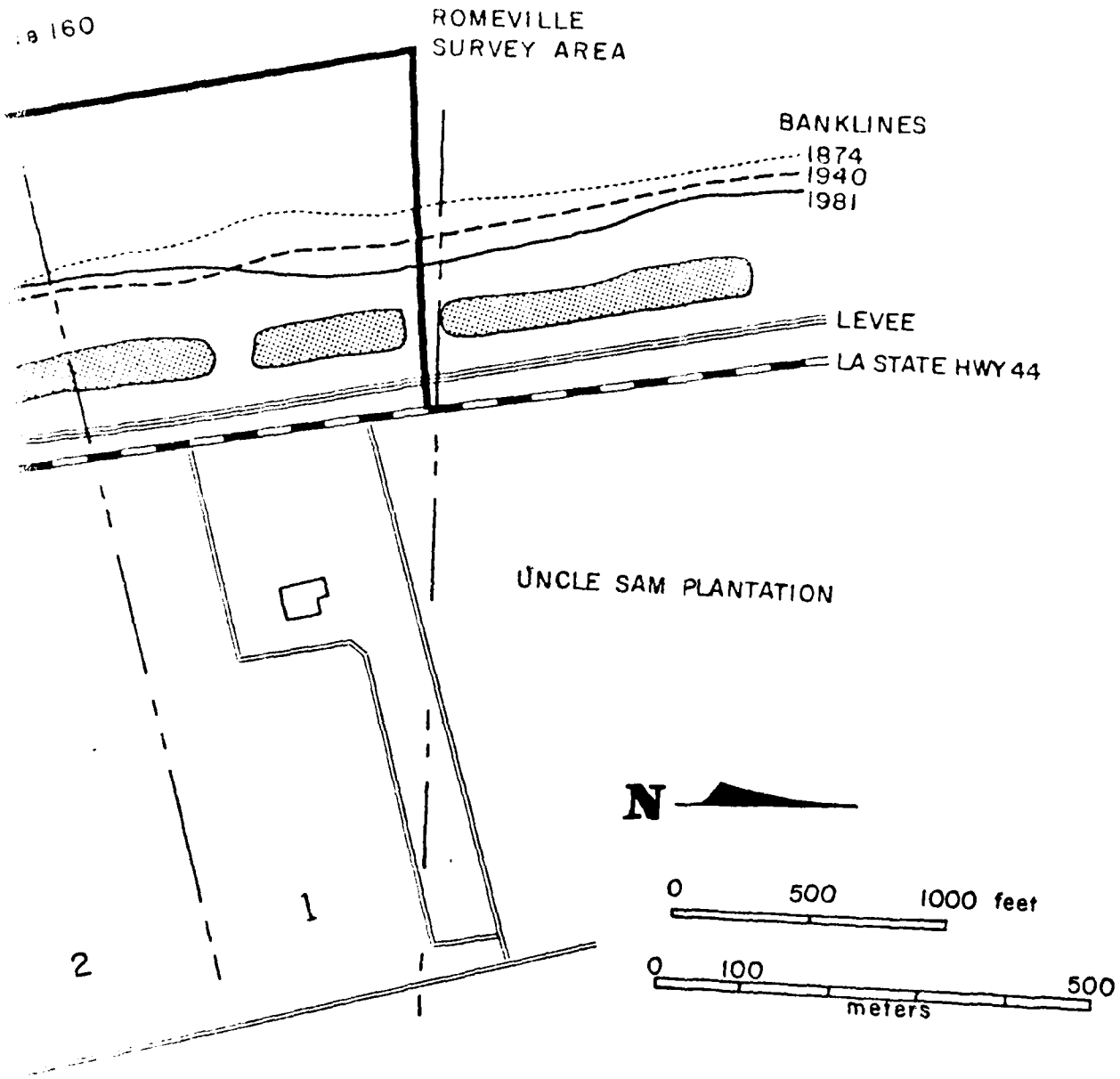

Figure 25. Scaled composite map of the U.S.G.S. quad sheet and bankline locations for 1874, 1940, and 1981 at the Romeville Survey Area.

2 of 2

Project Area History

As noted previously, much of the land in the vicinity of the Romeville revetment project area consists of tracts that once were consolidated into the large nineteenth century Uncle Sam Plantation. Part of the land that eventually would become known as "Uncle Sam" was consolidated from five small farmsteads by Colonel Joseph Constant, ca. 1812. Together, these tracts measured thirteen arpents and eleven toises front by forty arpents in depth. Constant apparently improved the property, because in 1818, he sold the property to Helen Ross McMasters for $150,000. The plantation was known at that time as Constancia. By 1826, ownership of the plantation was back in the hands of the Constant family, after Constant's heirs brought suit against McMasters for non-payment of the mortgage. The plantation was adjudicated to the Constants in the resulting sheriff's sale (Freeport Chemical Co., n.d.).

On April 28, 1828, Jean Joseph Jourdan and his son-in-law, Samuel Fagot, purchased the property. It was bounded above by the land of Jean Baptiste Boucry, and below by those of David Blouin. The plantation livestock, agricultural implements, and seventy-seven slaves also were conveyed in the sale (C. Pollock, April 28, 1828, NONA). A few weeks later, father and son-in-law entered into a legal partnership. Jourdan contributed forty of his own slaves to the plantation, while Fagot brought eleven slaves into the partnership. Fagot was the managing partner, with "his residence upon the said plantation, and the right to dispose of all that is found there for his own use and that of his family" (Seghers, May 2, 1828, NONA). In 1829, the partners acquired an additional three arpents front from Paul Grabert (Freeport Chemical Co., n.d.).

Jourdan died on September 6, 1831, and Fagot eventually bought the outstanding three-eighths interest. During this time, Fagot added another five arpents front to the plantation. He purchased those holdings in 1836 from Pierre P. Becnel (Freeport Chemical Co., n.d.). Shortly thereafter, Fagot began construction of a new great house complex. A 1938 newspaper article described it shortly before its demolition:

> Massive simplicity was the keynote of the whole. The central house was built four square, its gallery level with the ground and surrounded by 28 great columns running through two stories to a weighty cornice. Simple dormer windows and massive doors broke the immense sweep of the walls and roof.... On either side were built the garconiers, one story in height and with a gallery only in front, but otherwise duplicates of the manor. Directly behind the garconiers were built two small cottages, identical in architecture, with four columns across the front (these

> served as the kitchen and an office). At each rear corner of the square were erected the massive octagonal (pigeoniers) ...their lower stories were used as harness and tool rooms (Price 1938).

Barns and stables, a sugar house and mill, a slave hospital, the slave quarters, a scale house and a blacksmith's shop, also were located on the plantation, making a total of forty-six buildings. Figure 16 shows Fagot's extensive holdings in 1858; at this time, the plantation still was called Constancia.

Fagot died on October 31, 1858. The following January, his daughters, Emilie and Felicie, sold their inherited interests in the plantation to their mother, Emilie Jourdan, for $131,458. At that time, the plantation was appraised at $60,000. Movables also were inventoried (Table 7; R.J. Ker, January 11, 1859, NONA). Even after the act of sale, Felicie's husband, Lucian Malus, apparently managed the plantation after Samuel Fagot's death (Freeport Chemical Co., n.d.; Price 1938; Lucia 1940). However, the Widow Fagot was listed in the sugar and rice reports (Champomier 1859-1862; Bouchereau 1868-1873). Popular tradition credits Lucien Malus' management with preserving the plantation through the Reconstruction (Freeport Chemical Co., n.d.; Price 1938; Lucia 1940), albeit Reconstruction period sugar yields were pathetically small in comparison to antebellum production (Table 8).

Emilie Jourdan died in 1872, and Felicie and Emilie inherited the estate (N.B. Trist, April 23, 1872, NONA). Less than a year later, the sisters sold the property at a public auction to Felix Poche for $40,000 (COB 45, Folio 54, St. James Parish). Sixteen days later, on February 17, 1873, Felicie and Emilie repurchased the plantation (E. Bouny, February 17, 1873, NONA). Malus continued to manage the plantation until 1883. In February of 1874, Emilie and her husband, Dr. J. D. Tureaud, sold their share of the plantation to Malus for $20,000. Included in the sale were all buildings and improvements, including the steam engine in the sugar mill (the open pan method of sugar granulation was used at this time), sixty mules, seven cows and calves, twenty-six carters, two drays, two timber wheels, one pump, a small steam engine, forty-seven plows, and all other farming utensils. Since the Tureauds lived in New Orleans, they would have had little input to the daily management of the estate (E. Bouny, February 26, 1874, NONA).

By 1877, Malus again was producing substantial quantities of sugar (Table 8). In the 1881 season, he introduced rice to the plantation for the first time. In that year, Malus reported a crop of 1625 barrels of rice and 660 hogsheads of sugar. The following year's sugar crop was poor, but 1875 barrels of rice were produced. In 1883, Malus installed a steam tram, vacuum pan apparatus, and a centrifuge; he also produced 653 hogsheads of sugar and 3550 barrels of rice (Table 8).

AD-A158 908 CULTURAL RESOURCES SURVEY OF FIVE MISSISSIPPI RIVER REVETMENT ITEMS. (U) GOODWIN (R CHRISTOPHER) AND ASSOCIATES INC NEW ORLEANS LA R C GOODWIN ET AL. 2/3

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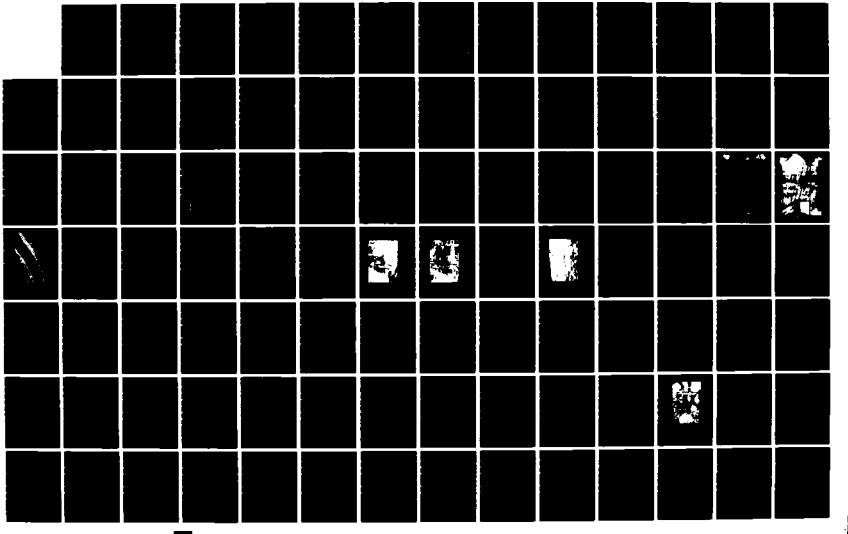

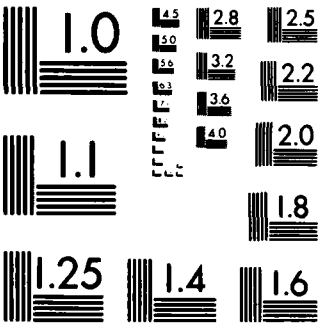

Table 7. Movables Inventoried in the Succession of Samuel Fagot (R.J. KER, January 11, 1859, NONA).

Reception Room:		$ 200.00
1	bookcase	
1	table	
3	corner stands	
2	large arm chairs	
4	small arm chairs	
4	chairs	
	mantle piece ornaments	
Hall:		$ 40.00
2	lounges	
1	hat rack	
2	easy chairs	
1	clock	
1	table	
12	chairs	
2	arm chairs	
Family Room:		$ 75.00
1	bedstead	
1	armoir	
1	toilet	
1	bureau	
1	clock	
4	chairs	
Front Room:		$ 200.00
1	bedstead	
1	night table	
4	chairs	
1	canopy	
1	clock	
1	armoir	
1	toilet	
1	washstand	
Dining Room:		$ 300.00
1	sideboard	
1	sofa	
1	dining table	
1	dish stand	
1	china case	
1	looking glass	
1	clock	
8	chairs	
	Set of silverware (spoons, forks, table knives, silver plated waiters)	$ 500.00 porcelain ware,

Table 7. (Continued)

Kitchen:		$ 50.00
1	stove with utensils	
Miscellaneous:		
	carpenters tools	
10	cane carts	
12	wood carts	
4	small carts	
2	drays	
3	water carts	
2	timber wheels	
1	fire pump	
1	steam engine & boiler	
10	ploughs	
5	double shovel ploughs	
2	flukes	
18	barrows	
1	pea vine rake	
1	mowing machine	$ 25.00
1	lot old ploughs	$ 10.00
1	corn sheller	$ 10.00
1	lot old carts & 1 wagon	$ 25.00
1	lot old hand & wheel barrows	$ 10.00
1	lot cane knives	$ 10.00
36	hoes	$ 9.00
47	grubbing hoes	$ 9.50
	spades, shovels, axes, lathes, cut saws	
9	cows	$ 225.00
1	bull	$ 10.00
2	calfs (sic)	$ 10.00
20	mules	$2500.00
1	washing machine	$ 20.00
1	pair diamond earrings	$ 500.00

Small house with cottage furniture

Table 8. Sugar and Rice Production at Uncle Sam Plantation (Champomier 1844-1862; Bouchereau 1869-1917).

Season Ending	Owner/Manager	Sugar	Rice
1844	Samuel Fagot	725 hhds.	
1846	"	420 "	
1850	"	580 "	
1851	"	577 "	
1852	"	505 "	
1853	"	933 "	
1854	"	990 "	
1855	"	920 "	
1856	"	610 "	
1857	"	207 "	
1858	"	585 "	
1859	"	894 "	
1860	Mrs. S. Fagot	435 "	
1861	"	525 "	
1862	"	730 "	
1869	"	233 "	
1870	"	213 "	
1871	"	147 "	
1872	"	93 "	
1873	Estate Mrs. S. Fagot	267 "	
1874	L. Malus & Co.	212 "	
1875	L. Malus	290 "	
1876	"	280 "	
1877	"	484 "	
1878	"	370 "	
1879	"	450 "	
1880	"	400 "	
1881	"	660 "	1,625 bbls.
1882	"	260 "	1,875 "
1883	"	653 "	3,550 "
1884	Mrs. Lucien Malus	592	830,000 lbs.
1885	"	382	512,000 lbs.
1886	"	630	
1887	Estate Mrs. Lucien Malus	552	4,000 bbls.
1888	"	914	3,795
1889	Camile & Jules J. Jacob	1054	5,060
1890	"	905	4,500
1891	"	136,700 lbs.	
1892	"	1,693,857	
1893	"	820,000	
1894	"	2,200,799	
1895	"	2,584,750	
1896	"	1,348,260	
1897	"	1,952,967	
1898	J. J. Jacob	2,192,116	
1899	"	1,782,000	
1900	"	1,208,633	
1901	"	3,445,622	

Table 8. (Continued)

1902	"	4,100,000
1903	"	3,750,265
1904	"	1,686,250
1905	"	4,450,000
1906	"	2,884,320
1907	"	1,152,206
1908	"	3,868,473
1909	"	
1910	"	
1911	"	
1912	"	3,888,937
1913	"	1,767,259
1914	"	3,800,246
1915	"	
1916	"	
1917	"	1,776,551

Malus died ca. 1883, but Felicie continued to hold the plantation until her death. During this time, her sons-in-law apparently managed the plantation, and they continued to raise large crops of sugar and rice (Table 8). Felicie Fagot died on April 5, 1886 in New Orleans, leaving the plantation to her daughters Emilie, the wife of Camille Jacob, and Felicie, the wife of Jules Jacob (Succession of Victoire Felicie Fagot, #1504, 22nd Judicial District Court, St. James Parish). The Jacob brothers became partners in managing the plantation, sharing profits and losses equally (Succession of Emilie Malus, #1518, 27th Judicial District Court, St. James Parish). The two produced substantial sugar and rice crops during the harvests of 1887-1890 (Table 8). The brothers also processed the sugar grown on a downriver plantation, St. James, which they also owned (Bouchereau 1887-1890). In March, 1890, Uncle Sam Plantation was inundated by the Nita Crevasse and nearly all the crop was lost. The devastation of the plantation was reflected by the harvest of 1890-1891, which appears in the abnormally low production figures for 1891 (Table 8). In order to restore the plantation, over $25,000 had to be borrowed. Emilie Malus Jacob had died November 20, 1890, and to protect the interest of her minor children and heirs, the children's half of her half interest in the property was sold to Jules Jacob in 1891 (COB D, Folio 571, St. James Parish; Succession of Emilie Malus, #1518, 27th Judicial District Court, St. James Parish). Nonetheless, Camille continued to assist his brother in managing the plantation until 1898 when he sold his own quarter interest to Jules (COB 54, Folio 426, St. James Parish; Bouchereau 1890-1898). Thereafter, Jules Jacob ran the plantation alone (Bouchereau 1898-1917).

In 1912, the "Uncle Sam Planting and Manufacturing Co." was incorporated. In February, 1913, Jules Jacob sold Uncle Sam for $150,000 (Edgar Grima, February 18, 1913, NONA). In 1920, the plantation was sold at a public sale resulting from the suit of James J. D'Aquin vs. Uncle Sam Planting and Manufacturing Co. (#4257, 27th Judicial District Court, St. James Parish). D'Aquin himself purchased the plantation at the auction in 1921 (COB 62, Folio 411, St. James Parish). Not long after this, D'Aquin sold the plantation to the Falgoust Brothers, Constant and Jourdan (COB 62, Folio 414; St. James Parish).

Figure 26 shows the plantation structural complex as it stood in 1894; comparison of this rendering with Figure 27, drawn in 1921, shows how far the river had receded by the second decade of the twentieth century. In the latter depiction, the great house is shown immediately adjacent to the levee. Nevertheless, Figure 27 demonstrates how few of the structures had been lost by 1921. In 1923, the Falgousts sold the property to Oscar Reynaud (COB 62, Folio 485, 634, St. James Parish), who incorporated in 1926 (COB 64, Folio 191, St. James Parish). Uncle Sam was purchased by Hymel Stebbins, Inc., in 1932 (COB 74, Folio 410, St. James Parish). By this date, many of the buildings had fallen into serious decay, although the majority of the structures were still standing. A

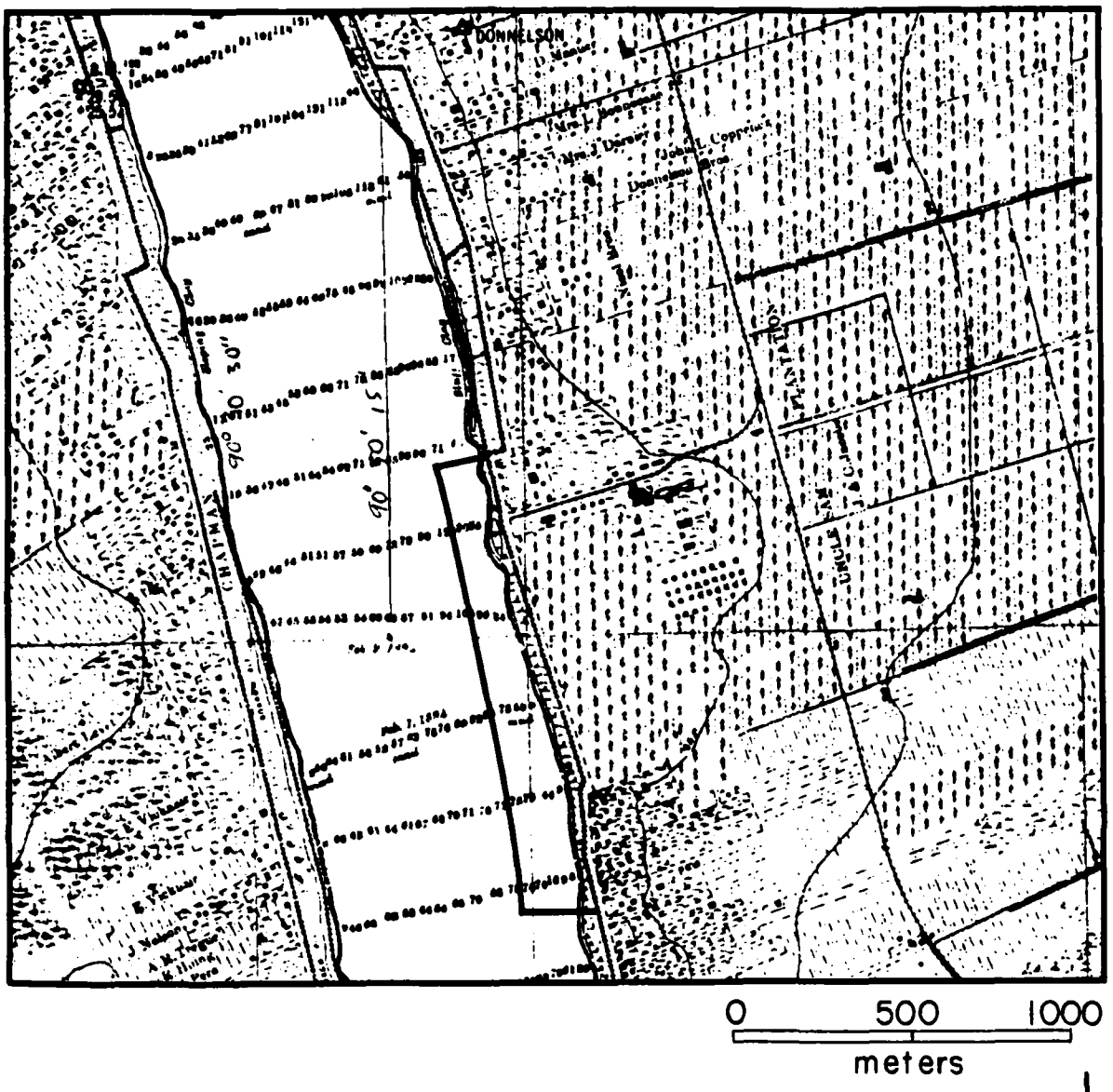

Figure 26. Excerpt of the 1877 Mississippi River Commission Map showing the Romeville project area.

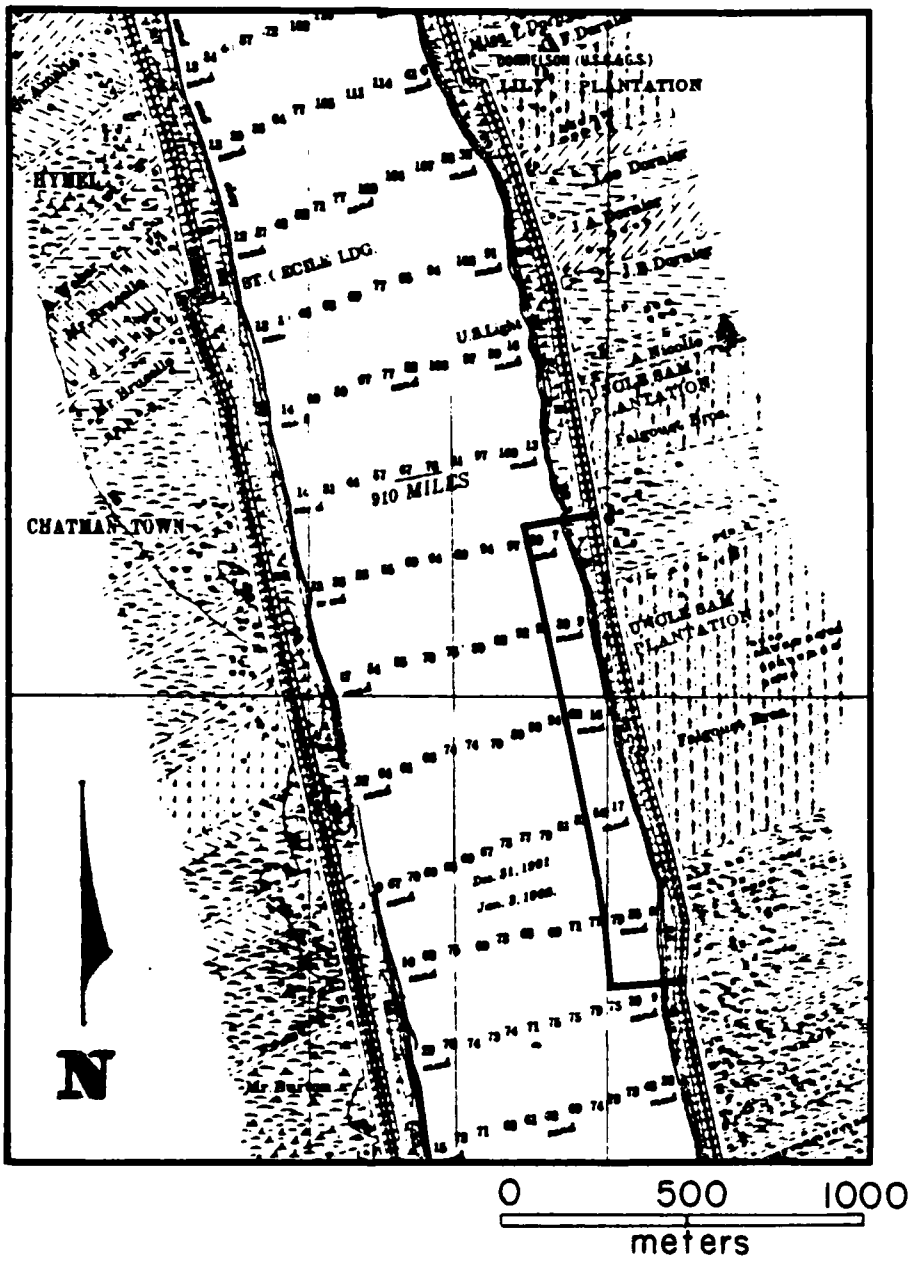

Figure 27. Excerpt of the 1921 Mississippi River Commission Map showing the Romeville project area.

levee setback in 1940 forced the destruction of the plantation. During demolition of the great house, the Corps of Engineers received the following telegram, dated March 12, 1940, from the Director of the National Park Service:

> Have learned of the impending demolition of the Uncle Sam Plantation near Convent, Louisiana. Stop. Can demolition be deferred short time pending investigation by National Park Service to determine possibilities for status as a National monument or historic site? (Laughlin 1961)

With the demolition of Uncle Sam, one of the best preserved examples of a Louisiana sugar plantation complex was lost. Today the land is owned by the Freeport Chemical Company.

Downriver from Uncle Sam Plantation were a number of farmsteads and residential lots which remained unconsolidated throughout their histories. Adjacent to the lower boundary of Uncle Sam was a tract of land five arpents, fifteen toises front, by forty arpents deep. This property was held in 1782 by Michel Bourgeois. Later, the land came into the possession of Peter Myr, whose claim to the land was confirmed by the United States Government in 1812 (Lowrie and Franklin 1834:273). Below this tract, the land of Charles Thibodeaux, Jr., measured two arpents, twenty-three toises front on the river. Thibodeaux held and cultivated the land at least as early as 1793 (Lowrie and Franklin 1834:280). These two aforementioned tracts appear to constitute the largest landholding units in the history of the downriver end of the project area. St. Michael's church was established in 1809, just over one mile downriver. This church was the first house of worship on the east bank of the Parish. Above the church was a ferry, which probably was established during the eighteenth century to provide access to the Cantrelle church on the west bank (Figure 16). Subsequently, the heirs of Joseph Landry, the landholder of the ferry landing, sold a portion of their land to the Ladies of the Sacred Heart for a new convent and school. This parcel, sold in 1838, is within one mile below the project area. One of the Landry heirs also erected a hotel at the ferry landing (Figure 16; Goodwin, Gendel and Yakubik, 1983b). Thereafter, the town of Convent grew from this activity center. Thus, it is quite possible that consolidation of the project area was inhibited by its location: it was locked between the nascent town of Convent and Fagot's considerable landholdings. In addition, these lands were only forty arpents deep, rather than eighty, like most of the great plantations of St. James Parish (Figure 16).

The Thibodeaux family eventually acquired more of the land than was claimed originally by Charles Jr. Jean Charles Thibodeaux bought a portion of the former Myr tract, which was inherited by his children after he and his wife, Celeste Blanchard, died. Their daughter, Marie, received a quarter arpent front of this tract (about fifty feet on the river); in July, 1851, she sold

this parcel to Michel LeBoeuf, Jr. The property was bounded below by the widow of Joseph Hebert, and above by Oliver Thibodeaux, who also probably was one of the Thibodeaux heirs (COB 30, Folio 47, St. James Parish).

The 1857 Coast Directory demonstrates that on the eve of the Civil War, the lower end of the project area consisted of several small farms and tracts of land. Descending the river from Uncle Sam Plantation were the farms of Widow Levier and Michel LeBoeuf, Jr., both of whom raised corn. The Widows Hebert and Celestin had no occupations listed. Etienne Badot and S. Landry also raised corn on their farms. At the downriver end of the project area, Emile Jacob, father of Camille and Jules, owned land and operated a sawmill (Henry and Gerodias 1857). Figure 16 shows that this was the largest of these several landholdings. No doubt because of their size, none of these farms produced sugar prior to the Civil War.

It should be noted that although their names are not shown in the 1857 directory, the Thibodeaux family may have held additional land above the tract sold to LeBoeuf on an absentee basis. They also may have been landlords to the Widow Levier. Angela Thibodeaux, the wife of James Como, received a parcel of about one-fourth arpent front on the river above the land of Oliver Thibodeaux in an 1867 partition of a larger tract of land. Later, she received an adjacent tract of about one-fourth arpent front on the river in an exchange with her brother (COB 56, Folio 290, St. James Parish). This total of about one-half arpent front was located below the property of a fourth Thibodeaux, Justin; that property included a house, a corn house, and a hay barn (COB 56, Folio 290, St. James Parish).

As noted above, the largest of the tracts located downriver from Uncle Sam was the Jacob sawmill holding. It is uncertain when this business was founded, but it is possible that it was established during the second quarter of the century when the town of Convent was first beginning to develop and Fagot began his building efforts on Uncle Sam. Emile Jacob died towards the end of the Civil War, and his property was auctioned in 1865. The parcel was adjudicated to his daughter, Octavie.

In May, 1867, Octavie sold a portion of the property, including the area containing the buildings, to her brothers, Camille, Octave, and Jules. The parcel was on the lower side of Octavie's holdings; it measured 170 feet front on the river, and it extended back to the public road. Across the road, the rear of the parcel measured 100 feet front on the road and it extended back 180 feet on the upper line, and 207 feet on the lower line (Figure 28). The sale included all buildings and machinery. Structures between the river and the road included the sawmill, an adjacent factory, a warehouse, and an office. Interestingly, the rear parcel included a starch manufactory, which probably utilized locally produced sugar and/or rice as the raw material (Figure 28). The consideration for the sale was $3511.83 (COB 38, Folio 25, St.

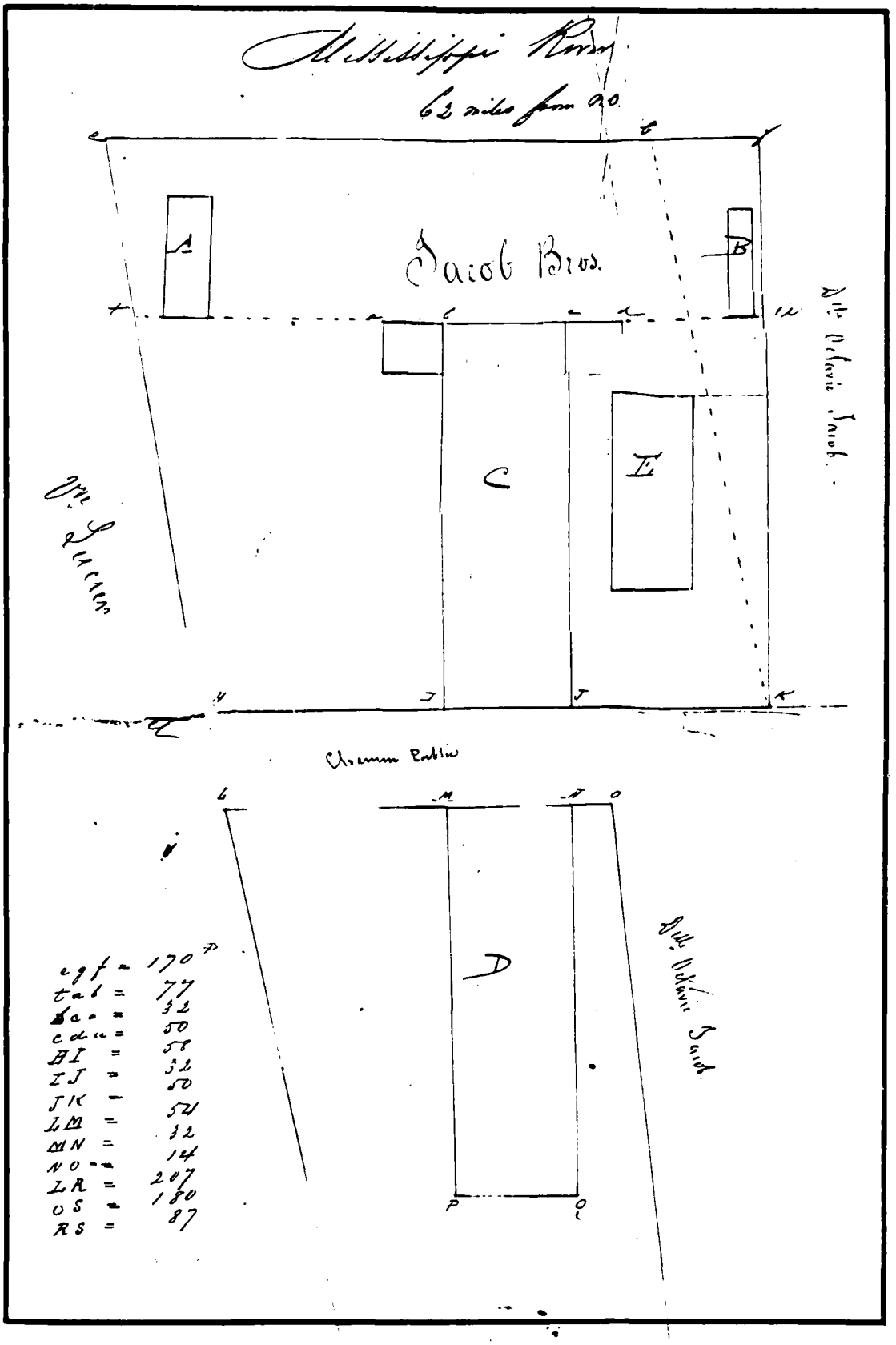

Figure 28. Plat of the property purchased by the Jacobs brothers in 1867 showing the warehouse (b), the factory (c), the starch factory (d), and the sawmill (e) (COB 38, Folio 25, St. James Parish).

James Parish).

Occasionally during the post bellum years, one of the farmers in the Romeville area would produce a small sugar crop. For example, Sosthene Blanchard "and others" produced forty and twenty-two hogsheads of sugar in 1869 and 1870, respectively (Bouchereau 1869-1870). Blanchard's farm was downriver from the project area. In 1878, Justin Thibodeaux produced a crop of four hogsheads (Bouchereau 1878). Neither Thibodeaux nor Blanchard had a sugar house, so it is likely that their cane was processed at nearby Uncle Sam. Figure 26 shows the small farms and lots in the project area below Uncle Sam in 1894. Although all the fields were under cultivation, none were planted in sugar at that date.

The three Jacob brothers began growing cane in 1873; they probably had purchased the remainder of their father's land from Octavie at about that date. Table 9 shows that they produced small crops at least until 1890, and in 1885 and in 1887 they produced rice in addition to sugar. A sugar house was built on the property in 1874; it was constructed of wood. Their mill was steam powered, and they utilized the open pan method of granulation (Bouchereau 1874). In 1879 and 1880, they also granulated the sugar from cane produced at other small farms in the area. They named their plantation "St. James" in 1880 (Bouchereau 1879-1880).

As seen above, Camille and Jules Jacob took over the management of Uncle Sam Plantation ca. 1884. In 1885, they chose to process their cane at Uncle Sam, which undoubtedly had a better equipped sugar house. Camille and Jules came into full ownership of Uncle Sam through their wives in the late 1880s. From 1889 to 1895, they left the management of St. James Plantation to Florian Jacob (Bouchereau 1889-1895). In 1890, the cane crop once again was processed at Uncle Sam, and after that date no crops were reported (Bouchereau 1890-1917). It is possible that this was because all subsequent crops were combined with those from Uncle Sam. However, we have seen that the Jacobs grew no cane in 1894.

In 1896, Camille and Jules took over the management of the St. James Plantation, and in 1898 Jules became sole manager (Bouchereau 1896-1898). In the early years of the twentieth century, Camille apparently acquired full ownership of the property, for at his death each of his heirs received a quarter interest in the farm. The youngest of Camille's sons, Joseph, purchased his brother Malus' share in addition to his own. In 1913, Joseph sold his one-half interest to his eldest brother, Camille, Jr. The property was described in this sale as having been one and three-fourth arpents front on the river. The sale included eight mules, carts, plows, and all other agricultural implements (COB 60, Folio 213, St. James Parish). Camille apparently acquired his sister's share, because he owned the entire farm at his death. At the public sale of Camille's estate in 1921, the property was adjudicated to his cousin Jules Jacob, Jr. for $10,000 (COB 63, Folio 369, St. James Parish). The property remained in the possession of the Jacob family until 1925,

Table 9. Sugar and Rice Production at the St. James Plantation, Romeville (Bouchereau 1873-1890).

Season Ending	Owner/Manager	Sugar	Rice
1873	Jacob Brothers	51 hhds.	
1874	"	72	
1875	"	110	
1876	"	112	
1877	"	127	
1878	"	99	
1879	"	130	
1880	"	56	
1881	"	151	
1882	"	93	
1883	"	243	
1884	"	117	
1885	"	64	87,000 bbls.
1886	"	93	
1887	"	85	939 bbls.
1888	"	168	
1889	Florian Jacob	277	
1890	"	163	

and it was used as a farm throughout this period. The 1925 sale of the property to Mike Nasser included a corn planter, a dump cart, a wagon, an Avery cultivator, two double plows, and three John Deare plows. The consideration for this sale was only $4741.55, less than half of what it sold for in 1821 (COB 63, Folio 369, St. James Parish).

Field Investigations

Transect pedestrian survey of the Romeville revetment project area (Figure 29) was undertaken by a three man crew, using a 20 m transect interval. During the course of investigation, a number of recent man-made modifications to the area were observed, and one site was recorded. Much of the Romeville project area has been disturbed by previous construction. In addition, modern automobile bodies buried under dense sand overbank deposits demonstrate the modern use of this area for refuse disposal. The only archeological remains of note encountered during transect survey of this revetment item consisted of a surface scatter of late nineteenth and early twentieth century domestic debris that appears to derive from farmstead occupations shown on the 1894 and 1921 Mississippi River Commission maps (Figures 26 and 27). This surface scatter, much of which appears to be under the water along the shore of the river, was designated site 16 SJ 39. Remains there are concentrated in the downriver portion of the project area (N0-400, E2000-2060), where they are associated with a thin lens of Rangia shells along the beach (Figure 29). Sherds of glass and ceramics within the site area most commonly exhibit water washing and rounding, due to wave action and the current. The artifactual material appears to consist of redeposited surface finds. This site is severely eroded and lacks archeological context. No remains of Uncle Sam Plantation were found during transect survey.

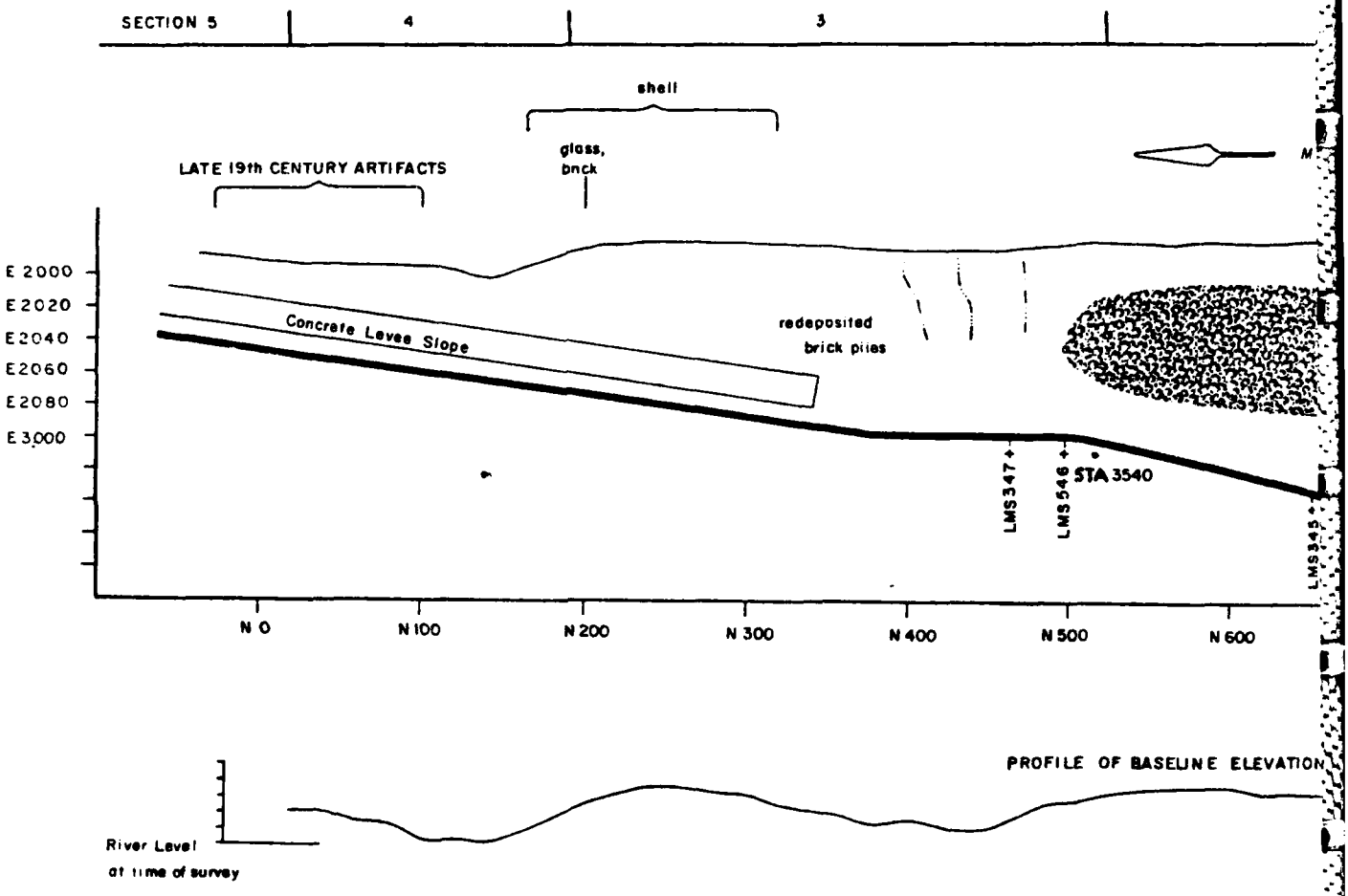

Figure 29. Site plan of the Romeville survey area.

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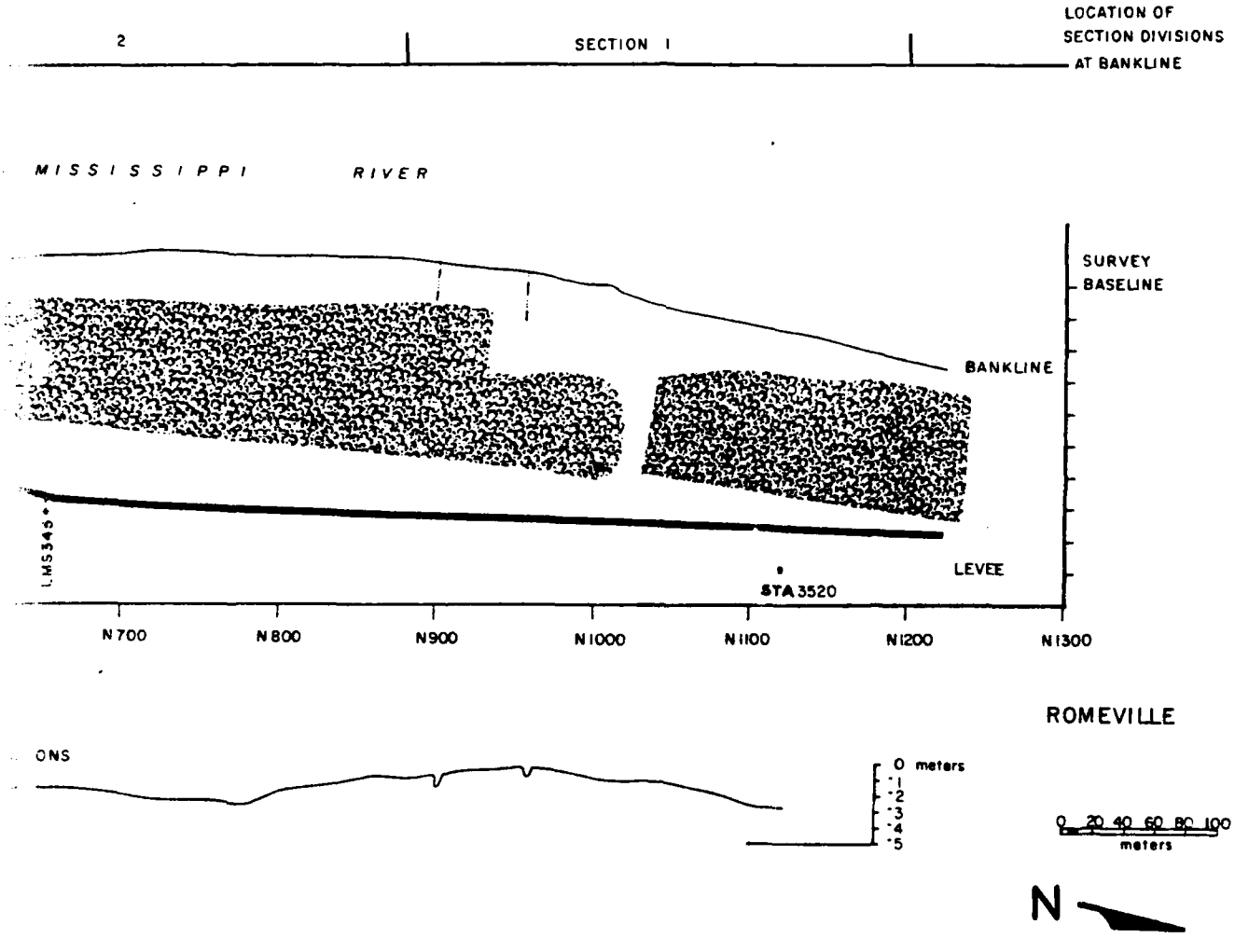

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CHAPTER VI

THE HISTORIC ARCHEOLOGY OF THE MARCHAND REVETMENT PROJECT AREA

The Marchand revetment project area is located on the east (left descending) bank of the Mississippi River in Ascension Parish, Louisiana (Figure 30). It is situated between river miles M-183.8 and 181.5-L, and between levee stations 2333+71 and 2467+06, in portions of Sections 14, 15, and 18 - 30 of Township 10S, Range 2E (Figure 30).

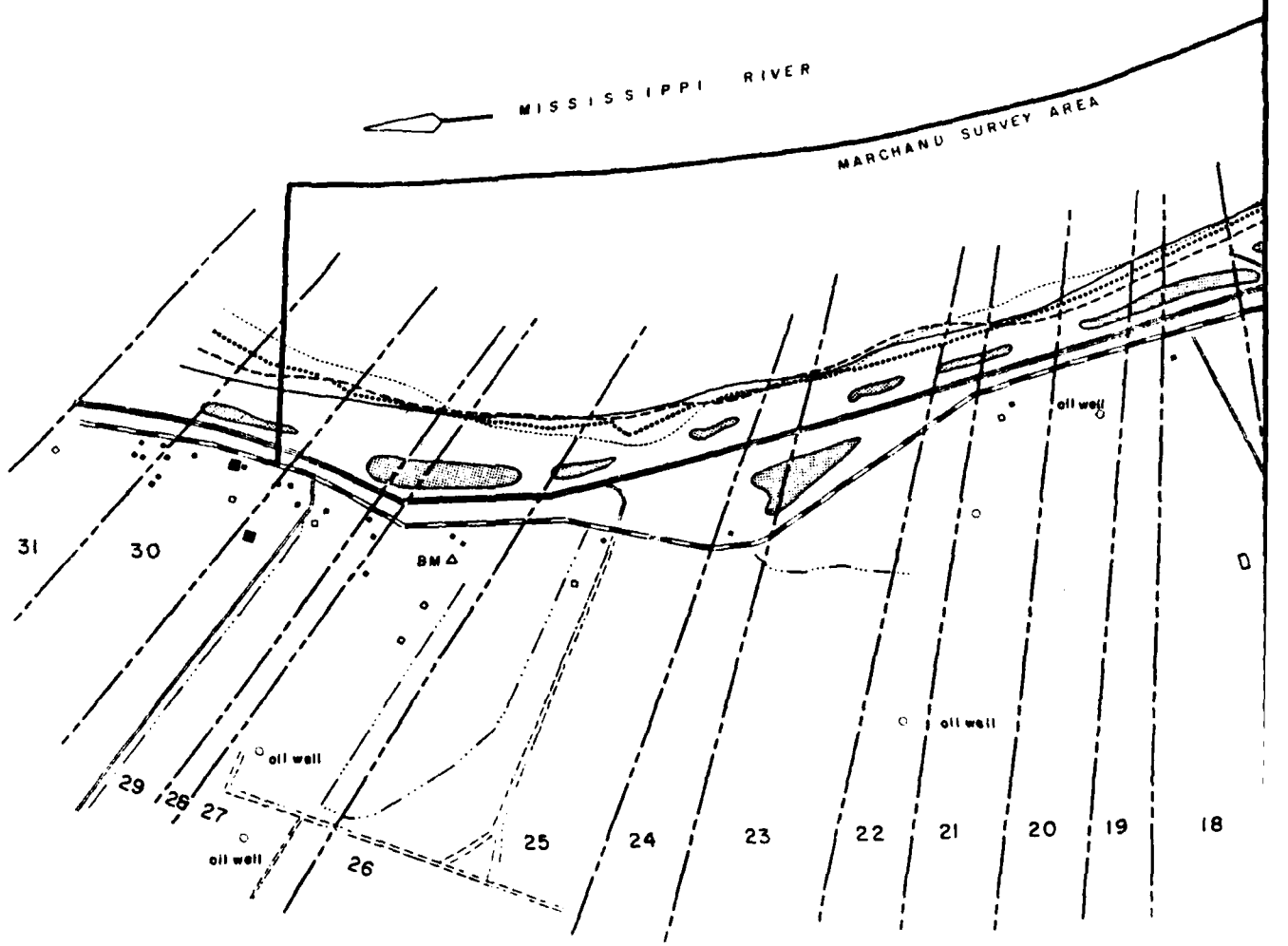
The work area occupies all or part of the former river frontage of the Bowden, Belle Helene, Linwood, and Cottage Farm Plantations. The upper limit of work is about two kilometers below the community of Geismar. It is across the river from the lower end of Claiborne Island. The lower limit of work is opposite to and about .5 km below Philadelphia Point (Figure 4).

Over half of the present batture area is composed of borrow pits. A large part of the area under consideration here has been impacted by conveyors, docks, and other facilities serving the chemical plants established on the former plantation lands behind the levee. The batture configuration in this area appears to be relatively stable. However, maps of the Caving Bank Survey of the Mississippi River (Figure 30) show a loss of up to 100 m of batture between 1869 and 1895 near the upper work limit. A similar amount of batture land was lost near the lower work limit between 1895 and 1949, as the river's curve around Philadelphia Point migrated downriver.

Project Area History

The vast majority of the Marchand project area was owned by the Kenner Family throughout most of the nineteenth century. The initial purchases of land that would become part of "Ashland" and later of "Belle Helene" Plantation were made by William Kenner, a Virginian, and his brother-in-law, Philip Minor. Kenner was a New Orleans factor and commission merchant, who moved to Louisiana during the early years of the nineteenth century when many Americans, particularly from the mid-Atlantic region, were attracted to Louisiana by new opportunities in the sugar industry. On January 6, 1821, the United Sites Government confirmed the Kenner and Minor claim to a tract of land in Ascension Parish, on the left bank of the Mississippi River, which measured twenty-eight arpents front by forty deep. A second, and upriver tract of two arpents front also was claimed by Kenner and Minor at that time (Lowrie and Franklin 1834:594). The larger of these two parcels included land in the upper portion of the project area.

Kenner and/or Minor subsequently purchased fourteen arpents front of additional land, since when William Kenner died a few years later, his holdings were forty-four arpents front. One



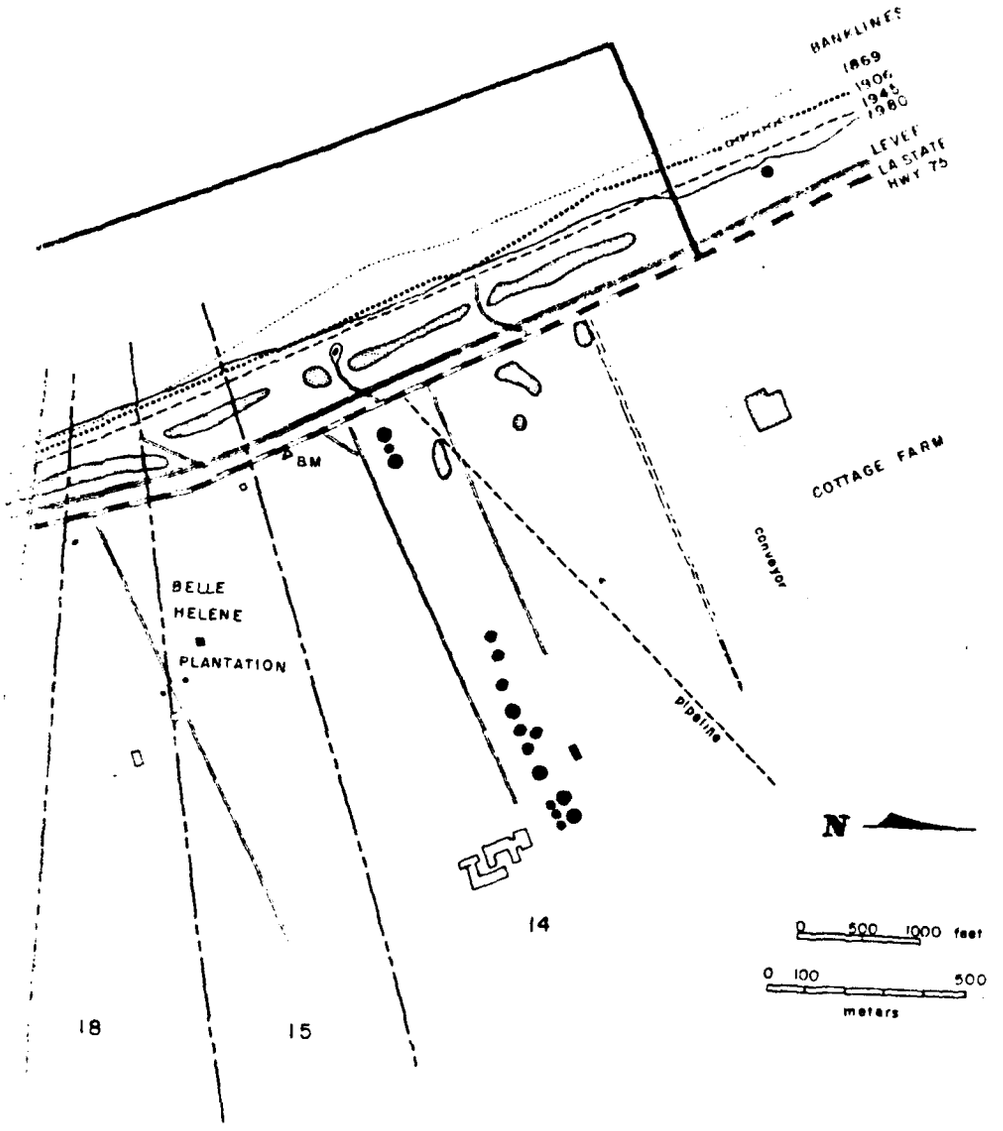


Figure 30. Scaled composite map of the U.S.G.S. quad sheet and bankline locations for 1869, 1906, 1945 and 1980 at the Marchand survey area.

1 of 2

quarter interest in this plantation was held by B. Minor, who probably had obtained Philip Minor's share. William Kenner's three quarters interest was divided equally among his six children and heirs, who then bought and sold their interests with each other. George R. Kenner bought his brother, William B. Kenner's one-eighth interest, bringing his share up to one quarter. Similarly, Duncan Kenner bought his sister's one-eighth share, giving him a quarter interest. Minor Kenner bought Frances Kenner Duncan's one-eighth interest, and also purchased B. Minor's interest, giving him a total of a one-half share. Minor Kenner then sold his one-half interest to Philip Minor (N.B. Trist, December, 1888, NONA).

To recapitulate, Philip Minor, Duncan Kenner, and George Kenner owned one-half, one-fourth and one-fourth interests respectively, in a plantation of forty-four arpents front, which was known at that time as Linwood Plantation. On December 28, 1836, the three men partitioned the plantation. Minor received the upper twenty arpents front of Linwood, while Duncan and George Kenner kept the lower twenty-four arpents as their combined half share (N.B. Trist, December 1, 1888, NONA). The fact that the Kenner brothers received more land suggests that they were being compensated in some way, possibly because the plantation's standing structures at that time were upriver, on the property which Minor retained. Part of the project area, including the area where structural remains were found, was included in the parcel retained by the Kenner brothers.

Duncan Farrar Kenner was the youngest son of William Kenner and Mary Minor. Born in 1813, he attended college at Miami University of Ohio; he graduated in 1831. Soon thereafter, John Slidell took Kenner into his law office to familiarize him with the legal system. Duncan F. Kenner left Slidell's practice to attend to the management of the plantation. He also was elected to the State Legislature as an Ascension Parish representative at age twenty-five (Seebold 1941:87).

In 1835, George purchased the three arpent front tract below and adjacent to Linwood from Jean Louis Picon (T. Seghers, January 24, 1838, NONA). Duncan's social stature was enhanced by his marriage in 1839 to Naine Bringier, the daughter of a wealthy and prominent French Louisiana family. As a wedding present to his wife, Duncan commissioned James Gallier to build a mansion at the plantation, which was then known as Ashland. The great house was completed in 1841. In 1843, Kenner purchased an additional three arpents front on the river from the succession sale of Theodore Segond (N.B. Trist, December 1, 1888, NONA). This tract was adjacent to the lower boundary of Ashland, and its purchase brought the plantation holdings to a total of thirty arpents front on the river. The following year, Duncan bought out George's interest in the plantation (W. Christy, March 11, 1844, NONA). This was the first year of the sugar reports, and the first year figures show that huge quantities of sugar were being grown at Ashland. Even relatively "bad" seasons yielded large crops in comparison to the

output of other plantations (Table 10). One factor which may have increased Ashland's yields was that Kenner was a progressive planter, implementing technological improvements on the plantation and supporting advancements in the industry. For example, Kenner utilized a vacuum pan apparatus at least as early as 1851 (Champomier 1851). In addition to sugar, Kenner also raised race horses on the estate.

In 1850, Kenner was nominated by the Whig party for the post of Lieutenant Governor, but he lost the election. He joined the Democratic party the following year. Kenner served as President of the State Constitutional Convention in 1852. The 1850s also provided him with agricultural opportunities. His tremendous success with sugar cultivation encouraged the acquisition of additional land. On May 5, 1858, Kenner purchased Bowden Plantation at the succession sale of General Hore Browse Trist, a distinguished member of the Bringier family (N.B. Trist, December 1, 1888, NONA). Bowden Plantation was twenty-four arpents front. It adjoined the lower or downriver side of Ashland (Figure 31). Like Ashland, Bowden had an exceptional history of sugar production (Table 10). Its sugar house was equipped with a Rillieux vacuum pan apparatus (Champomier 1851). On the eve of the Civil War, Kenner valued his estate at about one half million dollars, including $65,000 in agricultural machinery. His plantation holdings also included fifty horses, 173 mules, twenty-six milk cows, fifty-seven oxen, 370 sheep, twenty-two hogs, and thirty-nine head of cattle. Kenner also owned 473 slaves (Menn 1964: 121-122).

An ardent supporter of the south, Kenner's importance increased with secession. He believed that his first allegiance was to the State of Louisiana. In 1861, he was one of seven elected delegates from Louisiana sent to the Provisional Congress of the Confederacy. He continued as a representative after the capital was moved from Montgomery to Richmond. Kenner was in Richmond when New Orleans fell to the Union on April 25, 1862. His wife and children had wintered in New Orleans with his wife's mother. Kenner's daughter, Rosella, thirteen at the time, remembered the events vividly:

> The Federal fleet had for some days been actually bombarding the forts, Jackson and St. Philip, below the City. It had been agreed by the City authorities that if the enemy's ships should pass the forts, the City bells, constituting fire alarms, etc., and to be heard all over the City should be rung twelve times sounded three times in succession, with a short interval between each twelve. This order had been published and was familiar to all (The Brent Recollections).

The children were with their British tutor (a southern

Table 10. Sugar and Rice Production at Ashland and Bowden Plantations (Champomier 1844-1862; Bouchereau 1869-1917).

Season Ending	Ashland (owned by D. F. Kenner)	Bowden (owned by H. G. Trist until 1858)
1844	1156 hhds. sugar	566 hhds. sugar
1846	965 "	388 "
1850	580 "	735 "
1851	859 "	632 "
1852	710 "	595 "
1853	1169 "	600 "
1854	1370 "	810 "
1855	1397 "	755 "
1856	570 "	500 "
1857	342 "	200 "
1858	1080 "	550 "
1859	D. F. Kenner bought Bowden; until 1862, their crops were combined.	2002 hhds. sugar
1860		1500 "
1861		940 "
1862		2150 "
1869	Not listed	350 hhds. sugar
1870	116 hhds. sugar	290 "
1871	352 "	348 "
1872	363 "	285 "
1873	193 "	242 "
1874	296 "	334 "
1875	424 "	384 "

	Ashland	Bowden
1876	415 "	555 "
1877	481 "	475 "
1878	273 "	274 "
1879	335 "	520 "
1880	355 "	450 "
1881	From 1881 until 1888, Kenner combined his crops with J. L. Brent.	938 hhds. sugar
1882		530 "
1883	6200 bbl. rice	579 hhds. sugar
1884	5390 "	1053 "
1885	4035 "	1014 "
1886	6016 "	1194 "
1887	8769 "	954 "
1888	7008 "	1170 "
1889	----	1412 "

Table 10. (Continued)

Season Ending	Ashland (owned by D. F. Kenner)	Bowden (owned by H. G. Trist until 1858)
1890	Belle Helene Planting Co., Inc., purchased both Ashland and Bowden, after 1890 they were combined as Belle Helene Plantation.	1199 hhds. sugar
	Belle Helene	
1891	2,000,000 lbs. sugar	
1892	1,349,497 "	
1893	2,690,098 "	
1894	1,057,068 "	
1895	3,221.833 "	
1896	2,112,667 "	
1897	After 1896, Ashland was recorded separately from Belle Helene, but no crops were reported.	
	Belle Helene	
1897	2,396,215 lbs. sugar	
1898	2,344,000 "	
1899	2,481,500 "	
1900	1,255,786 "	
1901	3,279,240 "	
1902	3,279,240 "	
1903	4,905,837 "	
1904	2,185,735 "	
1905	3,775,166 "	
1906	3,075,365 "	
1907	2,464,000 "	
1908	4,150,000 "	
1909		
1910		
1912	4,596,545 "	
1913	2,890,794 "	
1914	4,069,912 "	
1915	4,119,225 "	
1916	2,896,080 "	
1917	2,410 bbls. syrup	

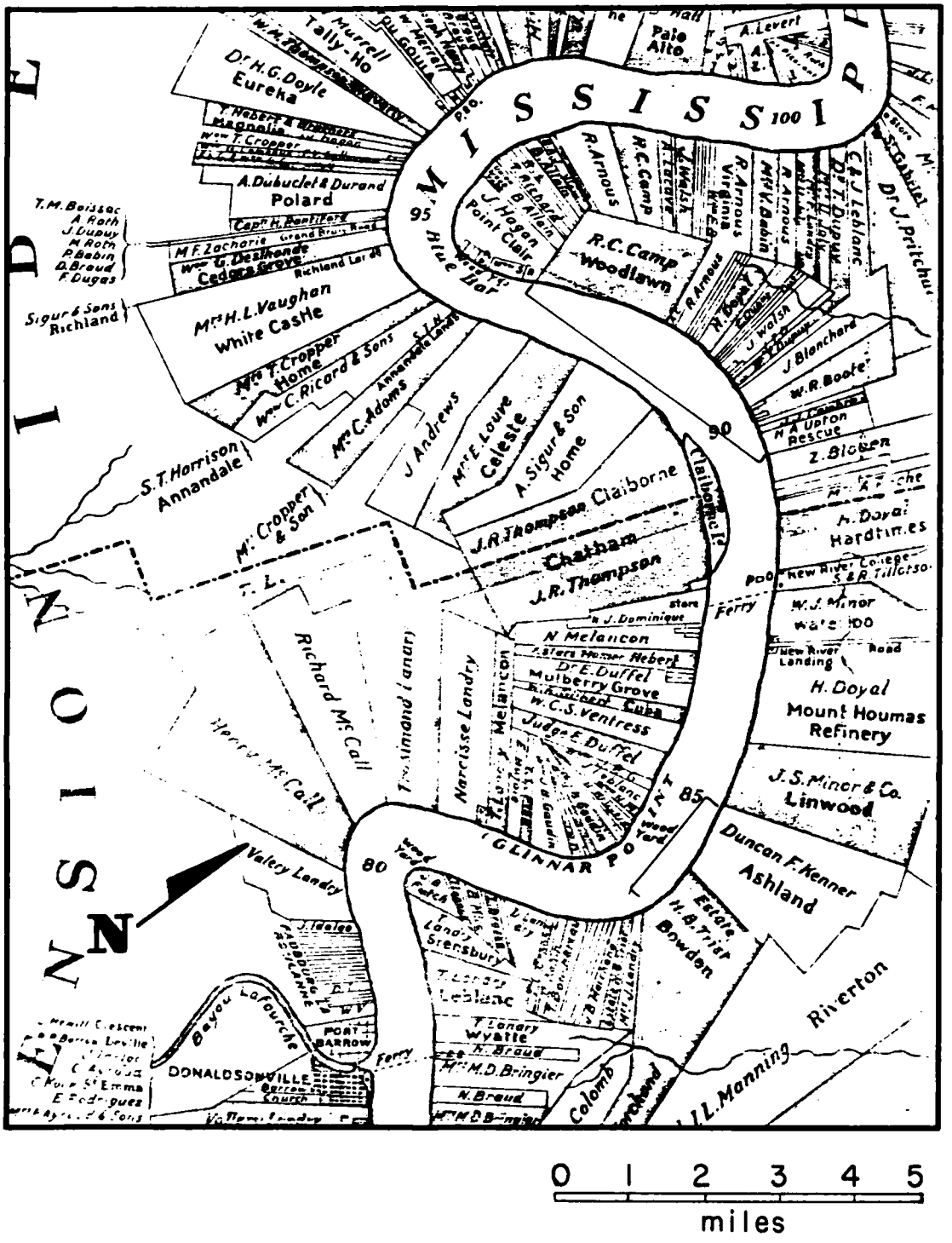


Figure 31. Excerpt from Norman's "Chart of the Mississippi River From Natchez to New Orleans" (1858) showing the Marchand and New River Bend project areas.

sympathizer) when the alarm finally came:

> ...soon after we had settled to our usual routine, the City bells began to ring, it was he who counted them, and with a growing dismay, which we shared as the fatal number rang out. As soon as he was certain that the bad news had come, and come officially, Professor Melchado took up his hat, and bidding us a most informal good morning, hurried away to ascertain what was about to happen to the City and its inhabitants (The Brent Recollections).

The Kenner family party departed by steamboat that afternoon for Ashland, prior to the arrival of the Union troops. After the adjournment of Congress, Kenner returned to put the plantation in order and take the family to Richmond.

The Kenner family was affected little by the war during this period. While Federal gunboats and transports were present on the river, they did not land at the plantation. There was little or no trouble from the slaves, and the plantation managers kept the general peace. The major concern at the plantation was that water from the McHattan crevasse in Baton Rouge entered the back fields, and came within ten arpents of the sugar house where it was stopped by a protective levee.

The peace was shattered on July 27:

> ...my sister and I went out in the front gallery upstairs where my mother was sitting, and where in summer we usually spent the evening. We sat talking to her while the short southern twilight deepened into dark, and we noticed that a steamboat, whose repeated whistles had attracted our attention, seemed to be landing at our warehouse. This was no unusual occurrence, even then, and we did not think much of it, but gave our attention to the passing of a horse that someone was riding on the road at full speed, not galloping but running, and so fast that the desperate pace attracted our attention, and we listened until the sound died away, my mother remarking, "II est bien presse celui la" (that man is in a great hurry). Little she thought who the rider was. We resumed our chat... Suddenly we heard someone enter the house by the back door of the lower hall, come up the winding staircase and along the upper hall, towards us where we were sitting near the front door on the front gallery. It was a man's step but

not my father's. His was light and quick, and this was slow and heavy, almost as if the man were staggering from being hurt, or carrying a burden too great for his strength. Peaceful and quiet as were our surroundings, we know that we were standing on the brink of a volcano, and my mother, quick to take alarm, sprang up and we followed her. As we reached the doorway, we saw Mr. Graves coming down the hall, looking indeed like a man stricken by a heavy blow. When he saw us, he put up his hands to his mouth so as to form a sort of speaking trumpet, and in a hoarse and scarcely audible whisper said, "Mrs. Kenner, the Yankees have come. Mr. Kenner has gone away." If a thunderbolt had fallen upon us from the clear sky, we could not have been more horrified. Mr. Graves had received the full force of the shock, and was entirely overcome. He told us as well as he could, for he was almost breathless from emotion and exertion, what we afterwards heard more fully related.

My father had been riding over the fields with Mr. Graves and a neighbor, Mr. Henry Doyal, and about dusk, when the latter was going home to his plantation a few miles up the river, the three rode towards the river gate, my father saying there was a steamboat at the landing and he would see if some freight that was expected had come. However, before the gate was reached, they met a Negro, who was coming rapidly towards them, and he called out "Mars Duncan, for God's sake don't go to the river. Dat boat is full of Soldiers, and dey is all landing." No further information was needed, and my father, realizing that it was not only unsafe to proceed further, but also to remain on the place, hurriedly gave Mr. Graves a few instructions, to go to my mother and tell her he had gone to Stephen Minor's and then he turned his horse and attempted to ride away. That evening he was riding Sid Story, a race horse of his own which had been retired from the track, but was still sound in wind and limb, and had been selected as a riding horse in case of emergency like the one at hand.

However, Sid Story refused to start, and for some incomprehensible reason would not move in spite of coaxing and urging. Then Mr. Doyal sprang to the ground saying "Mr.

> Kenner, take my horse, he will go and fast. I hunt deer with him." My father mounted Mr. Doyal's dun hunter, and he was the horseman whose rapid pace had attracted our attention. My father told us afterwards that he felt confident that he could not be overtaken, with a fleet and willing horse under him, and on his own plantation, the roads of which he had laid out himself, and knew better than anyone else. He therefore stopped, nearly a mile from the river, at the house of the overseer, Mr. Brag, and calling him out, told him what had happened, and that he was going away--he did not tell him where--and gave him such instructions as he thought would help to preserve order on the plantation, for he supposed that the soldiers would remain but a short time. Then my father continued on his way to Stephen Minor's taking the shortest of the back roads, and where he passed houses, being careful not to make his passing known.
>
> Waterloo was reached, and might have been considered a safe refuge for the night, but my father and Stephen, after some discussion, thought best to make assurance doubly sure. The carriage was ordered, and Anthony summoned to drive it, as being a trustworthy man who would give no information even under pressure. Anthony was one of Capt. William Minor's negroes and the trainer of the race horses under the captain's supervision. The carriage was driven to Indian Camp, the plantation and residence of old General Camp, who was a staunch friend. He also helped my father on his way to safety by sending him in a skiff (row-boat) across the river to the house of another friend, and the latter sent him further on and more into the interior, where gunboats could not penetrate (Brent Recollections).

Three hundred soldiers of the 111th Indiana regiment, commanded by Colonel Keith, landed with orders to raid the plantation and capture Duncan Kenner. Mrs. Kenner gave permission to them to search the house and plantation, and Keith assured her that the family would be treated with respect. Rosella provides a detailed account of the occupation:

> Col. Keith was as good as his word and we were in no way molested. The next day, one of the soldiers having made his way up stairs and walked around in an inquisitive and annoying manner, it was reported to the Colonel, who

placed a guard at the front of the staircase, and no one was allowed to come up without permission, and nothing in the house was destroyed or taken away. However, he was equally exacting in carrying out his instructions concerning the property that was to be confiscated for the use of the Government. The soldiers also were permitted to go all over the grounds and take or destroy whatever they pleased. My father's wine of which, he had a good supply, had fortunately been removed from the house and put under the flooring of one of the large brick out-houses which stood at a little distance from the main house.... He was informed of the location of the wine by the negroes, who were well aware that it had been moved, and who assisted the soldiers in taking it out, and in drinking it, which they did to some extent, when it was carted down to the transport.... Some other things had been removed from the house by way of putting them in greater safety, and unfortunately, among them were the family portraits and other paintings. These had been stored away in the house occupied by Mr. Graves. Somehow it had been considered that as he proposed remaining at Ashland, happen what might, he could take better care of them if they were in his home.

But the poor man was imprisoned in the main dwelling, and his house was broken open and everything in it was taken or destroyed.... The silver, with the exception of the forks and spoons, had also been sent away. The trunk in which it was packed had been taken in a cart to the house of Jerry Segoud, who lived some miles away on New River, an out of the way place.... However, the negro who had driven the cart came forward and informed the Federals that a trunk, which probably contained valuables, had been left with Mr. Segoud, and he was arrested and I am told, actually maltreated and beaten until he told where the trunk was hidden.

All the white men, overseers, etc., on the plantations in our neighborhood, were arrested and brought as prisoners to the Ashland house. They slept in the lower hall, on a double row of mattresses, which had been brought down from the garret, and also from the bed rooms upstairs and on each side of the

wide hall. The prisoners took their meals in the dining room, the cooking being in our kitchen, which was in an outbuilding. Our meals were served in the hall upstairs, for we did not leave the second floor at all. Henry Hayman, my father's body servant, a most trustworthy faithful man, assumed charge of the kitchen. He had followed my father in all his travels and had been with him in Richmond, where, as Henry said, "we kept house with Mr. Benjamin" (J. P. Benjamin, Secretary of War).

Therefore Henry was accustomed to soldiers, and their ways, and knew how to safeguard his provisions. He was a good caterer and an excellent cook, and we and the other prisoners were well fed. Mr. Henry Doyal, who had changed horses with my father, was one of the first persons to be arrested and brought in, and he was soon followed by Stephen Minor.... When Mr. Doyal and one or two of the other men were arrested they were wearing pistols, and they contrived that these should not fall into the hands of the Federals, but sent them to my mother giving them to the colored maid, Nancy, who went down every morning to make the beds and sweep the lower hall, and she wrapped the pistols in her apron and brought them upstairs.

The Federal occupation lasted four days and during that time, everything was taken that could be moved, and put on board the transport and another steamboat which had come to the Ashland landing. The plantation was well stocked, as my father had laid in large supplies previous to leaving Mr. Graves in charge, and being absent himself for an indefinite period. In the pasture there were herds of cattle and sheep, to furnish fresh meat for the hands. The storehouses were full of salt meat and the corn cribs of corn. And last but not least, there were about three hundred hogsheads of sugar in the sugar houses. All this was shipped, and some of the things that could not be taken were destroyed regardless of the fact that there were on the plantation a large number of hands, many women and children, all of whom were accustomed to be provided for, fed and clothed. Some of the negroes went with the Federals when they left, but the majority remained at home. The soldiers had, as a

> rule been unkind and harsh, and the negroes were not tempted to follow them and encounter the fortunes of war. What we children felt most was the taking of the horses... All the carriage and riding horses, even our ponies, were led, in what seemed to us as a funeral procession, as we saw it go down the road to the river. There were probably sixty horses in all. However, there was one horse that was not taken, because no one could ride or manage him except the grooms, who were accustomed to do so, and they refused to help in getting him off... My brother's pony was given back to him by Colonel Keith, who when he heard of the little boy's distress at losing his p(ony), gave orders that the horse should be restored.
>
> At the end of four days, the 111th Indiana received orders to move to Baton Rouge, where a battle seemed impending. Consequently, about dusk one evening, the whole expedition left Ashland. Colonel took with him many negroes and all the white men who had been arrested (The Brent Recollections).

The following day the family left Ashland for the Hermitage, another Bringier estate. There they received word that Duncan Kenner was behind Confederate lines on Bayou Lafourche. He met the family not far from Donaldsonville, and took them to the William Minor estate, Southdown, in Terrebonne Parish. By the end of October, the Federal troops had advanced into the Lafourche country. The family was then moved to the Courtableau Bayou region, first to Washington and later to Moundville (Brent Recollections).

Kenner also was named plenipotentiary to England by Jefferson Davis, and he attempted to gain recognition of the Confederacy from both England and France. After the war, the family returned to Ashland, their circumstances greatly reduced. The sugar output from both Ashland and Bowden plantations decreased dramatically (Table 10). By 1870, there were brick sugar houses at both plantations; these probably had stood since before the war, since there is no record of them having been destroyed. That same year, a steam tram and a centrifuge were installed at Ashland (Bouchereau 1870). Sugar production seemed to have recovered somewhat by the late 1870s (Table 10). Beginning in 1881, Kenner combined his crops with those of General Joseph Lancaster Brent, his daughter Rosella's husband. Brent had purchased the Landry plantation, adjacent to and downriver from Bowden (Figure 32). He also took over management of Ashland and Bowden when Kenner retired to New Orleans. Beginning in 1883, rice was the only crop reported for Ashland, although cane continued to be grown (Table 10; Bouchereau

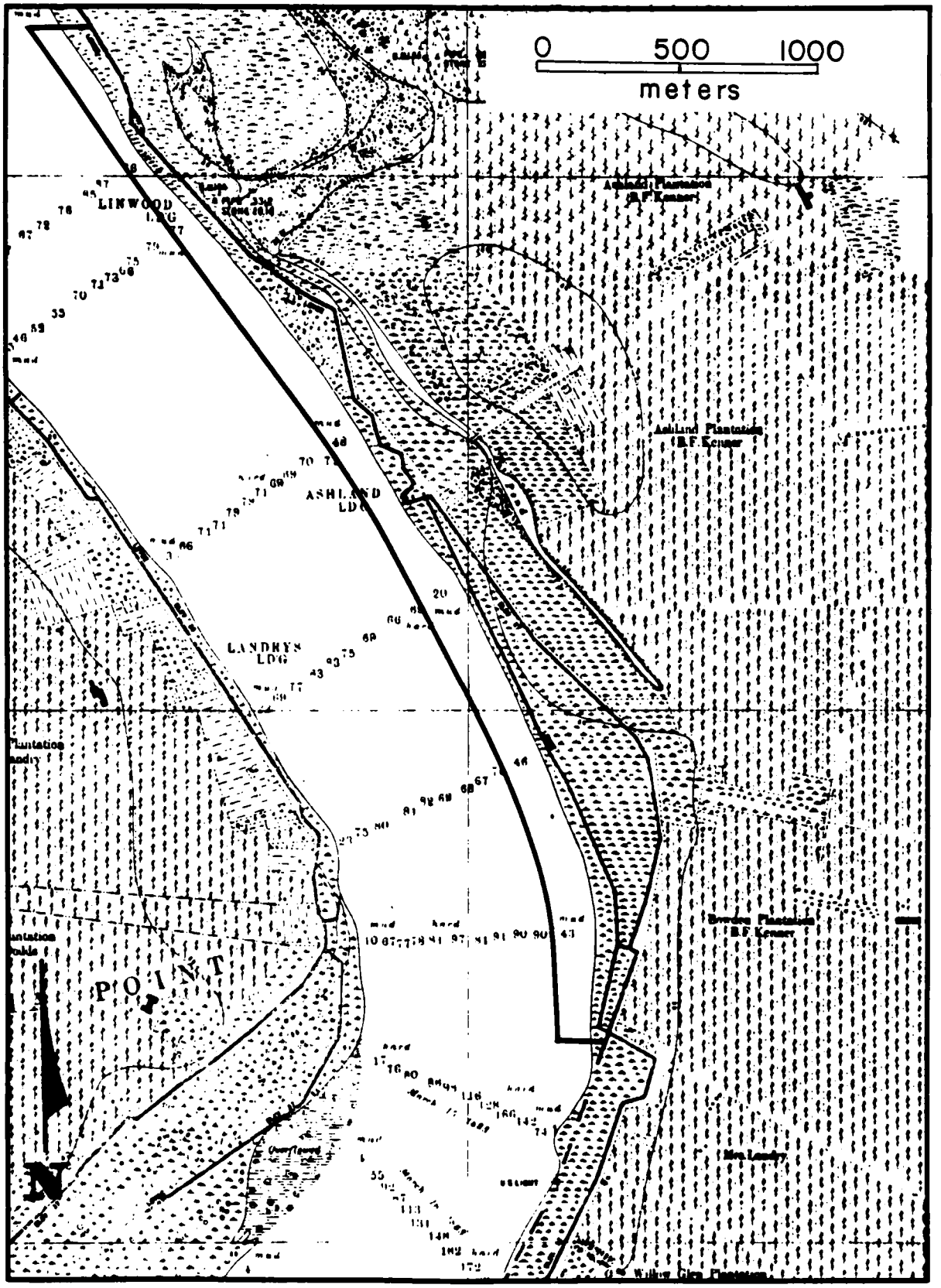


Figure 32 . Excerpt of the 1879-1880 Mississippi River Commission Map showing the Marchand project area.

1883-1888; Duncan F. Kenner Papers). Bowden undoubtedly was the plantation where the cane was processed, since Brent's plantation possessed only a wood sugar house driven by horse power, with an open pan set up for granulation. The brick Bowden sugar house was equipped with the Rillieux vacuum pan apparatus (Bouchereau 1880-1890).

In 1887, the sugar making equipment in the Ashland sugar house was replaced by a steam powered rice mill. That same year Kenner died in New Orleans at the age of seventy-four. Inventories were taken at both Ashland and Bowden at that time (Tables 11 & 12). Particularly notable in the inventories are the elaborate furnishings of the Ashland great house and the contents of the fully stocked plantation store, which sold virtually everything (Table 11). Kenner's estate was left to his wife and his children Rosella, Blanche, who married a New Orleans cotton factor named Samuel Simpson, and George Duncan Kenner (N.B. Trist, July 7, 1888, NONA). Kenner owed a great many debts at his death. As a result, many movables and some real estate had to be sold. However, Ashland and Bowden remained intact (#21664, Division B. Civil District Court of Orleans). Late in 1888, Kenner's widow donated additional interests in the Ashland and Bowden properties to Rosella and Blanche (N.B. Trist, December 1, 1888, NONA). The children then forced the partition of the plantations (#588, 22nd Judicial District Court, B. K. Simpson, et al. vs. Nanine Bringier). The property was auctioned on March 2, 1889; it was adjudicated to Hypolite P. Ousset for $85,100. The purchase excluded the furniture and contents of the great house, the store, as well as the sugar, molasses and rice crops of 1888 (COB 34, Folio 425, Ascension Parish).

Ousset sold the property to George B. Reuss a few days later for $75,000. The sale included 112 mules, 100 head of cattle, 120 sheep, eight horse, twenty carts, two wagons, and one timber wheel. The rice mill "with twelve pounders and other necessary machinery and equipment" was still at Ashland, and apparently a double effect apparatus had been installed at Bowden after Kenner's death. Also sold were three rice pumps, two rice threshers, three harvesters, a binding machine, seventy cane carts, and about 2800 barrels of coal. Two miles of light iron and steel portable rails were sold; this suggests that there may have been a plantation rail road (MOB 19, Folio 302, Ascension Parish). The Belle Helene Planting Company also incorporated at this time with Ruese as president. The company then bought the plantation (F. Dreyfuss, May 24, 1911, NONA). In May, 1911, the former Ashland and Bowden Plantations, which at that time was called Belle Helene, was subdivided and some parcels were sold. A plat drawn at that time showed the subdivision (Figure 33). It also shows that the Bowden sugar house was still extant and operating as of that date, and that there was a railroad spur between the sugar house and the Yazoo and Mississippi Valley Railroad (Figure 33). Figure 34 shows that in 1921 the Belle Helene Sugar Company was still in operation and cultivating cane; the size of the plantation had been reduced greatly. It also shows that Ashland plantation included a pecan

Table 11. Inventory of Ashland Plantation for the Succession of Duncan F. Kenner.

Land, buildings and improvements		$ 38,900.00	
48	plows		192.00
7	three mule carts		210.00
6	one mule carts		60.00
2	stubble diggers		10.00
1	stubble shaver		10.00
2	cane flukes		10.00
1	cod cutter		5.00
2	corn planters		4.00
8	revolving harrows		24.00
3	rice (drills)		45.00
3	Le Dow Cultivators		24.00
1	meal distributor		5.00
1	lot gearing and trees from 28 mules for plows		16.80
1	lot gearing and trees for 8 carts		8.00
2	Buckeye Binders		150.00
1	pair Timper wheels		25.00
23	spades, shovels and scoops		3.00
32	weeding and grubbing hoes		5.00
38	cane knives		3.80
11	scythe blades and (briar) axes		5.00
1	road machine		25.00
2	ox carts and 11 yokes		30.00
108	rice sickles		10.80
16	hay forks		3.20
16	tarpaulins		40.00
4	dirt scrapers		4.00
1	mowing machine		10.00
2	scrapers on wheels		25.00
1	crab wrench		
4470	barrels of rice		894.00
1	lot materials for eight hundred rice barrels		120.00
3000	feet lumber		24.00
1	rice thrasher and engine		250.00
3	hay press		150.00
3	hay harrows in Rice Mill		1.50
1	old 3 roller 5 feet Niles Sugar Mill		200.00
1	horizontal 10,000 lbs vacuum Sugar Pan		100.00
6	old Clarifiers in bad order		30.00
4	old (aspinwall) centrifugals		16.00
2	Ivens Rotary Pumps,		
2	Engines, and		
2	Flue boilers:	together	1000.00
69	cane carts		100.00
1	lot blacksmith's tools		15.00
4700	empty rice sacks		141.00
215	pounds Binder twine		21.50
3	old buggies, 1 sulky, 1 ambulance		100.00
Total farm equipment:		$ 4146.60	

Table 11. (Continued)

35	mules	$ 1750.00
90	head of cattle, including eleven calves	800.00
110	head of sheep	110.00
10	horses	400.00
3	old horses and one colt	40.00
Total Live Stock:		$ 3100.00

CONTENTS OF ASHLAND STORE

Lot No. One, Groceries: meat, meal, flour, hams, grits, tobacco, cigars, coffee, rice, canned goods, etc.	$ 813.80
Lot No. Two, Furniture: Beds, chairs, rockers, sofas, bureaus, etc.	76.01
Lot No. Three, Liquors: whiskey, gin, beer, wine, etc.	195.83
Lot No. Four, Saddlery: saddles, bridles, etc.	20.78
Lot No. Five, Glasses & Crockery: plates, cups, saucers, bowls, pitchers, tumblers, goblets, lamps, etc.	20.34
Lot No. Six, Woodware: buckets, washboards, etc.	6.68
Lot No. Seven, Stationery: paper, ink, pens, pencils, etc.	6.06
Lot No. Eight, Clothing: Coat, pants, vests, shirts, drawers, undershirts, overcoats, oil-cloths, etc.	335.68
Lot No. Nine, Tin ware: buckets, dippers, cups, plates pans, coffee pots, oil cans, etc.	12.00
Lot No. Ten, Dry Goods: prints, cotton, stripes, jeans, muslins, tickings, jerseys, lawns, flannels, blankets, quilts, dress goods, etc.	439.17
Lot No. Eleven, Hardware: files, axes, pad-locks pocket knifes (sic), scissors, shears, table cutlery, fish hooks, carriage bolts, pots, skillets, screws, rivets, paints, oils, wrapping paper, paper bags, scythe stones, nails, ropes, sifters, rules, etc.	331.58
Lot No. Twelve, Men's and Ladies' hats	99.07

Table 11. (Continued)

Lot No. Thirteen, Men's, Ladies' and children's shoes.	551.42
Lot No. Fourteen, Notions: pens, needles, thimbles, suspenders, handkerchiefs, trimmings, lace, gloves, tooth-brushes, fans, match safes, perfumes, toilet soap, ribbons, ladies hose, towels, marbles, harmonicas	212.59
Lot No. Fifteen, Drugs and Store Fixtures	160.00
Total Stock and Merchandise:	$ 3281.01

Furniture and Contents of Ashland

Hall:

3	wooden settees	$ 5.00
1	bookshelf	2.50
2	red chairs	3.50
1	common wood table	1.00
1	centre table, black marble top	7.00
1	hat rack	1.00
2	arm chairs and 1 rocker	5.00
1	wood table	1.50

Parlor:

1	sofa	$ 6.00
2	high back chairs	15.00
1	etagere	3.00
4	chairs	3.00
1	wicker rocker	4.00
2	willow chairs	6.00
1	Peer table, marble top	10.00
1	book shelf	3.50
1	lounge	10.00

Front Bed Room

1	bed and spring	$ 25.00
1	dressing table and glass	10.00
1	desk	7.50
1	looking glass	1.00
1	bureau without glass	7.00
1	washstand with set	6.00
1	towel rack	1.00
1	polariscope and scale	90.00

Table 11. (Continued)

Rear Bed Room:			
1	small desk	$	.50
1	small table		.50
Dining Room:			
1	Mohogany (sic) extension table	$	25.00
11	chairs		12.00
1	old side board (marble top)		17.50
2	folding tables		6.00
1	small walnut table		2.50
2	metal candelabra		5.00
6	large silver dinner forks, six large table silver spoons and six silver tea spoons		30.00
Pantry:			
1	lot furniture	$	5.00
Hall:			
8	chairs	$	5.00
1	dressing table and glass		8.00
2	armoirs		20.00
1	washstand, marble top		6.00
1	towel rack		1.00
1	old side board		2.00
Bedroom over Parlor:			
1	single bed	$	6.00
1	armoir		10.00
1	walnut table and glass		25.00
1	small work table		2.50
1	straw lounge		7.50
1	dressing table (marble top) & glass		12.00
Bedroom over Dining Room:			
1	small circular table	$	2.00
1	small armoir		4.00
1	single victoria bed with mattress and springs		12.00
1	wash stand (marble top) with toilet set and towel rack		6.00
1	pitcher and basin		1.25
Bedroom over Pantry:			
1	small round table	$	1.00
1	wash stand (marble top)		4.00
1	bed and spring		12.50
1	toilet with glass		8.00

Table 11. (Continued)

Front Bed Room, Right hand Side:		
1	lounge	$ 4.00
8	mahogany chairs	8.00
2	old mahogany arm chairs	2.00
1	lot four old odd chair	2.00
1	small lamp stand	.50
Rear Bed Room:		
1	armoir and 1 small work table	$ 6.00
Small Back Bed Room:		
1	lot furniture consisting of bed, armoir, wash stand and table	$ 10.00
Garret:		
1	old bed and odd damaged furniture	$ 3.00
Kitchen:		
1	charter oak stove and sundry kitchen furniture and cooking utensils	$ 37.50
Total amount of Furniture:		$ 569.25
Crops		
500	acres of growing rice	$ 11,000.00
85	acres of planted cane,	
93	stubble cane	10,000.00
Total		$ 21,000.00
TOTAL OF INVENTORY:		$ 70,996.86

Table 12. Inventory of Bowden Plantation for the Succession of Duncan F. Kenner (Duncan F. Kenner Papers).

Land, buildings and improvements		$ 58,116.60
	FARMING IMPLEMENTS, TOOLS, ETC.	
13	three-mule carts	390.00
1	three-mule dray	25.00
6	one-mule carts	60.00
2	hand carts	5.00
1	manure distributor	25.00
2	meal distributors	30.00
2	cane rollers	20.00
11	Ledaw & Bringier cultivators	50.00
4	Dirt scoopers	8.00
3	Stubble diggers	30.00
3	Stubble shavers	30.00
1	Stubble destroyer	5.00
1	Clod cutter	5.00
3	Revolving harrows	9.00
86	Plows	354.00
1	lot gearing & trees	36.00
1	lot saddles & britchings	12.00
1	lot of lumber (for repair of cart wheels, bodies & cars)	75.00
57	weeding & grub hoes	5.70
20	wooden rakes	1.00
16	spades & shovels	2.00
7	coal scoops	2.50
12	sythe blades & briar axes	6.00
2	hatchets	.50
2	cross cut saws	1.00
20	water buckets	2.00
1	lot cart bolts	1.00
10	extra plow beams	5.00
70	cane knives	7.00
1	lot of sugar house tools & supplies consisting of ordinary tools, one cooking stove and utensils, beds and bedding for six beds, pitchers, basins, bars and fire extinguishers	50.00
1	lot of lumber (for plantation repairs)	20.00
2685	sugar barrels	537.00
1	lot material for about 227 barrels	22.70
	LIVESTOCK	
70	servicable mules	4,900.00

Table 12. (Continued)

SUNDRY MOVABLES

1	lot of plantation and sugar house supplies, consisting of:	3	barrels Alum	
		15	pairs sashes	
		2	coils, check ropes	
		1	lot of red iron/steamboat & bales hoops	
		67	fello(es)	
		95	spokes	
		4	hubs	
		1/2	bbl. rosin	
		75	lbs. tallow	
		2	lbs. machine oil	
		1	bbl. lard oil	
		3/4	bbl. cart grease	
		1	bbl. axle grease	
		24	grubbing hoes	
		3	water casks	
		21	pairs ha(mes)	
		1	pair traces	
		7	blind bridles	
		2.	sides harness leather	150.00
280	acres plant cane,			
286	acres stubble cane			35,000.00
			Total of Inventory	$100,000.00

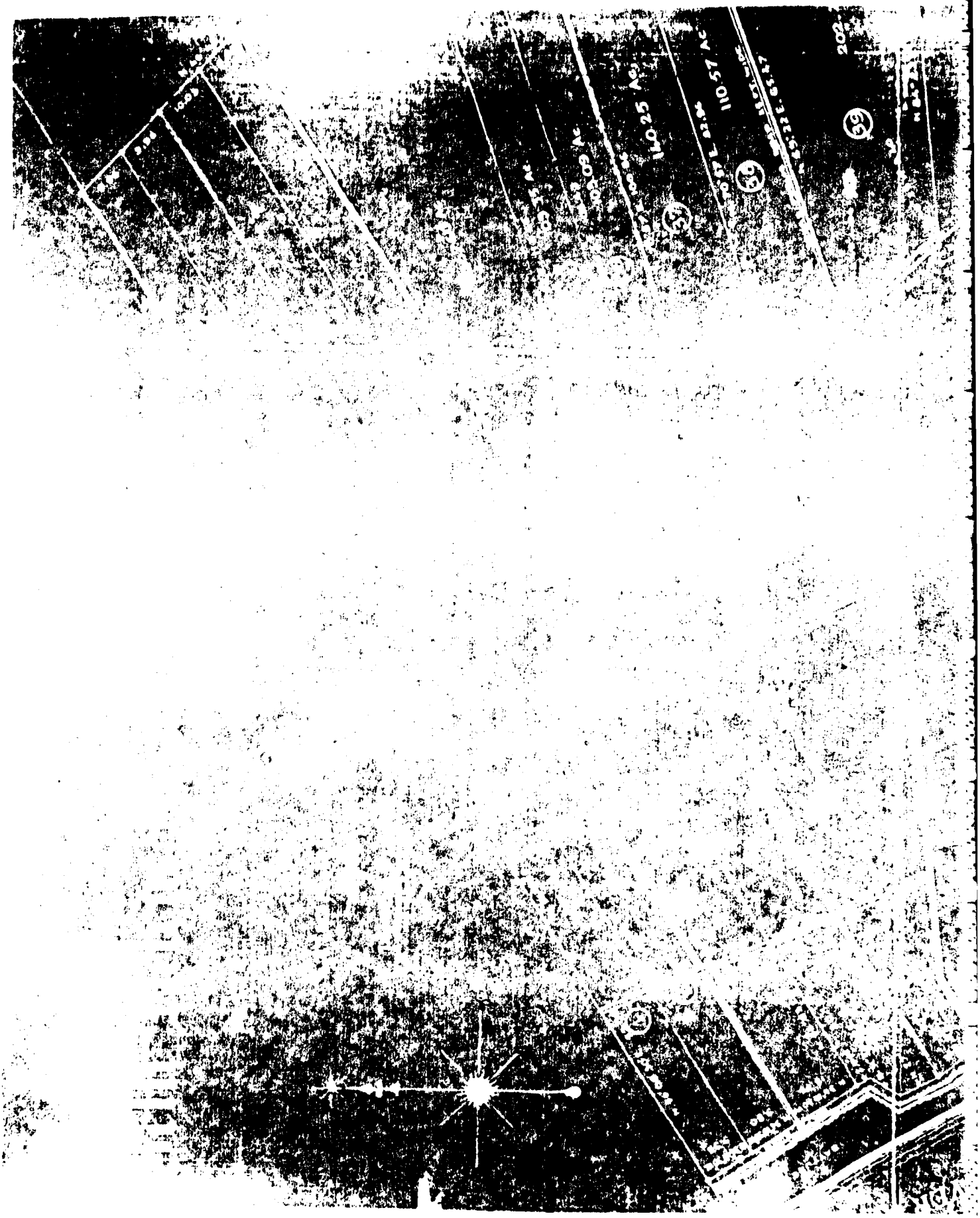


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Figure 31. Excerpt of a 1911 plat showing the subdivision of Belle Helene Plantation (COB 99, Folio 9, Ascension Parish).

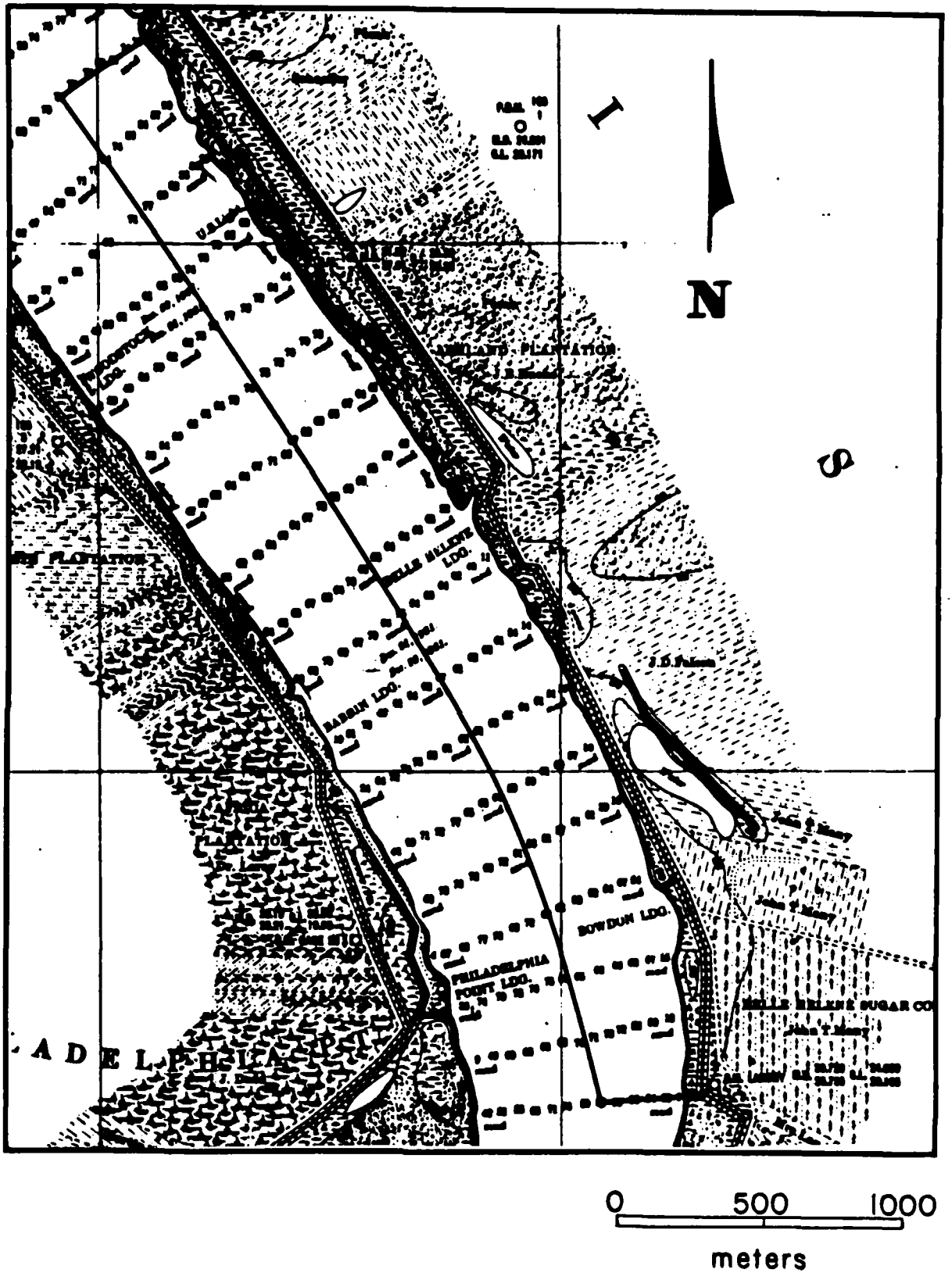


Figure 34. Excerpt of the 1921 Mississippi River Commission Map showing the Marchand project area.

grove.

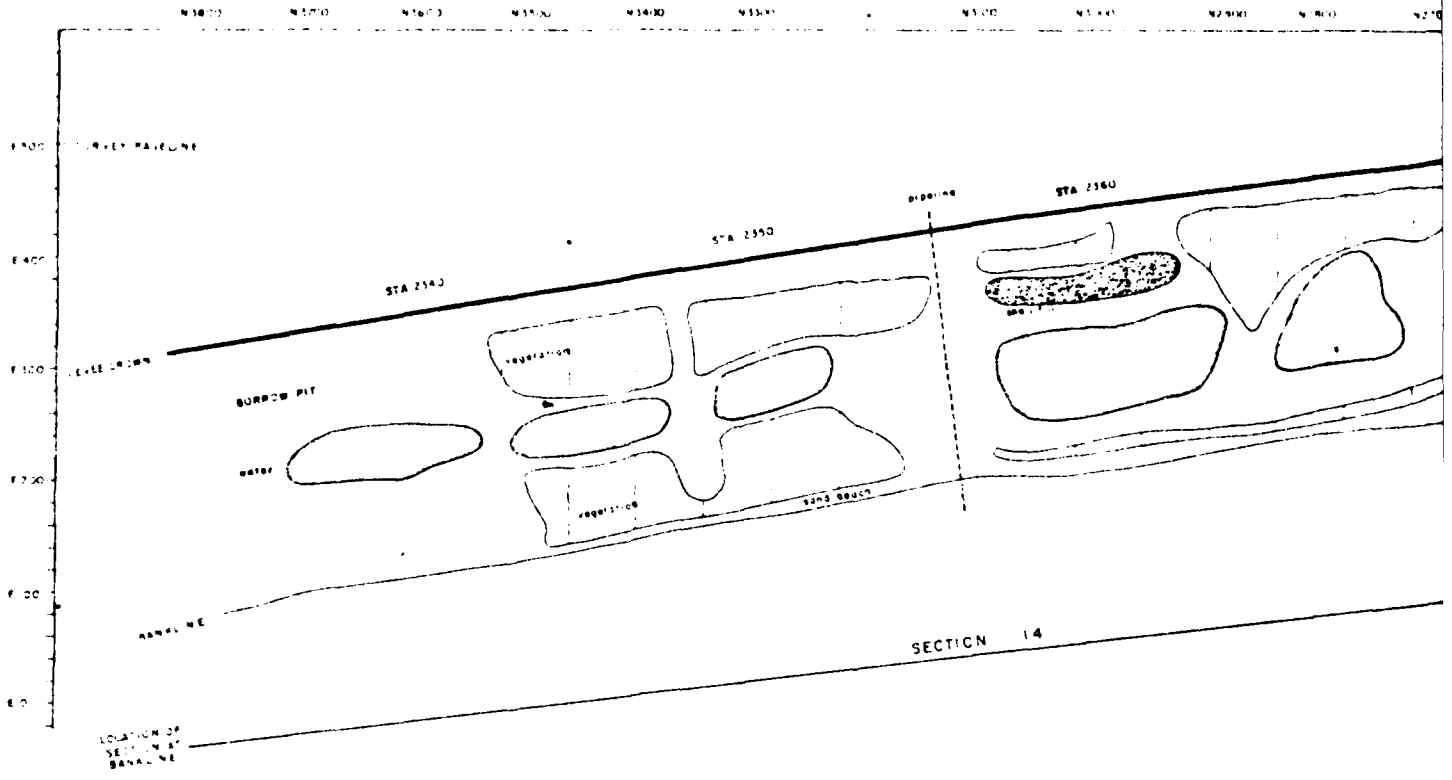
The plantations in the Marchand project area remained specialized sugar cane growing and processing centers until recent years. During the early years of the twentieth century, however, sugar refining was concentrated in central refineries serving multiple plantations. The centralized refinery system depended on railroad transportation. Belle Helene's spur line from the nearby line of the Yazoo and Mississippi Valley Railroad (now part of the Illionis Central Gulf Railroad) reflects the new role of the railroads in the plantation economy. Subsequent to World War II, this project area ceased to be solely an agricultural zone. The petrochemical industrial plants which now occupy much of the riverfront between New Orleans and Baton Rouge also dominate the Marchand area. Producing wells of the Darrow Oil Field are scattered east and southeast of the project area. Several pipelines now cross the batture in the project area. Industrial facilities owned by the Shell Chemical Company and the BASF Wyandotte Company now occupy a major portion of the project area.

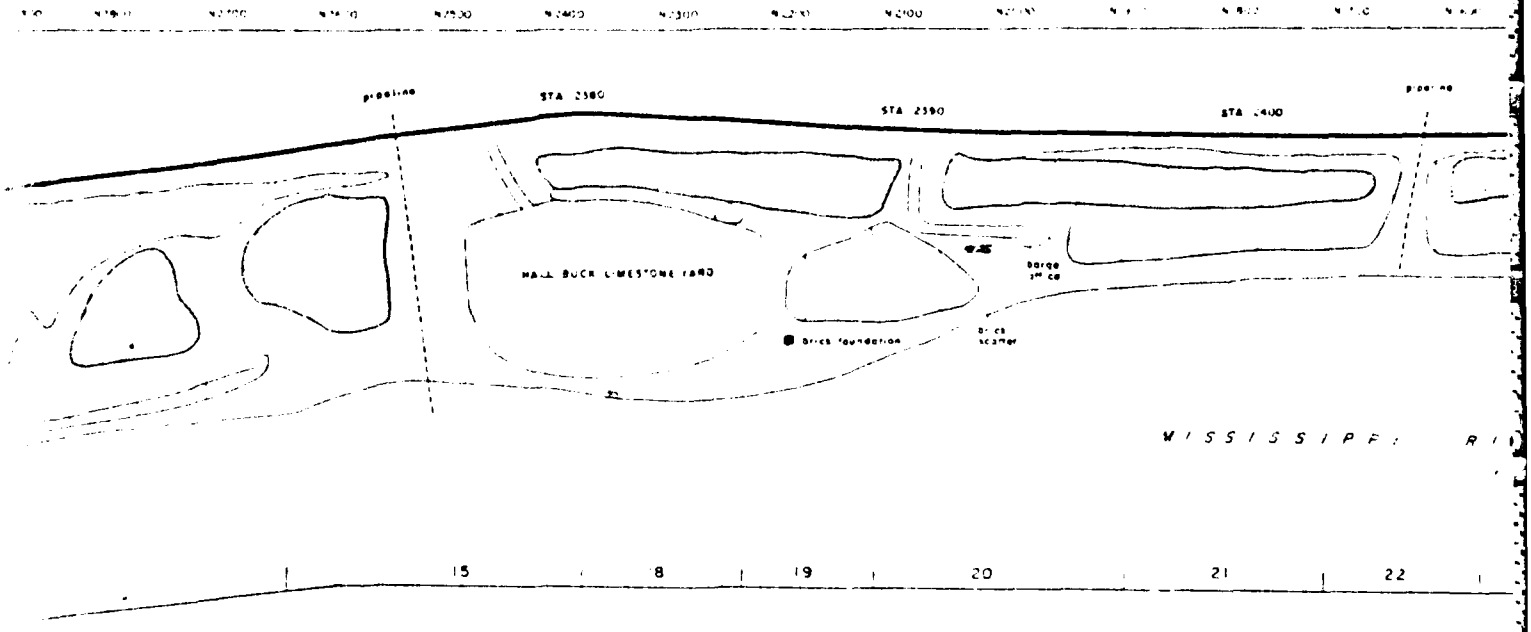
Field Investigations

On August 14, 1984, a survey baseline was established for the Marchand study area. Due to moderate to heavy vegetation and intermittent water-filled borrow pits throughout the survey area, the baseline was established along the base of the modern levee, on the batture side. The baseline began at N00, E500; that point was located on the riverside toe of the levee at the upriver end of an existing articulated mat revetment that marks the downriver limit of the study area. Transect survey, utilizing the 20 m interval, was conducted using a four man team. From N00 to N180 (Figure 35), no cultural remains or industrial developments were observed. The batture in that area was wooded, with a 20 - 30 m wide clearing along the river.

At N180 and the river, there is a barge loading terminal. In fact, more than fifty per cent of the Marchand study area has been impacted by industry, mainly chemical plants. The area above the barge terminal was found to contain borrow spoil mounds. This area was heavily wooded between the borrow pit and the gradually sloping clay banks present at the bankline.

At N140, E380, just upriver from the barge terminal, is a squatter's shack. This modern structure was not treated as an historic archeological site during the project, and did not receive a state site number. The shack is built into trees growing out of a spoil mound. The building (Figures 36 and 37) is 75 m from the bankline; it shows evidence of recent occupation. The shack is constructed of drift boards, and has a single glass window. A metal stairway, probably scavenged from one of the industrial facilities in the area, is located on the downriver side of the structure. This stairway rests on the surface of the spoil mound. Trails lead off in the directions from the shack. About 100 m upriver from the shack, two 12 m high mounds are present on a





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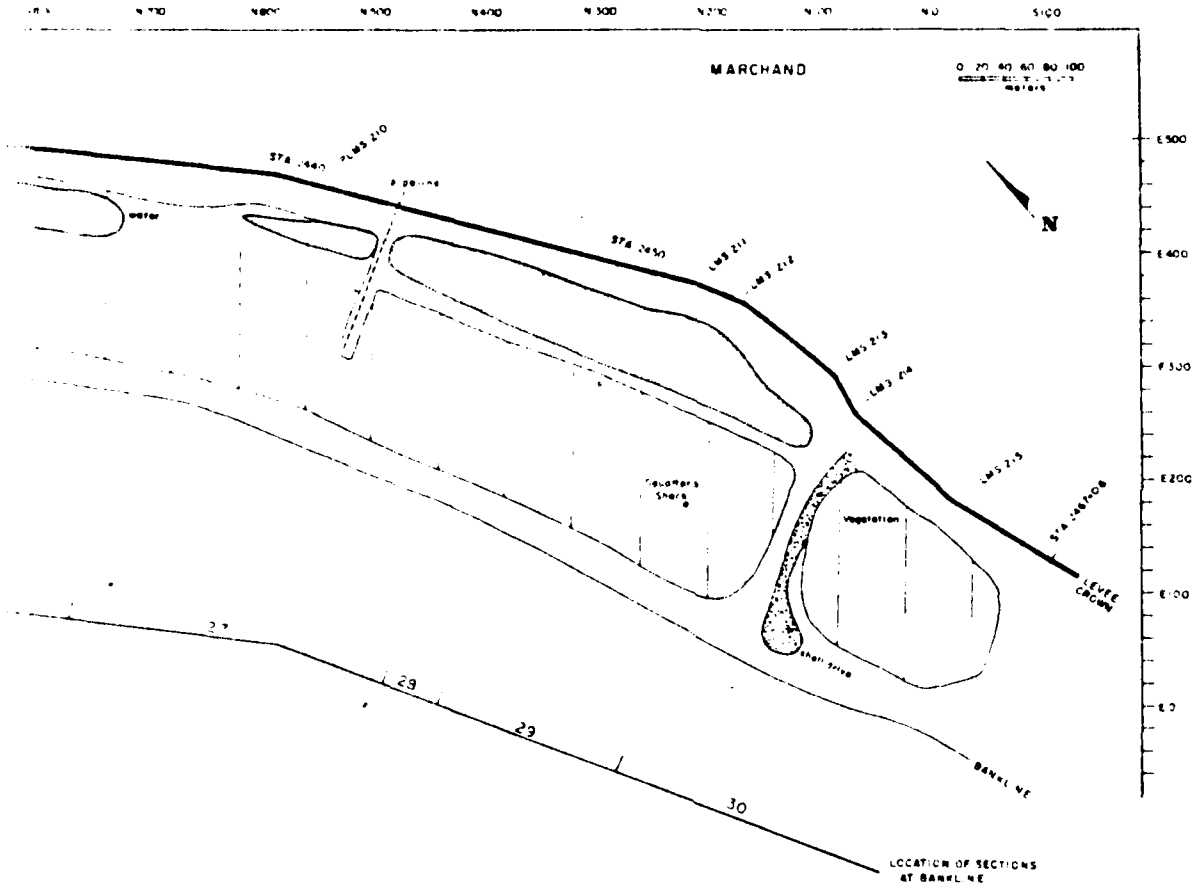

FIGURE 36 SITE PLAN OF THE MARCHAND SURVEY AREA

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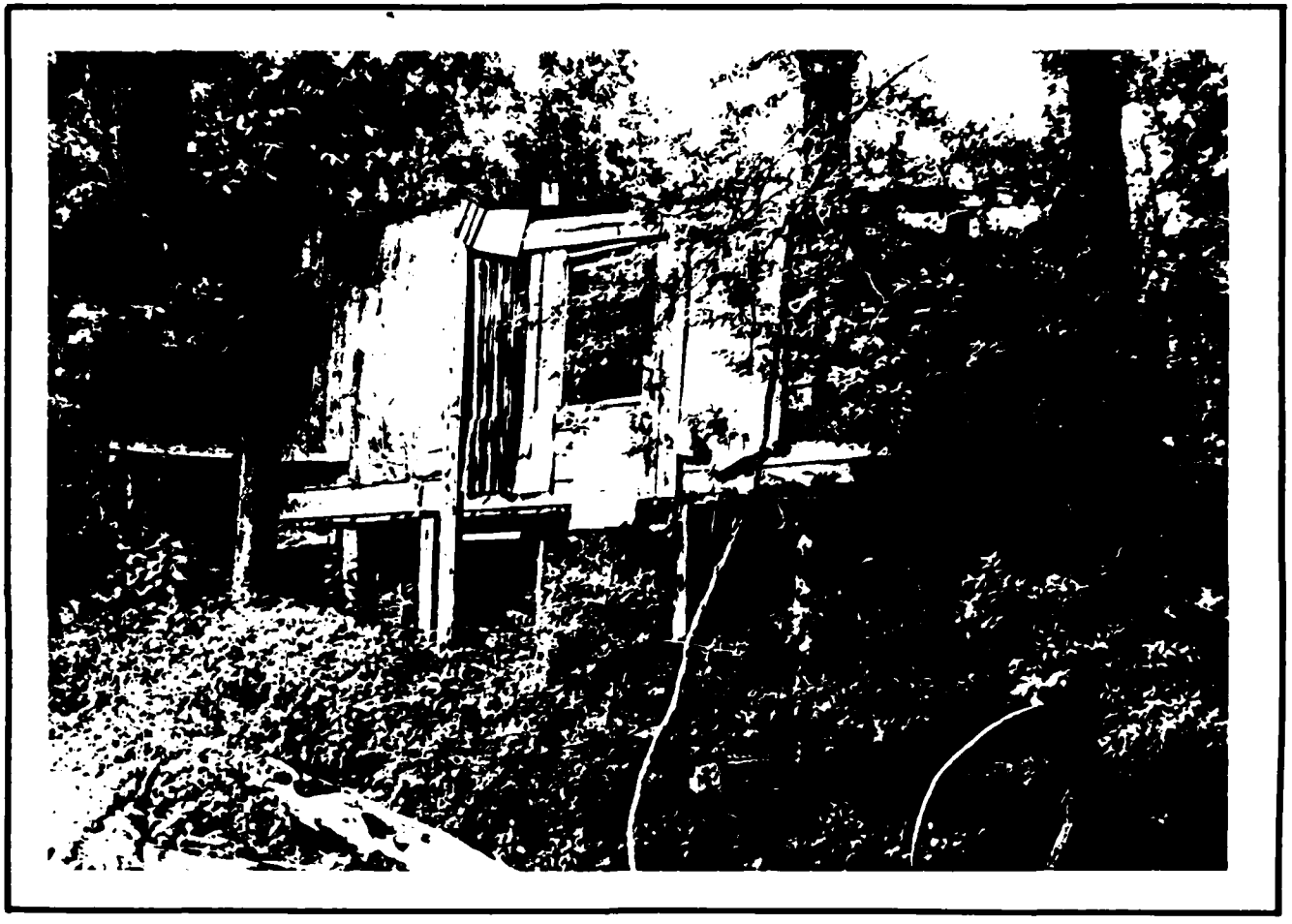


Figure 36. Batture squatter's shack at Marchand.

Figure 37. Batture squatter's shack to Marchand.

segment of the old protection levee. These mounds were probably formed as spoil during borrow activities. Upriver of these mounds, a gently sloping clay bank 24 m wide leads from the old levee to the river's edge.

At N1500, the gently sloping terrace is 30 m wide, from the bankline to a series of spoil mounds. The spoil mounds at this point are approximately 6 m higher than the river. A borrow pit is present on the land side of the spoil mounds. Shovel tests to a depth of 45 cm on the batture bankline produced no cultural materials. The soil was a mottled brown/grey sandy clay, with grasses growing at the surface.

The area between N480 and N2180 was devoid of historic archeological remains. At N2015-N2040 an extensive brick scatter, designated Feature M-100, was encountered near the riverbank. The feature represent material from Belle Helene Plantation, 16 AN 26. The bricks might be the remains of an historic platform or structure, but no foundations were discovered by shovel testing at this location. No other artifacts were noted in the area of the brick scatter. This feature was uncovered recently during a clearing operation by the Carline-Geismar Fleet of Baton Rouge. The batture woodland was cleared at this spot to establish a landing for the company's large, two-story barge/office, placed here in early August, 1984. The barge is centered on grid coordinates N2153, E417.

At N2195, E325, a tiered brick foundation was encountered 45 m from the river's edge and 200 m from the existing levee. This structure has been designated Feature M-101. The brick foundation is immediately downriver and across the batture from the great house of Belle Helene Plantation. The stepped tier is still seven courses in height. An associated brick floor or platform, two courses in thickness, is eroding from the riverbank at this location. Sections of fallen brick walls lie on the ground surface by the tiered foundation. Large trees have fallen on the remains of the structure. Scattered brick, some of it bulldozed, occupies an area roughly 10 m x 10 m about the remains of the brick foundation. The adjacent area upriver from the brick structure has been bulldozed and disturbed by recent land clearing for a limestone yard.

Conversations with Samuel Wilson, Jr., noted architectural historian, confirmed that this feature (Figure 38), designated Feature M-101, was a foundation for a massive structure. He drew attention to the fact that on the 1879-1880 Mississippi River Commission map, the levee is shown jutting riverward, enclosing a large structure at Ashland Landing (Figure 32). This location was later known as Belle Helene Landing (Figure 34). Mr. Wilson suggested that the levee shown on the 1879-1880 map had been constructed in this irregular fashion to accommodate the unidentified structure, which may have been too large to be moved. He also suggested that this structure possibly had been a warehouse (Samuel Wilson, Jr., personal communication 1984). This

Figure 38. Brick foundation at Marchand, Site 16 AN 38, Belle Helene Landing.

interpretation is compatible with the historic record. The huge amounts of sugar produced during the ante bellum period at Ashland Plantation would have necessitated the construction of some storage area for barrels awaiting shipment. Such a warehouse could hold the plantation supplies, which included the supplies for nearly 500 slaves. Rosella Kenner documented the existence of a riverside warehouse:

> We noticed that a steamboat, whose repeated whistles had attracted our attention, seemed to be landing at our warehouse (emphasis added; Brent Recollections).

The archival and archeological evidence strongly suggest that Feature M-101 constitutes the remains of the Kenner, or Ashland Plantation, warehouse, or of an associated structure at the plantation landing. If the warehouse was built at the same time as the plantation great house, it was constructed ca. 1840.

Between grid coordinates N2220 and N2500, the entire batture is occupied by Hall Buck Marine Services Company Belle Helene Transfer Terminal Limestone Yard. The Shell Chemical Company Geismar plant occupies the batture between N2560 and N3150. The company has reworked the batture, and filled the area extensively to construct a conveyor terminal for the transfer of chemicals. Another chemical plant, owned by hte BASF Wyandotte Company, occupies the entire batture between N3150 and N5000. The upriver limit of the Marchand project area is at levee station 2328+05, grid coordinate N3900.

CHAPTER VII

THE HISTORIC ARCHEOLOGY OF THE NEW RIVER BEND REVETMENT PROJECT AREA

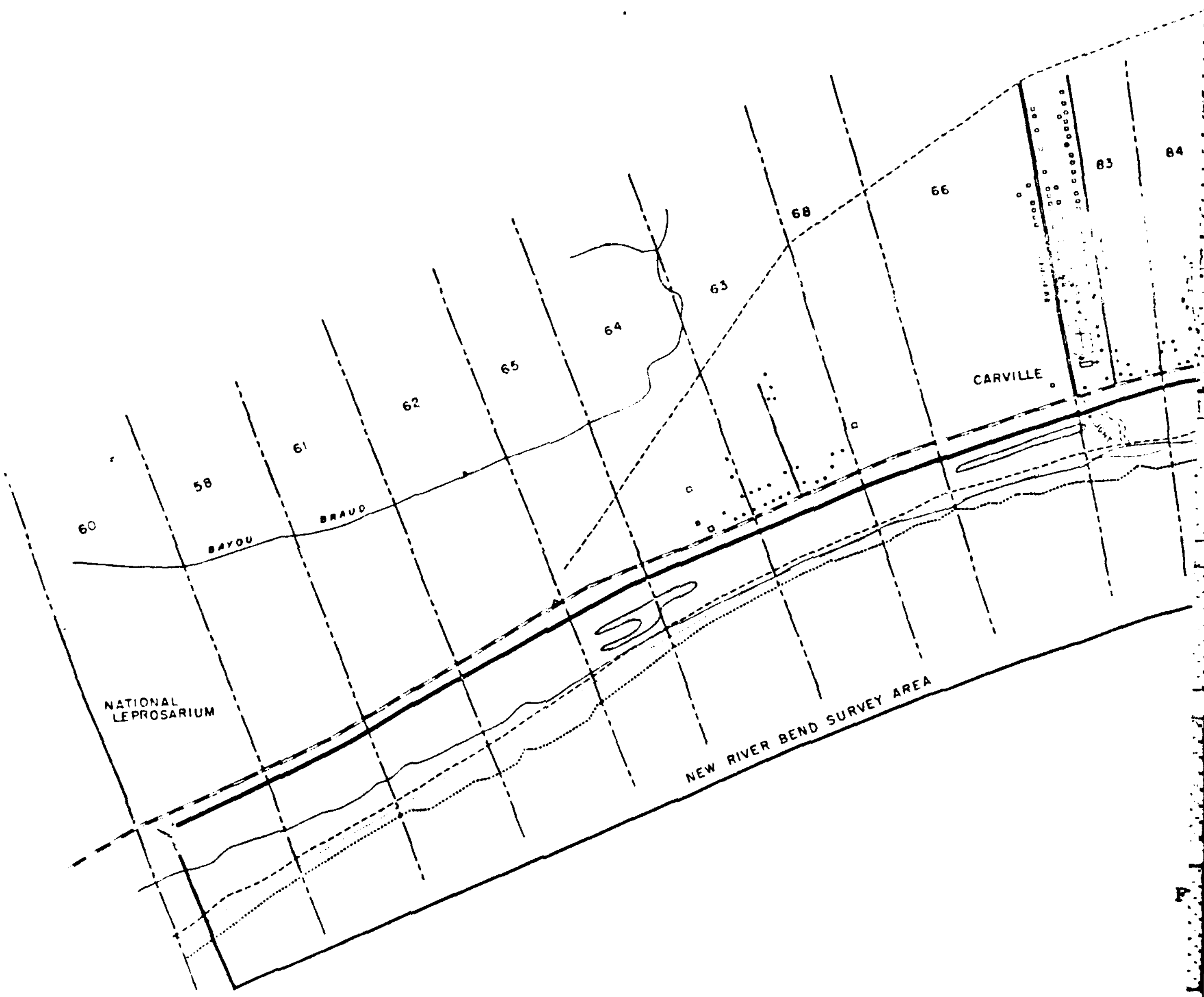
The Setting

The New River Bend revetment project area is located on the batture of the east (left descending) bank of the Mississippi River in Iberville Parish, Louisiana (Figure 39). It extends from river mile M-191.0 to 188.0-L, between levee stations 1913+45 and 2089+94. It comprises portions of Sections 60, 58, 61, 62, 65, 64, 63, 68, 66, 83, 84, 85, 67, 69, 70, 86, and 71 of Township 95S, Range 13E (Figure 39).

The upriver extent of the survey area under consideration here corresponds approximately to the location of the east bank landing of the Carville ferry, just downriver of the lower boundary of the Carville National Leprosarium. The downriver extent of the survey area is located near the tank farm at Bruns, across the Mississippi River approximately .5 km below the upper extreme of Claiborne Island, which now forms part of the west bank batture (Figure 5).

Maps prepared by the Corps of Engineers for the Caving Bank Survey of the Mississippi River (Figure 39) indicate that seventy-five per cent of the survey area lost up to 100 m of batture to encroachment and erosion by the river between 1866 and 1914. The upper and lower ends of the segment have continued to erode dramatically since 1914. In the downriver twenty-five per cent of the revetment project area, up to 240 m of batture was lost to erosion between 1866 and 1931. Again, the bankline position appears to have stabilized since 1931. A previous levee was partially destroyed and used as fill during levee construction in 1931. Today, the batture consists primarily of borrow pits that date from the period of modern levee construction. At the present time, this river segment is not subject either to significant erosion or deposition, although high clay cut banks or bluffs are notable at several locales, especially in the upriver portion of the project area (Figure 40). The generalized land form is a moderately sloping clay bank.

Recently deposited alluvium was observed at shallow depths in this area, where it was mixed with modern river-borne debris. This alluvium consisted of silty sand up to 13 cm deep. Below this overburden, silty clays were found to predominate. According to the USDA (1973), the batture structure is composed primarily of Convent soils, which are flooded frequently. Convent soils typically have a grayish-brown surficial silt loam layer; it generally is underlain by grayish-brown, stratified silt loams and very fine sandy loams. The topsoil silt is moderately slowly permeable. The subsoil is stratified, and mottled with interbedded silt and silty clay loams. Horizonation is not



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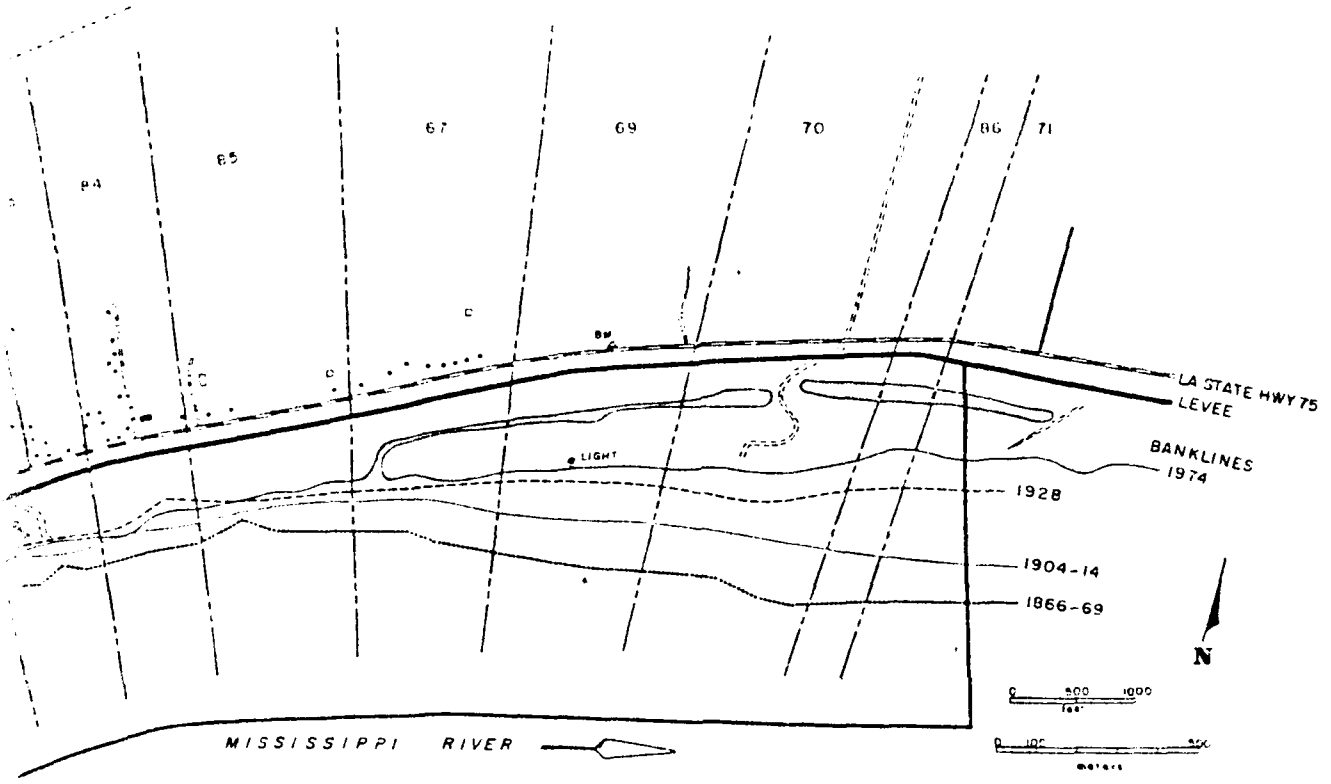

Figure 39. Scaled composite map of the U.S.G.S. quad sheet and bankline locations for 1866-69, 1904-14, 1928 and 1974 at the New River Bend survey area.

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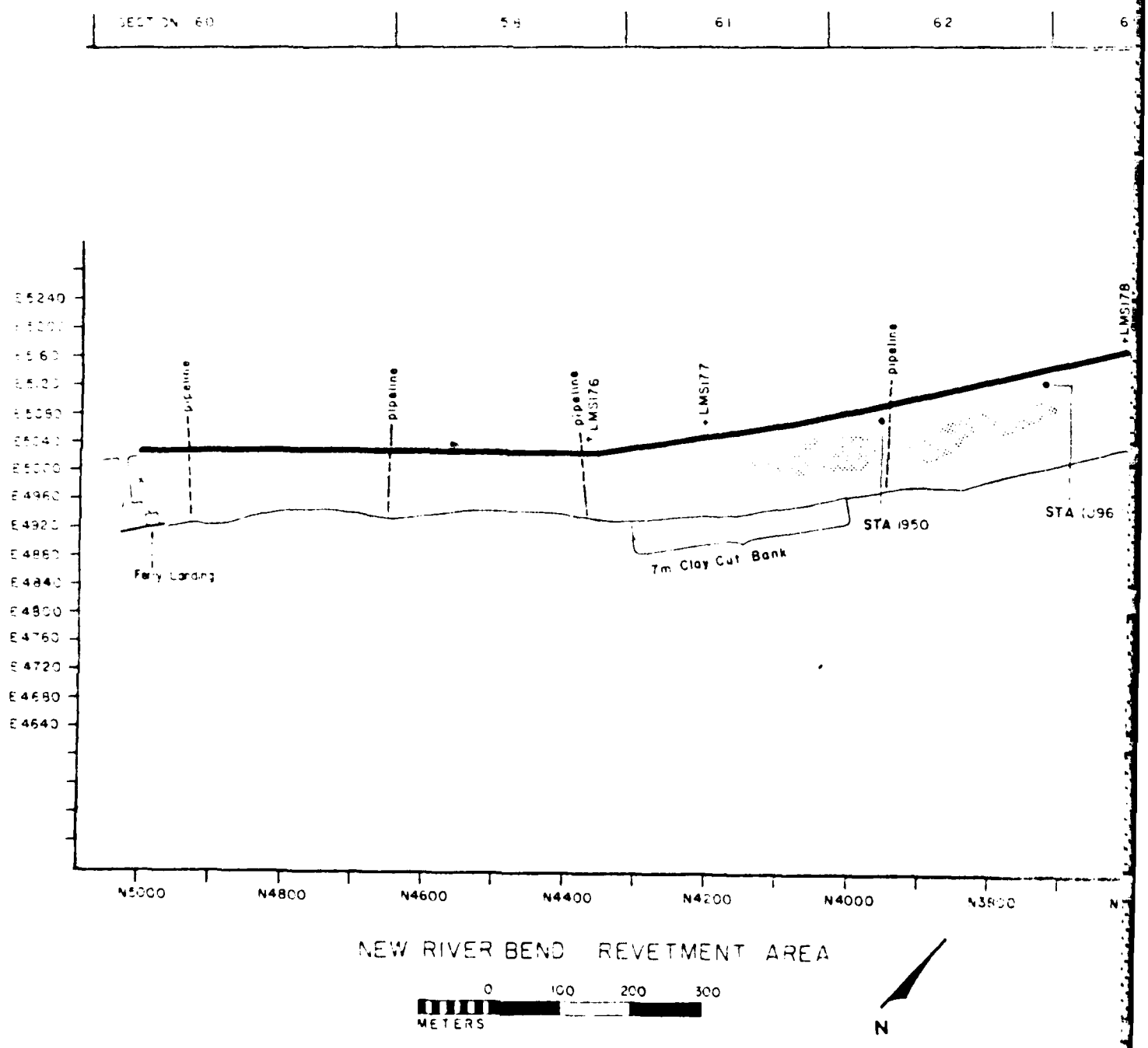

NEW RIVER BEND REVETMENT AREA

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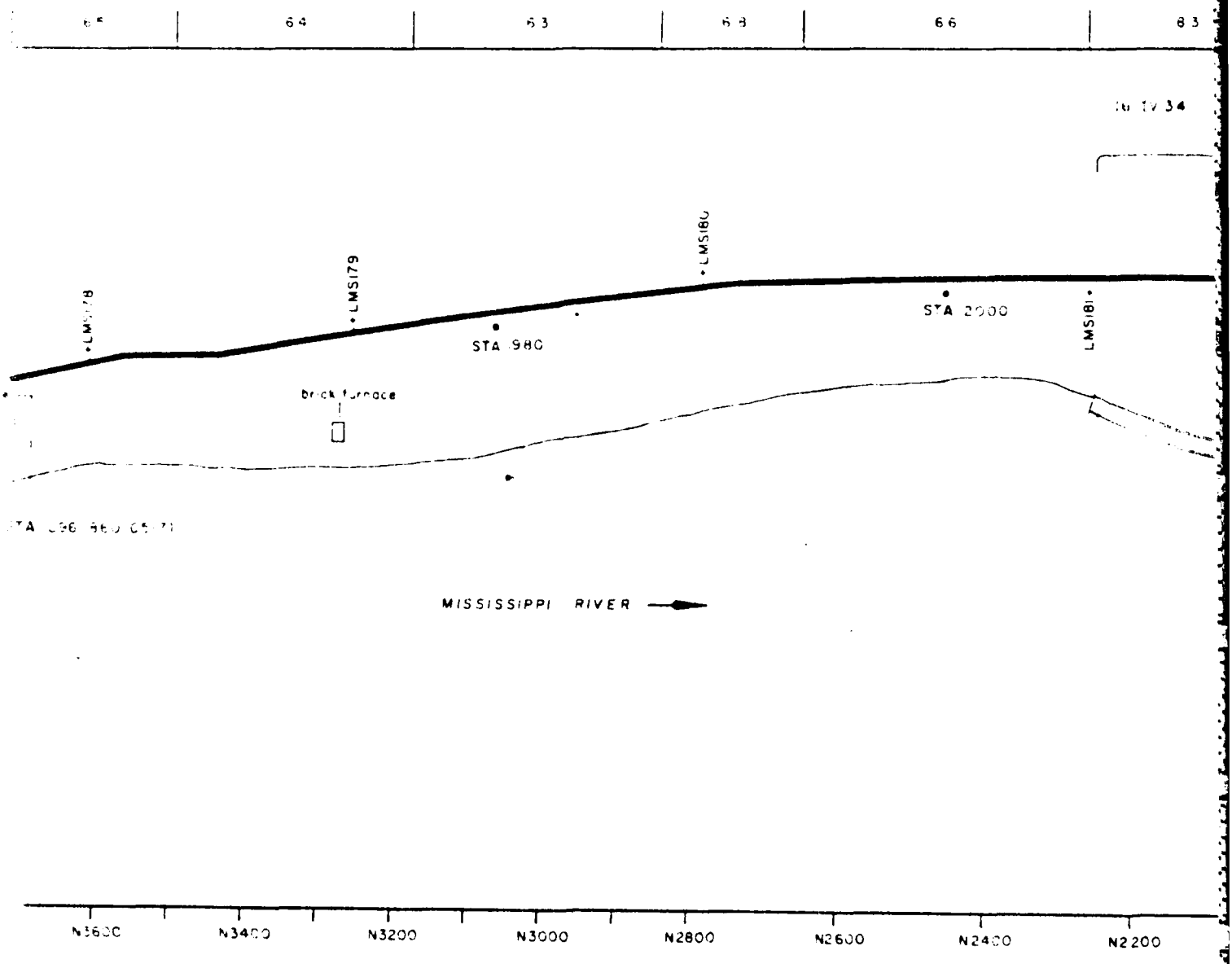
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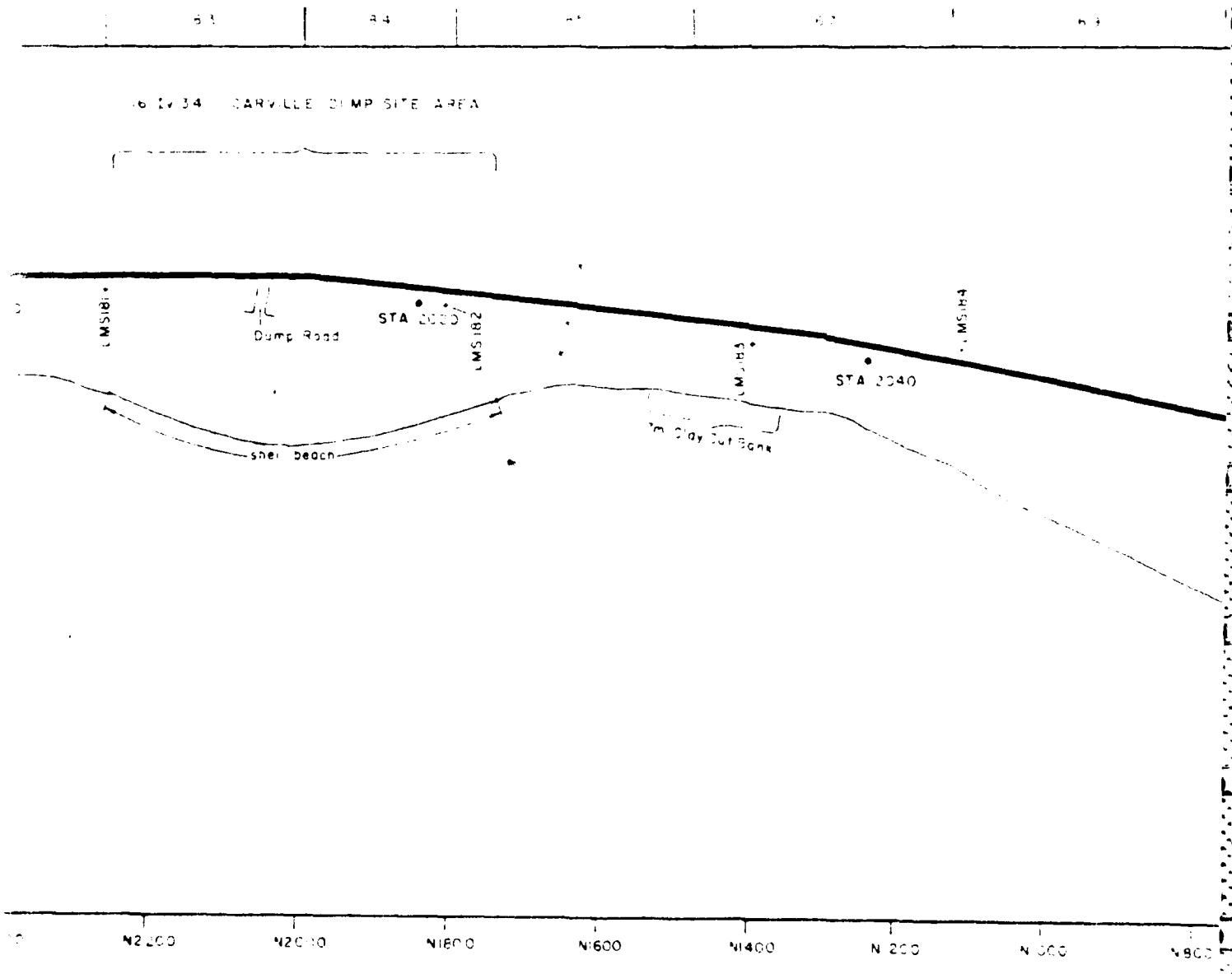

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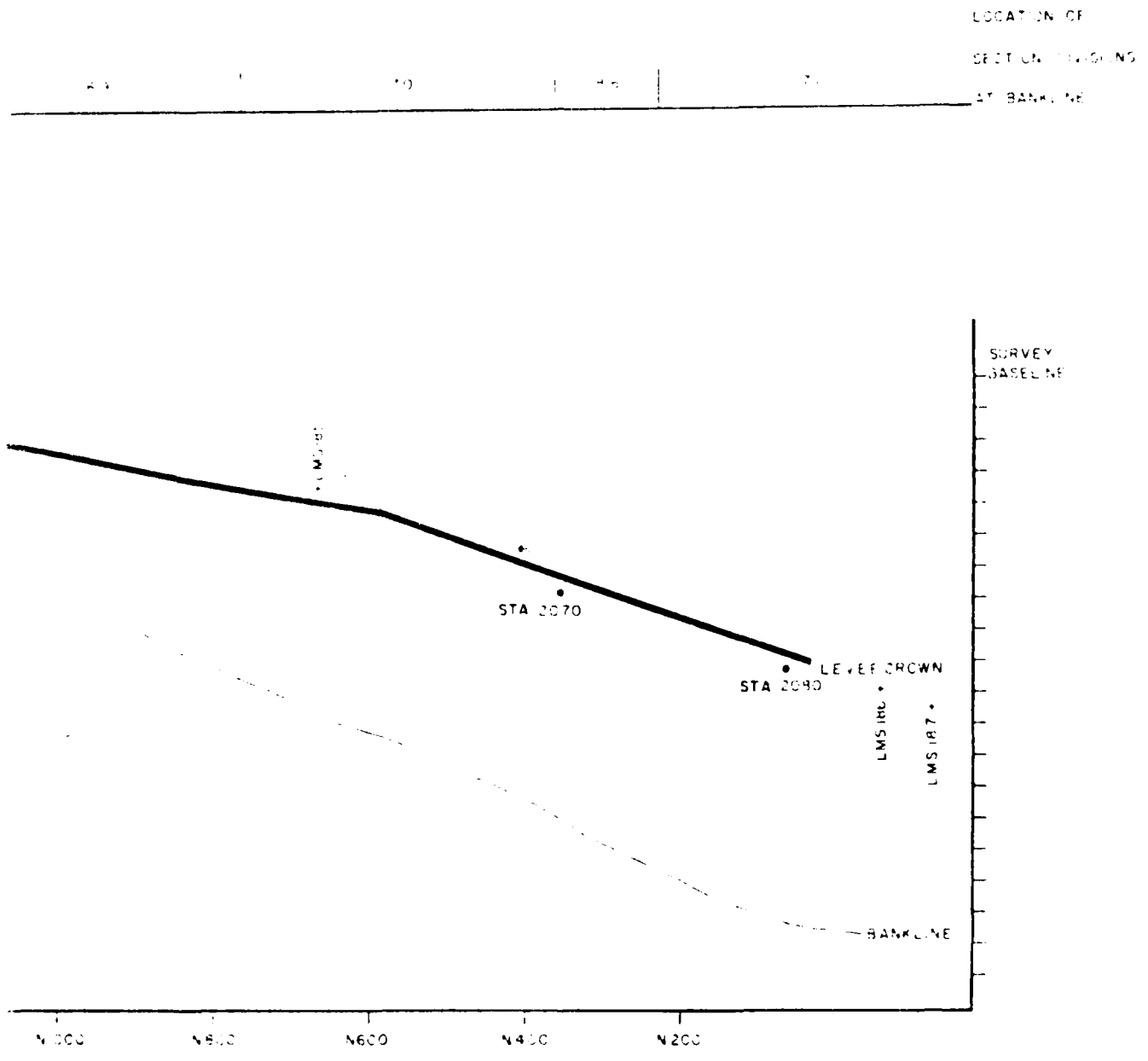

FIGURE 40 SITE PLAN OF THE NEW RIVER SURVEY AREA

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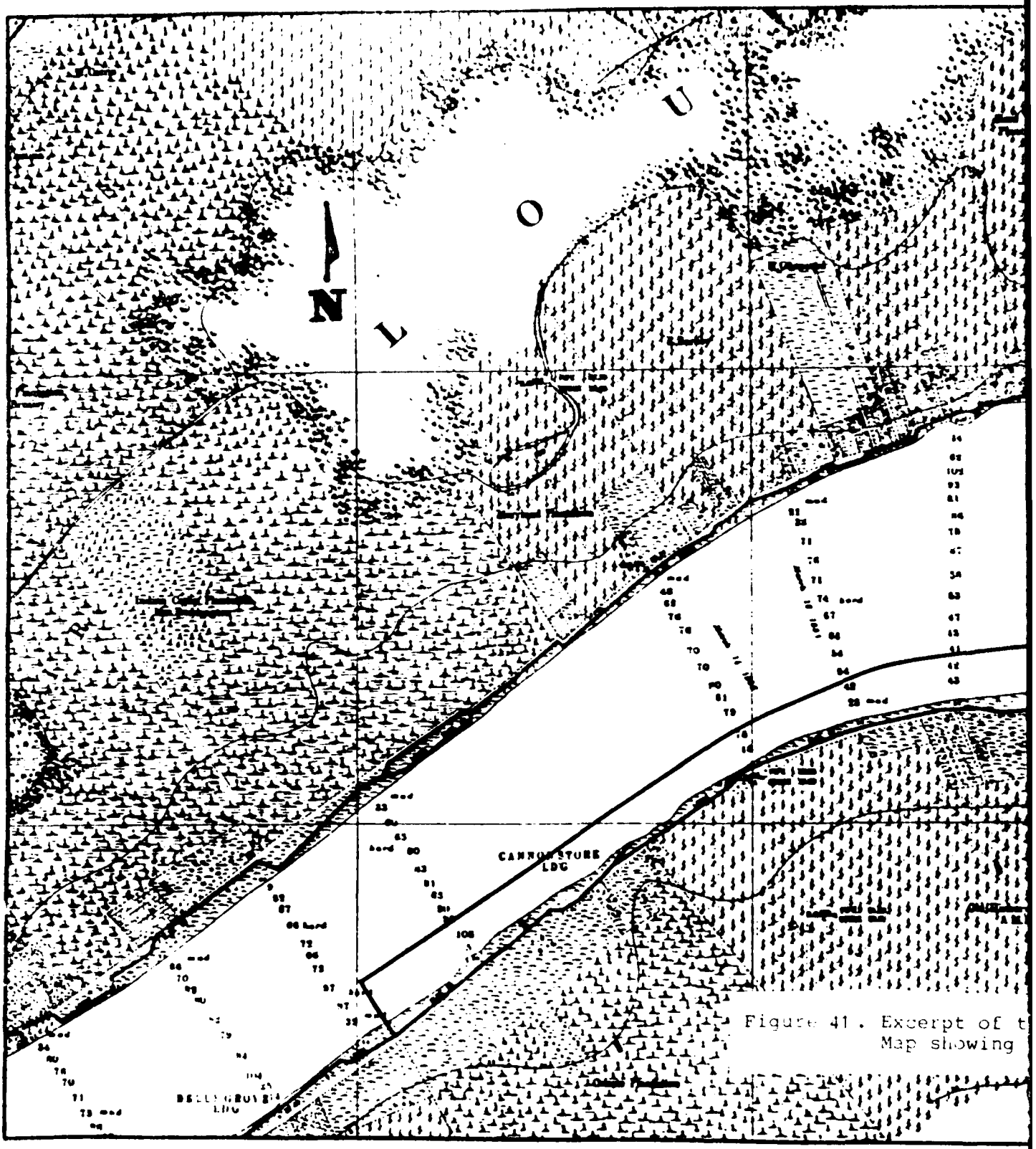
Project Area History

The New River Bend project area contained a number of plantations of various sizes during the nineteenth century. In descending order, the primary plantations were: Indian Camp, Maryland, Hard Times, Arizona, and Rescue (Figure 41). Most of these plantations produced sugar prior to Reconstruction, although rice cultivation was undertaken on a relatively small scale during the post bellum period. As will be seen, archeological remains encountered during the course of field research along New River Bend derived primarily from Maryland Plantation.

The most downriver of the New River Bend plantations was Rescue Plantation, an eleven arpent tract a portion of which was owned at least as early as 1845 by Philip Winfree and his son-in-law, R. A. Upton. A portion of this landholding had been obtained by Winfree from a public act of sale of the property of Evariste Arcenaux in 1851 (MB M-3, Folio 94, Iberville Parish). The Winfree and Upton families retained ownership of the land until 1875, at which time an act of sale was recorded that described the subdivision of the eleven arpent front tract into eleven one-arpent lots. These lots were designated alphabetically, beginning with Lot A on the downriver end of the property, and ending upriver with Lot K. On May 10, 1875, Sara T. Winfree, widow of Rufus A. Upton, and her sister Eliza Winfree, widow of Amos Hough, sold the eleven one-arpent parcels to Mary Jane Wilson and her husband, Martin Glynn. Martin Glynn apparently had been the manager of the plantation since 1869. The sales price was $14,700.00, plus the payment of taxes due on the plantation for the years 1873 and 1874. Included in the Act of Sale (COB 12, Folio 373, Iberville Parish) were three No. 4 plows, nine No. 2 plows, one single plow, one corn planter, one cultivator, two von Phul cultivators, three harrows, seventeen mules, one cow and calf, one heifer, gears for seventeen double plows, eight pack saddles, six three-mule carts, three single horse carts, five hundred barrels of corn, twenty loads of hay, one lot of blacksmith tools, thirteen axes, twelve hoes, one Briar hook, six shovels, five spades, and enough seed cane to plant fifty acres. As of the date of sale, the property also contained laborers quarters, a sugar house and mills on Lot F, a residence house, outbuildings, a stable in Lot G, and, a frame stable in Lot H. Excluded from the sale was an eighty by one hundred foot area known as "the Graveyard" in Lot I; that "graveyard" was the Winfree family cemetery (William Castelle, May 10, 1875, NONA). Sugar production during the nineteenth century at Rescue Plantation is detailed in Table 13.

Immediately upriver from Rescue Plantation was the five and one-half arpent front tract that became known as Arizona Plantation. Land there was in the possession of W. R. Boote by 1849, at which time fifty hogsheads of sugar were produced (Table 14). The property probably was acquired from Joachim Blanchard



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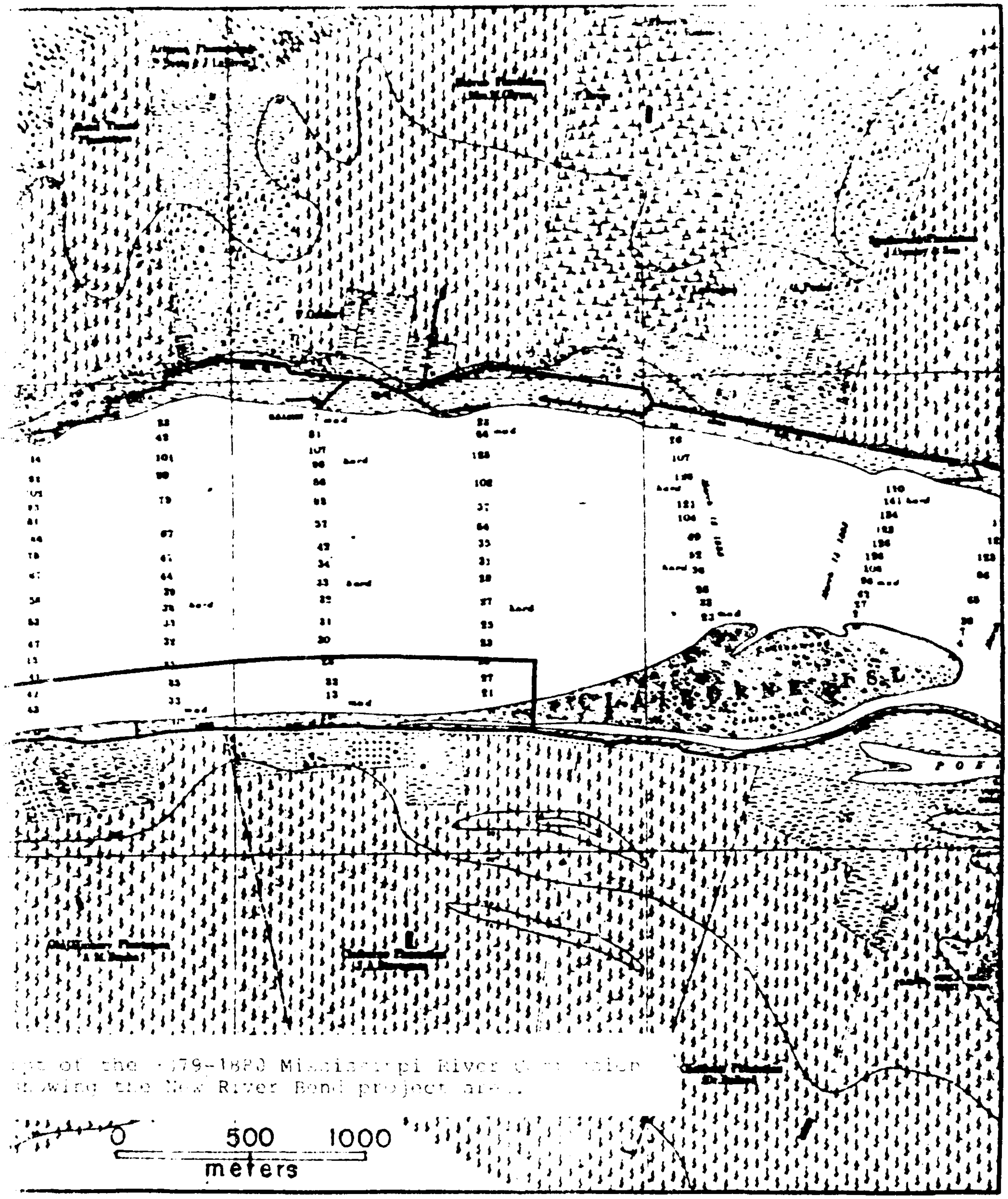

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Table 13. Sugar Production at Rescue Plantation, 1845-1881 (Champomier 1846-1862; Bouchereau 1870-1881)

Year	Owner/Manager	Hhds. Sugar
1845-46	Dr. Winfree & Upton	-- [1847-48]
1848-50	Philip Winfree	18
1850-51	"	53
1851-52	"	--
1852-53	"	89
1853-54	"	92
1854-55	"	105
1855-56	R. A. Upton	0
1856-57	Upton & Co.	136
1857-58	"	157
1858-59	"	202
1859-60	Mrs. R. A. Upton & Co.	62
1860-61	"	205
1861-62	"	196
1868-69	---------	---
1869-70	M. Glynn	45
1870-71	"	104
1871-72	"	65
1872-73	"	N.Y.
1873-74	"	110
1874-75	"	141
1875-76	"	142
1876-77	"	169
1877-78	"	95
1878-79	"	100
1879-80	"	90
1880-81	"	77

Table 14. Sugar Production at Arizona Plantation 1849-1881 (Champomier 1850-1862; Bouchereau 1870-1881).

Year	Owner/Manager	Hhds. Sugar
1849-50	W. R. Boote	18
1850-51	"	82
1851-52	"	15
1852-53	"	110
1853-54	"	125
1854-55	"	75
1855-56	"	70
1856-57	"	---
1857-58	"	90
1858-59	"	200
1859-60	"	100
1860-61	"	78
1861-62	"	125
1868-69	"	
1869-70	"	N.Y.
1870-71	" (Arizona)	45
1871-72	"	25
1872-73	"	7
1873-1881*	"	---

*1878-79, "sold canes to Palmer" (Bouchereau, 1879).

(Champomier 1849). W. R. Boote's land holdings in the New River Bend area during the late 1850s are shown in Figure 31.

The Agricultural Census of 1860 noted that Boote, who at that time was 46 years old and had six children, owned fifty-five slaves who resided in twelve cabins. He also owned four hundred acres of land, half of which was improved. In that year, Boote produced one hundred hogsheads of sugar and three thousand bushels of Indian corn. Sugar yields at Arizona Plantation declined substantially until 1873, after which time no sugar production was recorded for the plantation.

By 1880, W. R. Boote had died and his Arizona Plantation was auctioned at public sale of the property of Marie Inna Chaisson, his deceased wife. Four tracts of land totaling five and one-half arpents and twenty feet front were purchased at that time by Samuel J. Boote and his sister, Cora Boote, wife of Jules A. LeBlanc (COB 14, Folio 227, Iberville Parish). The property at that time was composed of four tracts of land, bounded above by the property of Honore Gueymard, and below by that of Samuel Boote. The sale price was $5,050.00, with Samuel Boote receiving two-fifths interest and Cora Boote receiving three-fifths interest. The Boote family retained ownership of Arizona Plantation at least as late as 1883 (Figure 41).

Hard Times Plantation, which was located just upriver from W. R. Boote's Arizona Plantation, was composed of a number of smaller parcels of land claimed by F. P. Landry, Simon Broussard, Charles Braud, and Joseph Braud. Simon Broussard claimed a four arpent tract from the Federal Government in 1812 (Lowrie & Franklin 1834:284); he subsequently sold this parcel to the widow of Simon Richard and to Paul and Simonet Richard in 1814 (COB F, Folio 133, Iberville Parish). The property subsequently was inherited by Laurent Braud and his children from his deceased wife, Marie Celeste Richard. Laurent Braud and his children sold three and three-fourths arpents front to Joachim Blanchard on February 19, 1840 (COB T, Folio 324, Iberville Parish). Blanchard previously had purchased an adjacent one arpent front tract of land from Henry Braud in 1836 (COB P, Folio 220, Iberville Parish). This was a portion of the land that Henry Braud had acquired from the widow of Charles Braud in 1817 (COB F, Folio 506, Iberville Parish). Blanchard also bought and sold additional parcels of land in the area, and his succession sale in 1869 described his property as four and one-half arpents (COB 9, Folio 258, Iberville Parish).

Blanchard's real property, auctioned in the aforementioned succession sale, is delineated in Table 15. The property and many of the moveables were bought by Theophile Blouin, whose wife, Pulchery M. Blanchard, was one of the heirs of Joachim Blanchard. In August, 1869, Blouin sold an undivided half of the plantation to J. Ursin Babin (COB 9, Folio 357, Iberville Parish). Shortly thereafter, on March 4, 1872, Blouin sold his half of the plantation to Honore Gueymard (COB 11, Folio 125, Iberville Parish). The $3,000.00 sale included also "the present half of

Table 15. Moveables Sold at the Succession Sale of Joachim Blanchard, 1869 (COB 9, Folio 258, Iberville Parish).

3 mules	$240.00
1 carriage	15.50
1 mare colt	20.00
1 mare	34.50
1 heifer	30.50
2 carts	97.00
2 harrows	3.00
1 ox cart	3.50
5 ploughs	7.50
1 grind stone, 1 table, 1 side board, 1 safe, 1 sofa	10.55
1 lot of silverware, 1 carton stand	33.00
1 d( ) chain	22.00
1 bookcase	16.00
2 bedsteads	8.00
1 loom, 1 spinning wheel, 1 wash stand, 1 lantern, 1 table	6.95
1 spinning wheel, 1 wash stand	2.30
1 (refrigerator)	
1 sausage grinder, 1 jar	5.25
1 lot of carpenter tools, 1 (s)addle	4.40
2 crop cut saws, 1 cupboard, 1 safe, 1 armoir	28.00
1 wash stand	.75
1 jar	1.50
1 cupboard, 1 table	4.50
1 pot, 1 violin	4.90

Table 15. (Continued)

1 pot, 6 chairs	4.85
3 smoothing irons, 2 (nailers), 1 corn sheller, 1 ( )	9.55
1 winding (lade)	.25
1 spent level	2.40
1 trunnel	2.40
1 stove	5.00

growing [sugar] crop," and one-half share of eight mules, agricultural implements, corn and forage attached to the plantation. Less than a year later, Gueymard purchased the other half interest of the plantation from Babin for $1447.41 (COB 11, Folio 276, Iberville Parish). That was the amount that Babin owed Gueymard for plantation supplies. Gueymard continued to produce sugar (Table 16), and the property remained in the ownership of the Gueymard family into the twentieth century. Figure 41 shows the plantation during the Gueymard ownership; on this map, the fields are shown planted in cane.

The major sugar producer in the New River Bend area during the 1840s (1844-49) was R. C. Camp, owner of Indian Camp Plantation at the upper end of the project area (Table 17). "Camp," the largest plantation in terms of river frontage, also was known as "Woodlawn" as late as 1859 (Figure 41). Ownership of Indian Camp Plantation apparently changed after the War Between the States, since H. J. Buddington was the owner of record from 1873 until 1878. In 1883, ownership of the plantation was held by Mrs. Buddington, presumably the widow of H. J. It is interesting to note that despite the depth of the cane fields at Indian Camp Plantation, all structures, including the sugar house, were located on the river (Figure 41).

In 1894, a Board of Control for a Lepers home was appointed, and in November of that year the Board leased the upper portion of Camp Plantation, including the great house, for the establishment of a leprosarium. In 1900, the Board acquired the same tract from the Buddington heirs for $8,000.00; the land then was sold to the United States Government. The government took formal control of the property in February, 1921. The Carville facility remains the only leprosarium in the continental United States.

The land below Indian Camp Plantation was subdivided during the 1850s. Thereafter, the Blanchard, Boote and Winfree families became the major land owners. Sugar production throughout the area continued to increase towards the close of the ante bellum period. By the 1858-59 season, the property of R. C. Camp produced 400 hogsheads of sugar; that of W. R. Boote produced 200 hogsheads; and, Philip Winfree's property yielded 202 hogsheads. Sugar production declined during the 1860s and 70s (Table 17).

Most of the property which later became known as "Maryland Plantation," between Indian Camp and Hard Times plantations, originally was claimed by the Richard family ca. 1812 (Lowrie & Franklin 1834). In a series of transactions, this eleven arpent tract, which comprises Sections 65, 64, and 63 in the upper portion of the project area, came into the possession of Rene Arnous during the period between 1842 and 1848.

The upper three arpents front in Section 65 originally were owned by Auguste Richard, who sold them to the partners Rene Arnous and Noel Dayot on June 15, 1840 (COB T, Folio 379, Iberville Parish). Four additional arpents, located adjacent to the above

Table 16. Sugar Production at Hard Times Plantation, 1869-1893 (Bouchereau 1870-1893).

Year	Owner/Manager	Hhds. Sugar	
1869-70	Blouin & Babin	N.Y.	
1870-71	"	70	
1871-72	"	35	
1872-73	"	--	
1873-74	H. Gueymard	40	
1874-75	"	--	
1875-76	"	80	
1876-77	"	90	
1877-78	"	48	
1878-79	"	89	
1879-80	"	67	
1880-81	"	96	
1881-82	"	70	
1882-83	"	N.Y.	
1883-84	"	54	
1884-85	"	74	85,100 lbs. rice
1885-86	"	136	
1886-87	"	65	
1887-88	"	170	
1888-89	"	145	
1889-90	"	153	
1890-91	"	N.Y.	
1891-92	"	179,004 lbs.	
1892-93	Est. H. Gueymard	120,000 lbs.	

Table 17. Sugar Production at Indian Camp Plantation 1844-1885. (Champomier 1844-1862; Bouchereau 1869-1885).

Season Ending	Owner/Manager	Sugar	Rice
1844	R. C. Camp	300 hhds.	
1850	"	235 "	
1851	"	300 "	
1852	"	220 "	
1853	"	360 "	
1854	"	520 "	
1855	"	470 "	
1856	"	250 "	
1857	"	79 "	
1858	"	450 "	
1859	"	400 "	
1860	"	100 "	
1861	"	283 "	
1862	"	350 "	
1869	"	205 "	
1870	"	102 "	
1871	"	152 "	
1872	"	72 "	
1873	John Kelly	15 "	
1874	H. J. Buddington	"	
1875	"	"	
1876	"	"	
1877	"	"	
1878	"	"	
1879	John Kelly	"	
1880	"	"	970 bbls.
1881	"	"	2,295 bbls.
1882	Citizen's Bank of La	"	
1883	Julien Grassin	N.Y. "	
1884	"	"	4,500 "
1885	Lafitte, Dufilho & Co.		

described property in Sections 65 and 64, were acquired by Arnous and Dayot at the succession sale of Auguste Richard on April 21, 1841 (COB 16, Folio 119, Iberville Parish). Three more adjacent arpents front, partially in Sections 64 and 63, were claimed by the Richards in 1812, and later came into the possession of Jean Baptiste LeBlanc. Noel Dayot bought this property at a public sale in the succession of LeBlanc on April 20, 1840 (COB T, Folio 319, Iberville Parish). Dayot sold the last described land, and his interest in the first two tracts, to Arnous on May 5, 1842 (COB V, Folios 11, 12, 13, Iberville Parish). Arnous also acquired an additional one arpent front on the lower side of Section 63. This parcel had been in the possession of the "heirs of Henrietta Braud, widow of Paul Richard" who sold it to Melon Richard on May 4, 1841 (COB U, Folio 140, Iberville Parish). Richard later sold this same land (Figure 42) to Rene Arnous on April 19, 1848 (COB 1, Folio 216, Iberville Parish). These eleven arpents remained in the ownership of the Arnous family until 1875, when E. Virginee Arnous, who had inherited the property from her father Rene Arnous, sold it to Jean Baptiste Nezem Lorio. Lorio bought the property exclusive of a small parcel on the upper front corner that belonged to C. Wintz, in the interest of E. M. Landry (Figure 42).

The first use of the name "Maryland Plantation" in the sugar and rice reports was in 1876, the year after Lorio and Landry purchased the property from Rene Arnous. The first crop reported at Maryland was in the 1877-78 season, when 33 hogsheads of sugar were produced (Bouchereau 1878). During the 1879-80 season, Maryland Plantation was described as having a sugar house constructed of wood, with steam and kettle sugar granulating apparatus. Maryland Plantation does not appear to have been a large producer of sugar; only 55 hogsheads of sugar were reported for the 1878-79 season. However, when plantation management changed hands in 1887, yields increased substantially (Table 18; Bouchereau 1888). The management again changed in 1889, and during the 1889-90 season only a rice crop was reported. Ninety-nine barrels of rice were produced in that year. Maryland Plantation was not included in the sugar and rice reports after 1892 (Table 18; Bouchereau 1892-1917). On January 16, 1891, Lorio sold the property, including the sugar house, machinery, and agricultural implements, to Eugene Jay for $6,000.00,

> ...it being the intention of said Lorio and Landry to sell the say (sic) Jay all of said property as it stood at the time of the lease from said Lorio and Landry to Berthelot Bros. and Danos, with all the implements of husbandry...and sufficient seed cane to plant sixty acres (COB 21, Folio 558, Iberville Parish).

Ten years later, on October 12, 1901, Jay sold the property including the buildings, to Cyrile, Henry and Ignace Babin for $6,500.00. Excluded from the sale was a small tract on the lower front corner of the property which Jay had sold to Robert Emile (COB

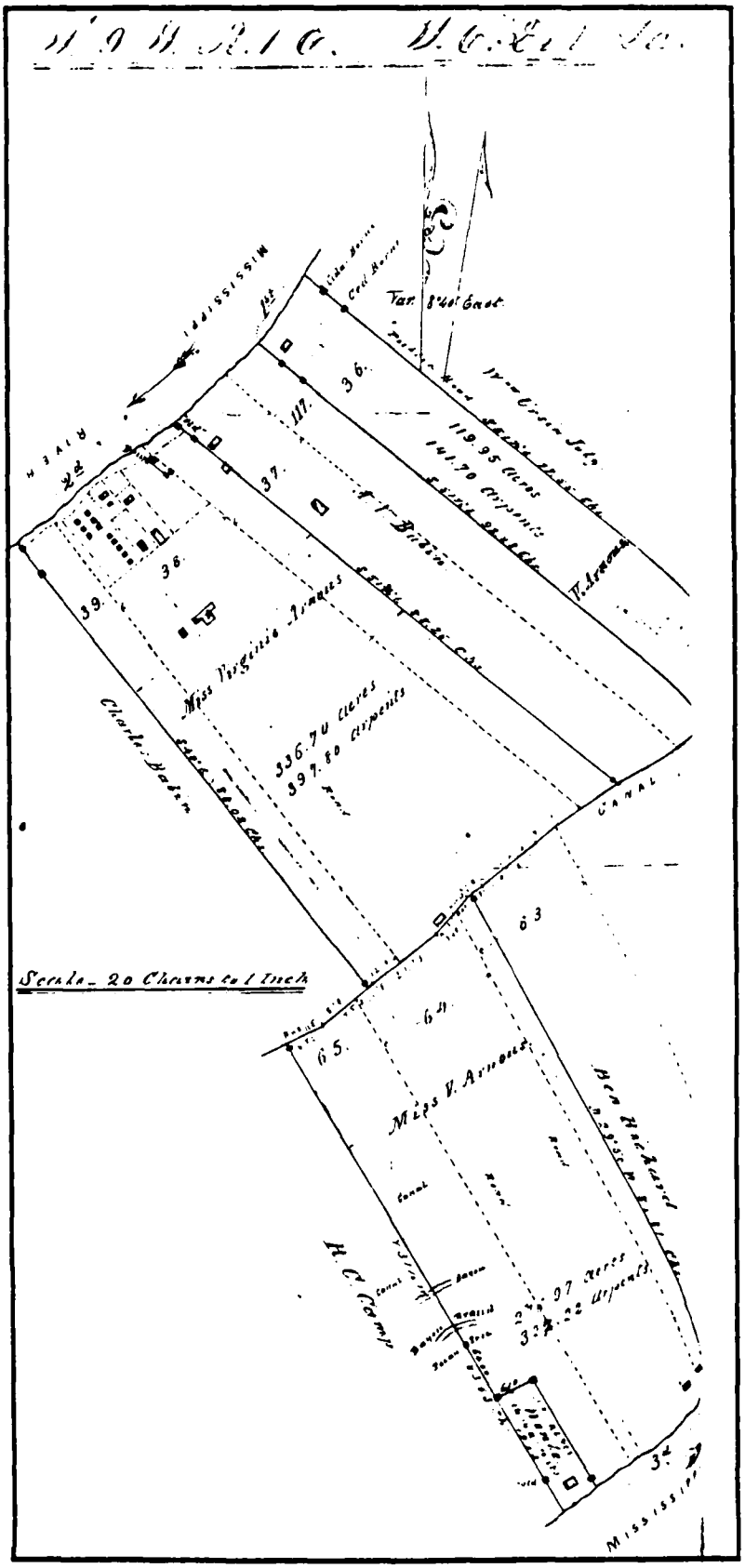


Figure 42. Plat showing the property of Virginie Arnous in 1870 (C. Soniat, February 3, 1875, NONA).

Table 18. Sugar Production at Maryland Plantation 1876-1891 (Bouchereau 1876-1891).

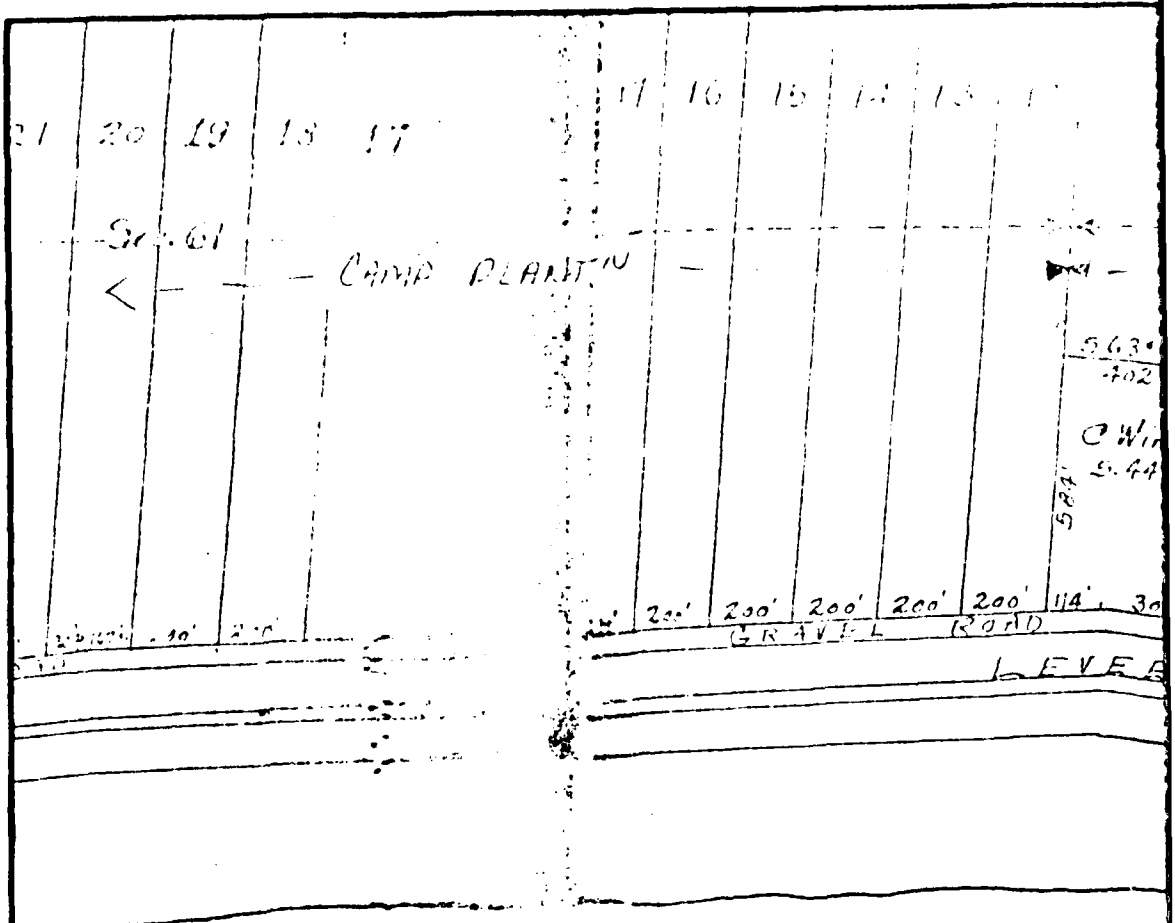
YEAR	OWNER/MANAGER	Hhds. Sugar
1876-77	Landry & Lorio	N.Y.
1877-78	"	33
1878-79	"	55
1879-80	"	44
1880-81	"	92
1881-82	"	--
1882-83	"	N.Y.
1883-84	"	53
1884-85	"	54
1885-86	"	42
1886-87	"	26
1887-88	Berthelotte Bros.	226
1888-89	"	125
1889-90	"	75 99 bbls.
1890-91	H. P. & S. Hebert	28,750 lbs.
1891-92	"	---

27, Folio 305, Iberville Parish). In 1908, the Babins sold the property to their company, Babin Bros., Ltd. for $10,000.00. On December 19, 1911, that property was sold to J. Thomas Landaiche for $8,500.00. This sale included the residence, cabins, gin house and stables. The gin house had two gin stands, one double box press, one 60-horsepower boiler, one 40-horsepower engine, one water heater, one boiler heater, eight mules, one 12-inch rotary pump, forty feet and fifteen inches of pipe, two syphons, four John Deere plows, three iron harrows, ten oak harrows and four sets of gears (COB 41, Folio 451, Iberville Parish). The existence of a gin house on the property suggests that by this date cotton was the major cash crop on the plantation.

Landaiche apparently bought the lower portion of Indian Camp Plantation, also referred to as "Camp" Plantation, from the Babin Bros, as well. On August 9, 1930, the Federal Land Bank of New Orleans gained possession of both Maryland and Landaiche's portion of Camp Plantation (Federal Land Bank of New Orleans versus J. Thomas Landaiche, #1423, 18th Judicial District Court, Iberville Parish). The bank then subdivided the two plantations into thirty- five lots for individual sale (Figure 43).

The 1879-1880 Mississippi River Commission map shows Maryland Plantation during the early 1880s. At this time, the sugar house is shown clearly beside the plantation road, back in the cane fields. Riverward, there were a number of enclosed lots containing one to several structures ((Figure 41). More structures were illustrated on the 1880 than were portrayed on the 1875 version (Figure 42). On both maps, however, structures are shown adjacent to the line dividing sections 63 and 64.

As will be seen, the remains of a furnace that was used to fuel a boiler were encountered during archeological survey of the New River Bend revetment area adjacent to the line dividing Sections 63 and 64. Thus, it is possible that one of the aforementioned structures is represented today in the archeological record. Pierre Larroque, President of Moresi's Foundry (personal communication 1984; see Appendix 1), confirmed that the remains in question derive from a furnace. In appearance, this furnace probably was not unlike the eighteenth century sugar house furnace shown in Figure 44. However, the sugar house at Maryland Plantation was located further inland than this feature (Figures 40-42). Brick kilns also were located frequently on the riverbank in proximity to river clay deposits (Goodwin, Yakubik, Gendel, Jones, Stayner, Goodwin, Selby, and Cooper 1984:219). The size of this structure was small for a brick kiln, and marked, commercially manufactured bricks were used in its construction. Similar furnaces also were used to fuel boilers that powered sawmills (Pierre Larroque, personal communication 1984). A large woodyard is shown in this area on Norman's 1858 chart (Figure 31). These early woodyards may have served merely as fuel depots for riverboats, rather than operating as mill sites for processing finished lumber. No sawmill is documented at any time for Maryland Plantation.



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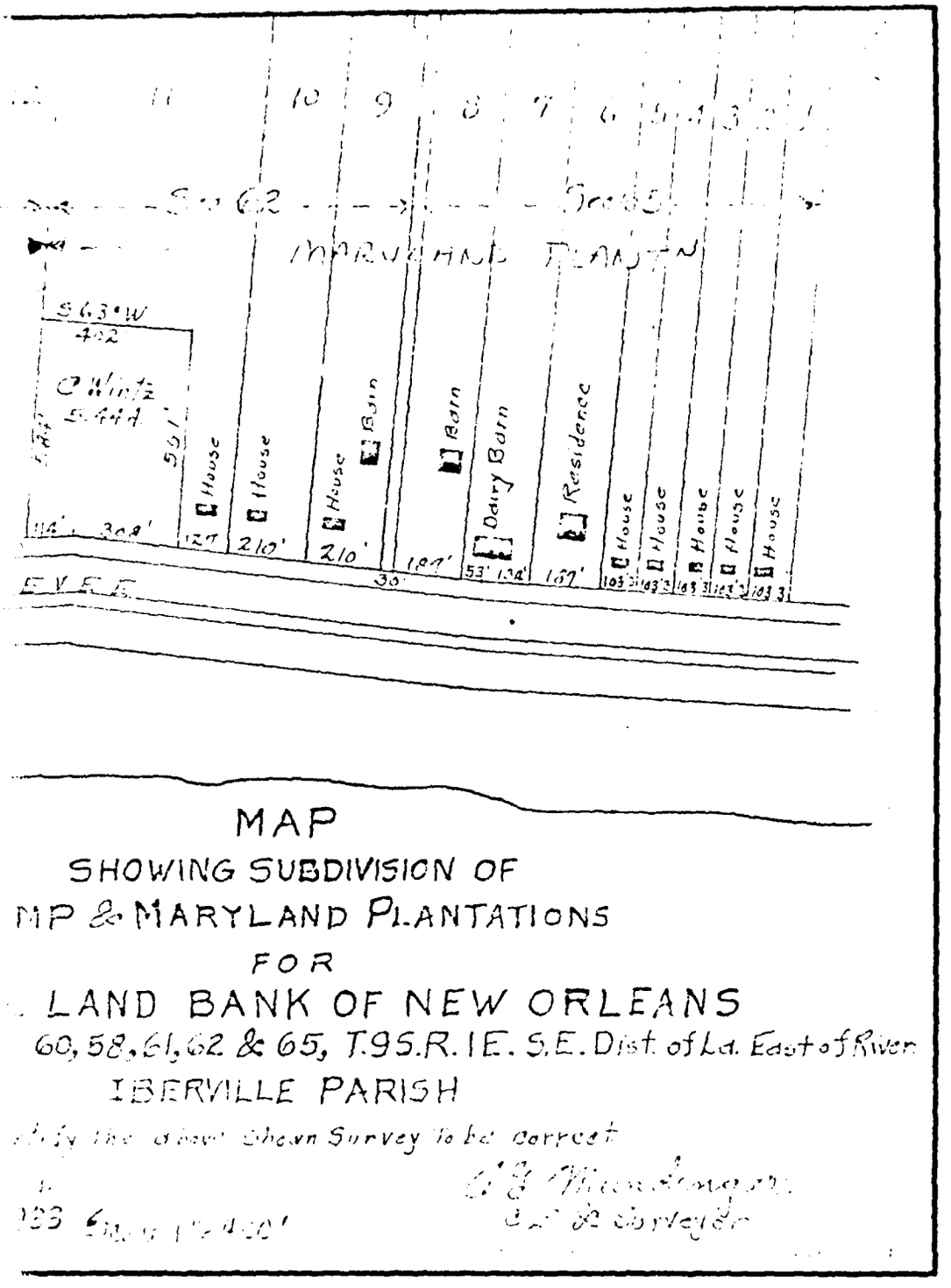

Figure 43. Map showing the subdivision of Camp and Maryland Plantations (COB 56, Folio 490, Iberville Parish).

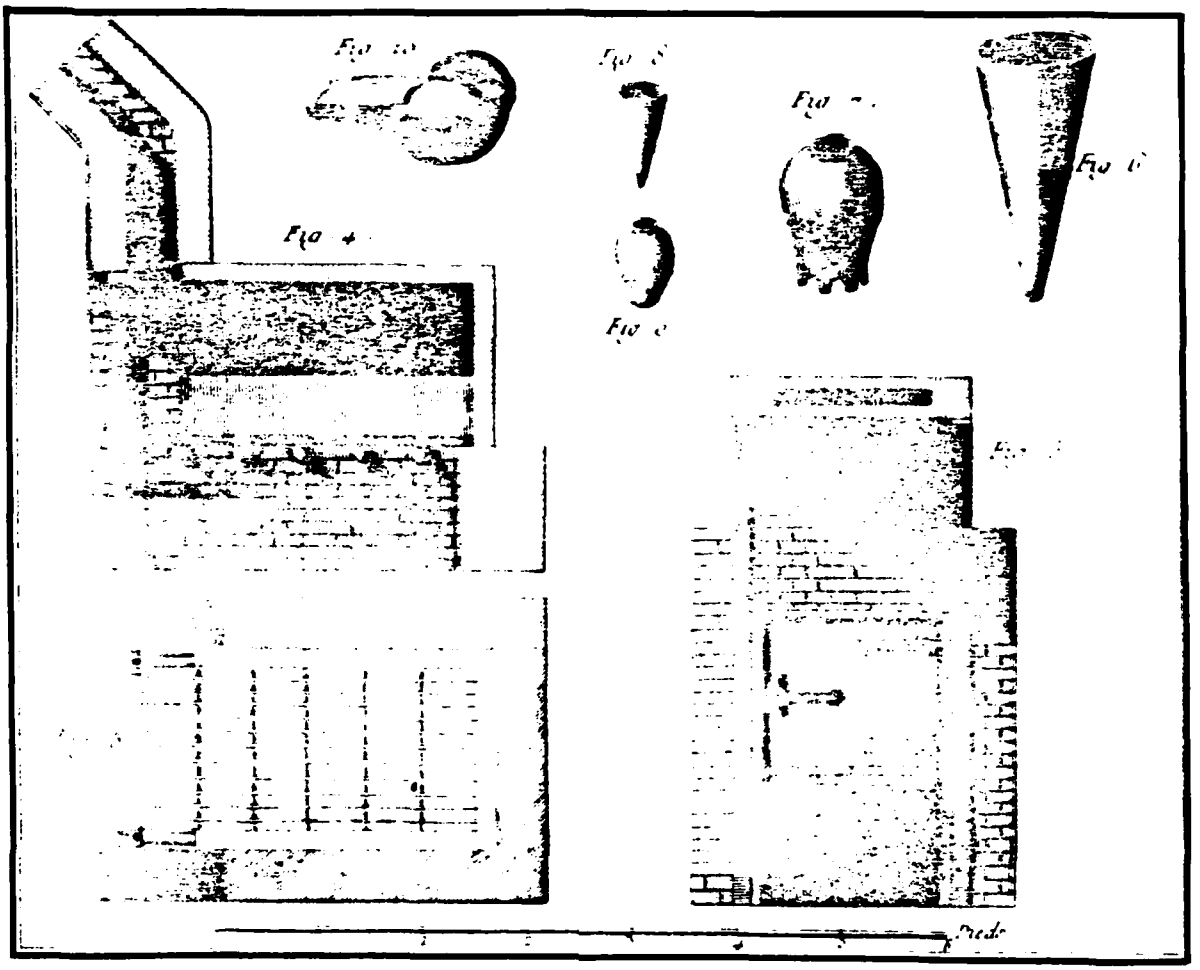

Figure 44. Illustration of an eighteenth century sugar house furnace (Le Gardeur 1980).

Field Investigations

On August 7, 1984, a baseline was established in the New River Bend revetment area. Due to moderate to heavy vegetation and intermittent water-filled borrow pits throughout the survey area, the baseline was established along the base of the modern levee, on the batture side. At strategic locations and in areas with line-of-site to the river, 90 degree angles were turned and grid locations were established west of the project baseline. The natural bend of the river in the study area made numerous instrument stations necessary (Figure 40).

Pedestrian transect survey of the New River Bend project area began at the upriver end of the study area, at grid coordinates N5000, E5000. This point on the N-S axis of the grid (Figure 40) is located immediately below the modern ferry landing, approximately 60 m east of the bankline. At the upper end of the project area, the batture was wooded with small to moderately sized cottonwood trees. In the wooded area, soils were characterized by a brown sandy silt loam approximately 13 cm deep. Modern debris was found 5-10 cm below the surface in this area. A dark grey sandy clay with some root growth immediately underlies the batture overburden. Observations made along the cutbank indicate that this dark grey sandy clay becomes less sandy and more homogeneous 40 cm below the actual ground surface. With the exception of redeposited and river washed modern refuse, no surface or subsurface cultural remains were encountered during archeological survey of the upriver portion of the New River Bend project area.

The upriver portion of the New River Bend study area also has a gently sloping clay bank that is 30-40 m wide, from the woods to the bankline. The wooded area was 60-70 m wide, with 10-15 m of open space between the woods and the base of the river terrace. At N4500, E4935, the river bank has collapsed, and three bricks were observed to have eroded from the bank. This feature was designated: Feature NRB-102 but was not given a site number.

An underground pipeline crossing is located between N4666 and N4630; it is one of several such pipelines that cut through the batture and out to the river in the study area. Some of these pipelines cross the Mississippi River. At N4380, another pipeline crossing 20 m wide shows evidence of recent clearing. Below N4380, the batture woods become thicker and the trees are larger. A long spoil mound is present along the river side of the borrow pit at N4500. The spoil mound is 3 m higher than the wooded batture area, and 6 m higher than the river. No cultural remains were seen in eroded faces along this spoil mound.

At N4184, E4940, two spoil mounds were present; the largest of these was 3 m in height, and it had large trees growing out of it. The mounds consist of sandy clay with a thin humus layer (4-5 cm) above. The clay of the mounds is interspersed with river gravels. No cultural remains were discerned in exposed mound faces.

However, beside the mounds, two meters closer to the river, four bricks were found on the surface (Feature NRB-103). These mounds appear to represent old spoil mounds that have survived from the digging of the borrow pits which start 100 m downriver, at N4085. At N4170, 7 m high clay banks were present at the bankline; in this area, virtually no beach is present. These clay banks also were surveyed for cultural remains; they were found to be sterile.

Another large borrow pit is located at N3580, within a large clearing that runs 300 m along the batture. At N3277, E5084, a brick structure was found at the edge of the clay bank, five meters riverward of the spoil mound (Figure 40). The Division of Archeology has designated this site 16 IV 145. The relict structure is located 30 m from the bankline; it was 12 m above the level of the river on August 18, 1984. This site was observed to contain a brick foundation for a small fuel furnace. The furnace appears to have been used to fire a boiler that produced steam power. An iron fire door was found associated with the linear riverside wall of the brick furnace feature (Figures 45 and 46). According to Pierre Larroque of Moresi's Foundry (personal communication 1984), doors such as these were manufactured by large foundries as stock items (See Appendix 1). Within its 250 cm x 250 cm area, the furnace contained slag and charcoal; samples of both were taken. Fire bricks were found associated with this structure, as were red bricks with makers' marks. The dominant maker's mark at the site is "Anderson;" bricks marked "A.G." also were present. The foundation and one or two lower courses of brick appeared to be intact. The foundation had a 3-course tier. An iron plate, 250 cm long, 21 cm wide, and 2.5 cm thick, was found in front of the structure. The site also includes a number of brick scatters, which extended 20 m upriver and 20 m downriver of the furnace. Bricks also were present within the 30 m area between the furnace and the bankline.

The furnace site is directly in front of a large tin-roofed barn situated on the land side of the river road. Archival and historic map data failed to identify the specific origin of the furnace feature. It appears likely that this small furnace site formerly contained a boiler and a steam powered engine. It may be hypothesized that the boiler and engine either were salvaged or demolished at an earlier date. Such a steam driven engine could have powered mills, ferries, pumps, sawmills, or any equipment that would operate on steam power. However, as Pierre Larroque (personal communication 1984; see Appendix 1) has pointed out, most mill facilities made use of a number of small furnaces and boilers to meet their power requirements. At Maryland Plantation, the sugar mill was located in the rear of the property. While historic maps delineate a number of woodyards along the river in the vicinity of the project area, there is no record of a sawmill in the area of 16 IV 145. If this furnace powered a water pump, the site would constitute a former pumping station or pump house complex. However, as Figures 39 and 40 indicate, it is located substantially closer to the river than it would have been at the time of its construction during the late nineteenth century. It

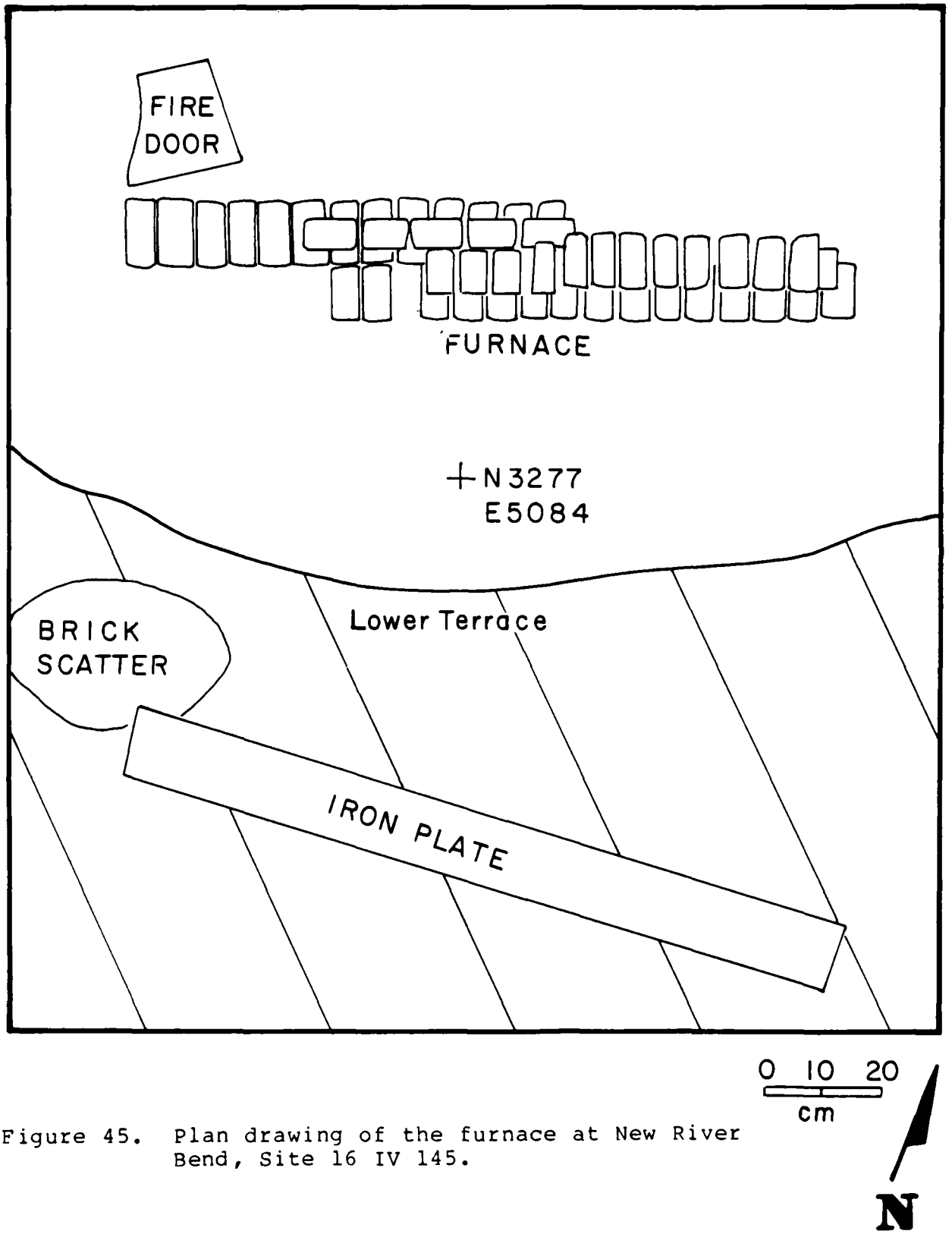

Figure 45. Plan drawing of the furnace at New River Bend, Site 16 IV 145.

Figure 46. The fire door from the furnace at New River Bend, Site 16 IV 145.

is possible that another pump facility might have been located on the riverside, and that a tandem arrangement of such pumps was necessary to provide sufficient water to the mill, which had substantial water requirements (See Appendix 1). Rice was grown at Maryland Plantation between 1881 and 1890; water may have been pumped from the river to irrigate the rice fields or to provide water for the sugar and/or rice mills. In any event, the furnace foundation is all that remains today of the apparatus.

The Carville dump (16 IV 144) is located between N2380 and N1660. It is defined at the river's edge by a shell beach. A modern access road crosses the levee near the center of the dump. The central portion of the dump occupies an area of about 200 m x 400 m. The dump area, located between the river and the riverside toe of the levee, was found to contain primarily modern refuse. The only items encountered that were not modern were part of a cake plate and a piece of a window pane, both dating from around the early 1900s. The Carville Dump is still in use.

Downriver from the dump, at N1455 and the bankline, a 7 m clay bank is present. At this spot, Site 16 IV 143, primarily nineteenth century ceramics and small brick fragments were collected from the narrow (50 cm) beach. These pieces apparently had eroded from the river's cut bank, but no evidence of additional concentrations was found. No material was recovered from the present face of this cut bank. The cut bank along the river is up to 4 m in height along much of the lower end of this project area, which is subject to significant riverine erosion.

CHAPTER VIII

LABORATORY PROCEDURES AND RESULTS

Introduction

Although archeological classification of eighteenth century ceramics is fairly coherent and well developed (Noel Hume 1970) no comprehensive typology of nineteenth century ceramics exists. Although South (1974) presented a taxonomy of nineteenth century ceramic types, it is not especially sensitive either to technological developments or to relationships between certain nineteenth century types. Miller (1980) suggests that classification of nineteenth century ceramics should be based on decorative type and on form. However, this method obscures or ignores both variability in paste and important chronological information. Recently, Worthy (1982) suggested that classification and interpretation of late nineteenth and early twentieth century ceramics integrate technology, form, function and decoration (Worthy 1982:329). However, in collections with a high percentage of small sherds unidentifiable as to former function and form, this approach is not practical. The discussion following presents a formal classificatory description of eighteenth, nineteenth and twentieth century ceramics types recovered during survey. The approach used here is a paradigmatic classification (Dunnell 1971:84) that is the product of the combination of unweighted classes of paste, glaze, and of decorative type (Yakubik 1980b). This method provides more complete definition of ceramic types than now exists; it facilitates the handling of ambiguous and transitional ceramic types; and, it provides information concerning both chronology and social stratification. This approach has proven useful with collections from a number of plantation sites in South Louisiana (Goodwin and Yakubik 1982a; Goodwin, Yakubik and Goodwin 1983; Goodwin, Gendel and Yakubik 1983a; 1983c; Goodwin, Yakubik and Gendel 1983). In the discussion following, ceramic artifacts have been divided into groups by paste. Glaze and decorative techniques then are examined for each paste group. The exception to this format is the tin glazed earthenwares, which have been combined under one heading here. Because substantial numbers of ceramics were found only at the Vacherie site, 16 SJ 40, this classification primarily treats ceramic data from that site. Archeological remains from the other four revetment project areas under consideration here are treated below.

Ceramic Classification

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

depending on the type of clay used and its firing time and temperature. These pastes are covered with a lead glaze containing tin oxide, which produces an opaque, milky white color. These glazes could be tinted with additional metal oxides, such as cobalt, to produce a blue opaque glaze, or copper, to produce a green opaque glaze. Usually, tin glazed, or tin enameled, earthenwares received hand painted decoration; this class of decoration is a useful criterion for determination of country of manufacture, since paste and glaze color(s) are not reliable indicators.

One sherd of debased Rouen faience was recovered from Vacherie. This type commonly has a red to brown earthenware paste. The surface of this particular sherd has a white tin glaze, although this type also is known to have been tinted blue or green. The underside of debassed Rouen faience vessels, however, usually was covered with an opaque manganese brown to purple glaze. These ceramics are known from American colonial sites from the time of the Revolutionary War and later; they appear on French colonial sites before 1755 (Noel Hume 1960; 1970:141-2). Plates of this type frequently were decorated with handpainted floral motifs, although this particular sherd was undecorated.

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

Because of the ready availability of red colored earthenware clays in most areas and their suitability for firing at low temperatures (earthenware becomes hardfired between about 950-1100 degrees C, viz Rhodes 1973:22), redware, for utilitarian use, was produced commercially in many regions of the United States from the mid-eighteenth century onwards. Consequently, this type is relatively undiagnostic for dating purposes. Early in the colonization of Louisiana it was noticed that the local clays were suitable for pottery manufacture. Bricks were manufactured on the Tchoupitoulas Coast, in present day Jefferson Parish, as early as the 1720s. It is likely that ceramics were manufactured in Louisiana at a relatively early date. These coarse, utilitarian, locally produced, wheel-thrown vessels may well have been the ceramics that were most readily available to the early colonists in the period prior to the wholesale importation of mass-produced British ceramics. Seriation of the ceramic data from Elmwood Plantation supports this hypothesis (Goodwin, Yakubik and Goodwin 1984). Redware continued to be produced throughout the nineteenth century for utilitarian purposes.

Since the ceramic is porous, it usually received some glaze to render it impermeable to liquids. Left unglazed, it was utilized

for flower pots (as today), water coolers, and the like. The most common glaze was a clear lead, and later, alkaline glaze. Colored glazes, such as a lead glaze tinted with manganese oxide to provide a brown to dark purple opaque glaze, also were common. Slip glazes, or glazes composed almost entirely of clay, are occasionally found on redwares. Because these glazes need higher firing temperatures in order to fuse than low firing redware clays can tolerate before melting, they are always found on red colored earthenwares which have been combined with more refractory clays (such as stoneware or fire clay) to yield a higher firing temperature of the body. Frequently redwares are covered with an engobe (layer of slip used to change the surface color of the ceramic body) and then covered with a clear glaze. Redwares are also left with the engobe, or slip, as their only surface treatment. Many colored engobes can be obtained by the addition of metal oxides (Rhodes 1973: 252).

Common decorations to redwares usually consisted of contrasting colored slips dripped or painted onto the vessels. This usually is not seen on heavy utilitarian wares, but it is more common on pie plates and dishes.

Yellow colored earthenware is a coarse American ceramic body type. The body in fact consists of stoneware, not earthenware clays, but it is considered an earthenware since it is not fired to the point of being vitreous. The bodies range from low-fired pieces which are soft and quite porous, to high-fired, almost vitrified pieces. The body color ranges from buff to brown-yellow, varying with the type and amounts of impurities in the clays and with firing temperature.

Different surface treatments were given to yellow colored earthenware, depending on the function of the piece. Yellow colored earthenware was molded into thick, heavy utilitarian shapes, and it was covered with a clear glaze. This type commonly is referred to as yellowware. Yellowware generally either was undecorated or it was decorated with annular or mocha decoration. Annular decoration consists of multi-colored bands of slip that are applied to the vessel by engine turning (a technique similar to lathe turning). On yellowware, these bands are most commonly blue or white. Mocha decoration consists of fern-like decorations on the vessels in brown, which is produced from a mixture of tobacco juice and urine (Noel Hume 1970:131). On yelloware it more commonly is blue, which is produced with a cobalt oxide compound. Mocha decoration usually is found in conjunction with annular decoration, although the latter is found as the sole decoration on yellowware. Yellowware was produced between 1830 and 1900 (Ramsey 1947:148); the mocha and annular variants were manufactured from 1840 to 1900.

Yellow colored earthenware also was covered by a dense, matte
wn to black slip glaze known as an Albany slip. Also known as
wnware," it was produced between 1830-1900 (Ramsey 1947:144).
variant most frequently was used for straight-sided crocks

and storage jars and was generally wheel thrown. Occasionally, brownware received a light salt glaze, usually as the result of being fired in the same kiln utilized for salt glazing stonewares (see below). Salt glazed brownware was manufactured in the South between 1860-1900. Brownware also is found covered with brown to beige engobes and a clear glaze; it also was left unglazed. The latter type was produced between 1840 and 1875 (Ramsey 1947:144). Yellow colored earthenware also was covered with an opaque, mottled brown glaze produced by the inclusion of manganese oxide in the glaze. This type, known as rockinghamware, was produced between 1830-1900, and was generally molded into tableware and for decorative pieces (Ramsey 1947:147). The final variant of yellow colored earthenware recovered was late spatterware. Also known as "late sponge," it was produced at the very end of the nineteenth century and during the early twentieth century. It was used for utilitarian pieces. It consisted of blue sponged decoration on an opaque white ground (Ray 1974:114).

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

Although several different decorative techniques, such as annular decoration and overglazed hand painting, were applied to creamware, it frequently was left undecorated for everyday use. However, these undecorated plates (and decorated plates, as well) had a variety of rim designs. Some examples of these are feather-edged plates, which had raised frond-like motifs around the rim, and, Queen's pattern plates, a raised scalloped rim design considered traditionally to honor Queen Charlotte, to whom Wedgwood presented a breakfast set which delighted her (Noel Hume 1970:125). Another popular rim design was the Royal pattern, a simplified version of the Queen's pattern. This pattern originally was commissioned from Wedgwood by George III. Occasionally, it also was called the "Catherine pattern," in honor of a dinner service made for Catherine II (the Great) of Russia in 1774 (Noel Hume 1972:359).

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

first two decades of the nineteenth century.

Unlike creamware, pearlware usually was decorated. Annular decoration and mocha decorations were common on pearlware bowls and mugs, as were painted bands on the rims of dinnerware. Shell-edged pearlware, or pearlware plates decorated with feathery inward brush strokes in blue or green, also were popular. Zones of swirled colors, often combined with annular decoration, were known as "fingerpainting." Hand painting, both in monochrome blue and in polychrome colors was also popular. Earlier examples of this latter type (ca. 1795-1815) utilized softer pastels; later examples (ca. 1815-1835) utilized directly stenciled floral patterns and bright colors (Noel Hume 1970:129). Another common form of decoration was the application of bright colors to a vessel either with a sponge or spattered on with a brush. Occasionally this was combined with polychrome hand painting.

Most frequently, pearlware received transfer-printed decoration, usually in blue. Earlier examples of pine transfer-printed pearlware had a grey cast, later examples, utilize a blue with purple tones. The very latest examples, and especially the blue transfer-printing found on white colored earthenwares (see below), used lighter, "washed out" looking shades. A variation on transferprinted decoration is deliberately blurred by a chlorinated vapor introduced into the kiln (Ray 1974:69). This decoration is only found on the latest pearlwares, it was developed accidentally by the Wedgwood factory ca. 1830, and it is more commonly found on whiteware/ironstone until ca. 1880 (Nicholson 1979:67). Often, transfer-printed pearlware sherds can be identified by rim pattern even if no makers mark is recovered. Although plate patterns were widely copied, rim patterns are for the most part diagnostic (Camehl 1916).

White colored earthenware resulted from the introduction of small amounts of cobalt to the ceramic paste, a development that had occurred by the early nineteenth century. Over time, the body of these ceramic vessels became thicker and coarser, and the net result of these changes distinguishes white colored earthenware from cream colored earthenware. During the first quarter of the nineteenth century, this white colored earthenware was covered with the cobalt tinted glaze typical of pearlware (Sussman 1977:105-106). Decorative techniques such as transferprinting also are found on these transitional white colored earthenware types. At about the same time, white colored earthenware with a copper tinted creamware glaze also was manufactured. Decorative motifs typical of pearlware also were used on these transitional types. Shelledged pearlware was common, often with variations on the shelledged molded motif such as using leaves, raised dots, etc. (Sussman 1977).

The use of copper and cobalt additives in glazes gradually was reduced, and at the end of the first quarter of the nineteenth century a ceramic type with a white colored earthenware body and with a transparent alkaline glaze appeared. This type is commonly

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

Whiteware/ironstone has continued in production throughout the twentieth century. It frequently was undecorated, or it was decorated only with oblong relief patterns. But various forms of decoration were utilized on whiteware/ironstone, as well. As in the case of pearlware, the most common decorative technique was transferprinting. Blue, purple, black, red, green and brown are all common colors, with blue predominating. Flow Blue was also a popular decorative technique, as was handpainted decoration utilizing monochrome, gilding and polychrome combinations. Occasionally, painting and transferprinting were used in combination. Other decorative techniques that appear on whiteware/ironstone include: annular decoration; handpainted bands on the rims of plates; overglaze decalcomania; sponged decoration, and stamped decoration. Decalcomania did not come into general use until ca. 1900 while the other aforementioned techniques were utilized throughout the nineteenth century.

Ironstone, as stated above, should not be confused with Mason's patented Ironstone, which was developed in 1813. Rather, the ironstone under consideration here was developed in England ca. 1850 and it was produced at a slightly later date in the United States. Although it often is very similar in appearance to whitware, it is helpful to isolate as many true ironstone sherds as possible. Ironstone is defined as having a hard, white, often thick ceramic body. It is not completely vitrified, but it is more

vitrified, but it is more vitrified than whiteware. The fractures are even and smooth. The surface of the vessel is hard and smooth, usually covered with a bluish-grey tinted glaze which often is opaque-looking in appearance.

Late nineteenth and early twentieth century ironstone tended to be undecorated, or simply molded with oblong relief patterns, raised barley or wheat sheaf motifs and, infrequently, raised flowers. Undecorated ironstone was meant for durable table use, and remained in production until ca. 1940. Decorative techniques found on ironstone include transfer-printing, flow blue, hand-printing, transfer-printing and hand-printing used in combination, gilding, banding, stenciling and decalcomanio. An unusual decorative type of ironstone is Blue Chelsea, which has pale blue sprigged decoration. Blue Chelsea is found exclusively on teaware, and was produced ca. 1850-1880.

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

Clear, alkaline glazes also are found on stoneware, both with and without the prior application of an engobe. Often an engobe (slip) was applied before glazing, in order to change the surface body color. These sometimes were colored with a metal oxide. Stonewares also are found covered entirely with slip glazes (the high firing temperatures of stoneware clays easily withstand the temperatures necessary for slip glazes), or covered with an engobe with or without an additional glaze. Since utilitarian stonewares were produced by relatively small local potteries, as were the utilitarian redwares, a great deal of variation is found

in these ware types.

A final type of stoneware comprises stoneware ale bottles. These have a buff-colored body, with a yellow glaze that extends from the lip to the bottle shoulder. These were produced during the second half of the nineteenth century.

Porcelaneous Stoneware as a classificatory unit recently was introduced by Worthy (1982). This terminology is particularly descriptive of a type of a ware that combines the traits of both porcelain and stoneware. Historically, this type has been known as Semi-Porcelain and as Hotel Ware. It is heavy, white, opaque and completely vitrified. Containing both kaolin and ball clay, it fires between 1200-1400 degrees (Worthy 1982:337). Developed in the United States after 1880 for table use, this type commonly was used in restaurants and for other institutional purposes because of its durability. A variety of decorations may be applied to porcelaneous stoneware, however, the ware usually was left undecorated or it was decorated with a single, monochrome band on the rim. Porcelaneous stoneware is still in use today.

Hard paste porcelain and soft paste porcelain will be discussed together because of the frequent confusion between the two pastes. Hard paste porcelain first was produced by the Chinese in the eighth century, and over time Oriental porcelain came into such great demand that by the eighteenth century Chinese potters were producing porcelain solely for export. Canton porcelain, exported to the United States in large quantities during the first three decades of the nineteenth century, had a green-gray surface appearance, with sloppily executed blue handpainted designs.

As a result of many Western attempts to copy the Oriental ware, soft paste porcelain was developed. The lack of technical expertise and sufficiently plastic kaolin sources hindered production of hard paste porcelains in England and France during the eighteenth century. Soft paste is distinguished from hard paste porcelain by the use of a number of fluxing agents, such as frit (ground glass), which were used to lower the firing temperature of the clay. In 1800, Joseph Spode formulated a soft paste porcelain from kaolin and bone ash. Still produced today, it is commonly referred to as bone china.

Soft paste porcelain ranges in color from white to pale buff. The body is completely vitrified, but the paste is somewhat granular in texture. In cross section, there is a clear division between paste and the glaze. It is often less translucent than hard paste. Blue Chelsea decoration is occasionally found on soft paste porcelain; this variant dates 1830-1880.

In 1709, a German at Dresden (Meissen) named Bottger produced the first western hard paste porcelain (Wynter 1972:33), and several German factories produced true hard paste porcelains during the eighteenth century (Miller and Stone 1970:90). In

fact, a few English and French factories were producing hard paste late in the eighteenth century; Plymouth at Devonshire was producing hard paste porcelain between 1768-1770 (Wynter 1972:170-174), and several Paris factories began producing hard paste at the same time period (Wynter 1972:110-115). Many French and English factories, notably Limoges and Sevres in France, and W. T. Copeland and Sons, and Minton, both at Stoke-on-Trent in England (Kovel and Kovel 1953:171, 172, 174, 178) acquired the expertise to produce true hard paste porcelains during the nineteenth century. The French potteries, in particular, exported large quantities of porcelain to the American market during the second half of the nineteenth century. The popularity of French porcelains in America was largely the result of the efforts of the Haviland family, and their factory at Leimoges produced porcelain specifically for the American market (Ray 1974:86-87; 118-120). Relatively inexpensive undecorated porcelains also were manufactured in France for the American table; these provided competition for English and American undecorated ironstones. The first commercially successful hard paste porcelains made in the United States were not produced until ca. 1880 (Ramsey 1947:156).

Hard paste porcelain is very white, vitrified and translucent. Made from kaolin and petunse (fedspar-potassium aluminium silicate), it is fired at a high temperature (1300-1450 degrees) and approaches glass in composition. The hard paste porcelain body had a tendency to fuse with the transparent feldspathic glaze due to the high firing temperature. Fractures are smooth and glasslike, whereas fractures of soft paste porcelains, which are also translucent, appear granular, and the glaze is quite distinct from the paste. Barber (1902:20) suggests that distinctions between American manufactured hard and soft paste porcelains may be "arbitrary" and that the two form a continuum "since the degrees of differences are often so slight that it is impossible to determine where soft paste porcelain commences and hard paste ends."

Decoration of porcelain includes transfer-printing, hand-painting, decalcomania, and the application of gilt. Most decoration must be applied after firing the ceramic, since few metal oxides other than cobalt (blue) can withstand the high firing temperatures necessary for porcelain clays. Consequently, the majority of decorations on hard paste porcelain are applied overglaze, other than underglaze blue transfer-printing and hand-painting.

Hard paste porcelain also occasionally was left unglazed. This type was called "parian." It imitated marble, and was used most frequently for decorative figurines, vases, and pitchers. Parian was popular during the second half of the nineteenth century. The various patterns were widely copied by different American potteries. Thus, they are difficult to trace.

Glass Classification

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

The half-post technique was another early method of bottle manufacture. After the bottle body was formed, it was coated with a second layer of glass. It then was placed into a vertically ribbed mold and twisted as it was withdrawn, creating a swirled effect. This technique was used for pharmaceutical bottles after 1780 (Noel Hume 1970:72).

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

A second type of hinged mold was the two-piece hinged mold. Occasionally utilized in the United States after 1810, these two-piece molds were hinged at the base. Therefore, the resultant bottles had a single vertical seam that ran down the neck and body of the vessel, across the base, and up the other side of the vessel. However, if a pontil rod was utilized during the finishing of the bottle, the base may be obliterated by the pontil scar (Baugher-Perlin 1982:263). By the mid 1840s, two-piece molds began to

replace three-piece molds (Lorraine 1968:40). During the 1850s, the two-piece mold was improved and made more stable by the use of cup bottoms and post bottoms (Haskell 1981:62). In the former, a rounded seam encircled the base of a vessel rather than crossing the bottom, while in the latter a circular seam appears on the bottom of a vessel and seams run down the vessel sides and base to meet it.

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

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

After the War Between the States, the American glass industry continued to expand, and improved techniques came into general use. In 1864, William Leighton created a formula to produce a clear soda-based lime glass that was less expensive, lighter, and just as clear as previously manufactured lead glass. As a result, clear glass appears in great quantities after the end of the war. This clear glass was tinted with manganese oxide to eliminate the green color. Because of the presence of the manganese oxide, this glass tends to become amethyst colored when exposed to the sun.

After the War Between the States, there also was a tremendous increase in the number and kinds of pharmaceutical bottles produced in the United States. New shapes appeared in the early 1860s, such as the paneled flask and the French square. Embossed lettering on bottles became popular at this time, and remained popular until the 1920s. A slug plate inserted into a standardized mold enabled inexpensive personalization of bottles. The pharmaceutical bottles that were not embossed had recessed

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

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

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

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

Artifacts from Port Sulphur, 16 PL 132

Few artifacts were recovered from the Port Sulphur revetment project area. A red glass votive candle holder and a fragment of a clear pressed glass baking dish were found in area of the old St. Patrick's Cemetery site (16 PL 132). Both appear to be modern. The votive candle holder clearly derives from the cemetery/church complex. The only other artifact recovered was a sherd of an olive green wine bottle base, which appears to have been manufactured in a three piece dip mold. This was found on the cemetery mound. No artifacts were collected at the nearby surface scatter (16 PL 131).

Artifacts from Vacherie, 16 SJ 40

As noted previously, the Vacherie site extends nearly the entire length of the project area. Because most of the material observed has eroded from the river cut bank, the majority of the remains collected during survey was recovered from disturbed contexts. Consequently, very little definitive analysis can be undertaken with this collection of artifacts. Nevertheless, the sample recovered does permit certain observations about the nature of the collection, and hence, about the Vacherie site.

Ceramics from Vacherie date from the late eighteenth century to the early twentieth century (Table 19). In general, earlier material was located on the downriver end of the survey area, while most of the more recent material (ironstone, later utilitarian stoneware, porcelaneous stoneware) came primarily from the upriver end (Table 20). No explanation for this is offered at the present time; both areas were occupied continuously since the mid-to-late eighteenth century. However, throughout the length of the site pockets were located that yielded very early remains, such as Rouen Faience, eighteenth century pearlware, and creamware. This site area, then, potentially could yield information on shifting patterns of land use and activity areas from the earliest European settlement to the early twentieth century.

Another interesting characteristic of the site is a paucity of transfer-printed ceramics, particularly pearlware. The majority of the earlier wares are undecorated, or have minimal decoration (shell-edging, finger-painting, annular decoration), and a few are hand-painted. Transfer-printing on pearlware, though, was rare. Transfer-printing was more common on later ceramics from the site, and it is found much more frequently on whiteware. Because transfer-printed ceramics were the most expensive, while undecorated pottery cost the least (Miller 1980), this suggests either a shift in the economics of the community and/or a change in the population's access to better quality goods.

Privy feature F108 provided one relatively undisturbed context for Mean Ceramic Dating. As noted previously, the profile of this eroding feature was collected, as was the area below it where artifacts had slumped onto the river terrace. A modified

Table 19. Types, Date Ranges, and Median Dates of Nineteenth Century Ceramics.

Type	Date Range	Median Date
Transfer-printed pearlware	1795-1830	1813
Transitional pearlware/white colored earthenware types	1800-1830	1815
Transfer-printed transitional pearlware/white colored earthenware	1800-1840	1820
Stoneware, glazed in any way with an Albany slip	1810-1900	1855
Embossed edge whiteware/ ironstone	1820-1840	1830
Salt glazed redware, unglazed interior	1825-1850	1838
Flow blue whiteware/ironstone	1830-1880	1855
Blue Chelsea	1830-1880	1865
Yellowware	1830-1900	1865
Rockinghamware	1830-1900	1865
Brownware	1830-1900	1865
Annular Yellowware	1840-1900	1870
Mocha Yellowware	1840-1900	1870
Unglazed brownware (yellow colored earthenware)	1840-1900	1870
Ironstone	1850-1940	1895
Blue Chelsea ironstone	1850-1880	1865
Flow blue ironstone	1850-1880	1865
Parian	1850-1900	1875
Salt glazed redware, Albany slipped interior	1850-1880	1865
English Majolica	1851-1900	1876

Table 19. (Continued)

Type	Date Range	Median Date
Albany slipped redware	1860-1900	1880
Albany slipped and lead glazed redware	1860-1900	1880
Late Spatter	1880-1920	1900
Porcelaneous stoneware	1880-present	1930
Clifton/Avalon ware	1882-1914	1898
Decaled wares	1900-1950	1925

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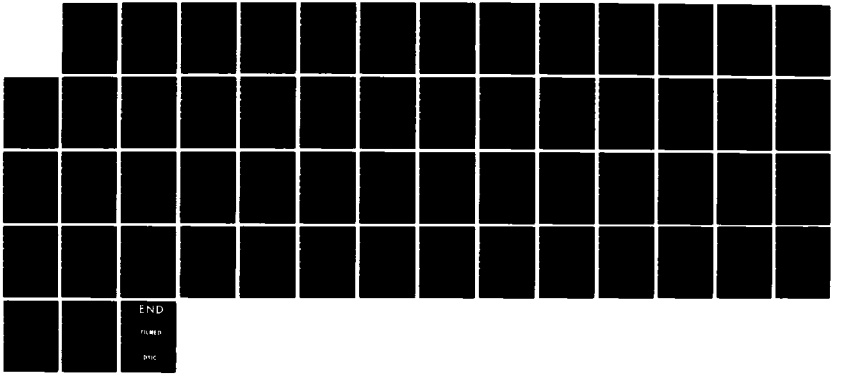

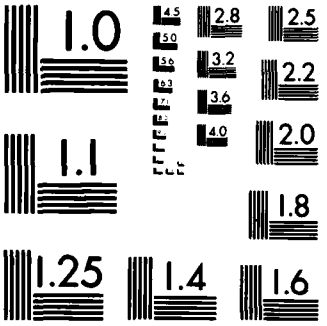

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Table 20. Ceramic Artifacts from Vacherie, 16 SJ 40, by Field Specimen Numbers.

	001	002	003	004	005	007	008	009	010	011	014
Rouen Faience		1									
Creamware										1	
Finger painted creamware											
Pearlware		1	1				1	1	1		
Blue hand-painted pearlware											
Purple transfer-printed pearlware											
Blue transfer-printed pearlware		2							1		
Sponged pearlware											
"Trailed slip" annular pearlware											
Annular pearlware	1	1					1				1
Finger-painted pearlware											
Blue shell-edged pearlware	3	1	3			1					
Green shell-edged pearlware		3	1								
Polychrome hand-painted pearlware											1
Pearlware glazed white colored earthenware											1
Whiteware/ironstone	1	2									1
Blue transfer-printed whiteware/ironstone			1		1			1			
Flow blue whiteware/ironstone		3		1							
Banded whiteware/ironstone											
Annular whiteware/ironstone											
Decaled whiteware/ironstone											
Polychrome hand-painted whiteware/ironstone											
Ironstone	1			2	1			2		1	1
Redware, albany slip exterior											
Saltglazed redware											
Redware, yellow interior interior engobe and glaze									1		
Redware, green engobe											

Table 20 continued.

	015	016	018	020	021	022	023	025	026	027	028
Rouen Faience						1					
Creamware						1					
Finger painted creamware	2	1									
Pearlware	1				1						
Blue hand-painted pearlware											
Purple transfer-printed pearlware							3				
Blue transfer-printed pearlware	1				1						
Sponged pearlware											
"Trailed slip" annular pearlware	1										
Annular pearlware		1			1	1					
Finger-painted pearlware							1				
Blue shell-edged pearlware		2							1		
Green shell-edged pearlware					1						
Polychrome hand-painted pearlware	1										
Pearlware glazed white colored earthenware											
Whiteware/ironstone		2				4			1		1
Blue transfer-printed whiteware/ironstone											
Flow blue whiteware/ironstone											
Banded whiteware/ironstone											
Annular whiteware/ironstone											
Decaled whiteware/ironstone								1			
Polychrome hand-painted whiteware/ironstone											1
Ironstone	3	1	3	1	2	1				1	1
Redware, albany slip exterior											
Saltglazed redware											
Redware, yellow interior interior engobe and glaze											
Redware, green engobe								1			

Table 20 continued

	029	030	031	032	033	034	035	037	TOTAL
Rouen Faience									1
Creamware								1	3
Finger painted creamware									1
Pearlware							1		9
Blue hand-painted pearlware									2
Purple transfer-printed pearlware								1	1
Blue transfer-printed pearlware									6
Sponged pearlware									2
"Trailed slip" annular pearlware									1
Annular pearlware		3							10
Finger-painted pearlware									1
Blue shell-edged pearlware							1		12
Green shell-edged pearlware									5
Polychrome hand-painted pearlware							2		4
Pearlware glazed white colored earthenware									1
Whiteware/ironstone		1		1	1		1	1	17
Blue transfer-printed whiteware/ironstone									3
Flow blue whiteware/ironstone		1				1			6
Banded whiteware/ironstone						1			1
Annular whiteware/ironstone		1	1	1	1	2			6
Decaled whiteware/ironstone									1
Polychrome hand-painted whiteware/ironstone									1
Ironstone	4			1		5			31
Redware, albany slip exterior						1			1
Saltglazed redware						1			1
Redware, yellow interior interior engobe and glaze									1
Redware, green engobe									1

Table 20 continued.

	001	002	003	004	005	007	008	009	010	011	014
Brownware											
Yellowware											
Annular yellowware											
Rockinghamware											
Stoneware ale bottle		1	1								
Grey saltglazed stoneware											
Grey saltglazed stoneware, brown interior engobe											
Grey saltglazed stoneware, albany slip interior											
Grey saltglazed stoneware, yellow exterior engobe albany slip interior											
Brown saltglazed stoneware											
Buff saltglazed stoneware, albany slip interior cobalt handpainting											
Buff saltglazed stoneware, albany slip interior											
Porcelaneous stoneware				1							
Decaled porcelain											1
Burnt ceramics											
TOTAL	6	15	7	4	2	1	2	4	3	2	6

Table 20 continued.

	015	016	018	020	021	022	023	025	026	027	028
Brownware	1										
Yellowware											
Annular yellowware											
Rockinghamware	1										
Stoneware ale bottle	1										
Grey saltglazed stoneware											
Grey saltglazed stoneware, brown interior engobe											
Grey saltglazed stoneware, albany slip interior											
Grey saltglazed stoneware, yellow exterior engobe albany slip interior											
Brown saltglazed stoneware											
Buff saltglazed stoneware, albany slip interior cobalt handpainting											
Buff saltglazed stoneware, albany slip interior											
Porcelaneous stoneware											
Decaled porcelain											
Burnt ceramics											
TOTAL	12	7	3	1	6	8	4	2	2	1	3

Table 20 continued.

	029	030	031	032	033	034	035	037	TOTAL
Brownware			1			3			5
Yellowware			1	1		2			4
Annular yellowware		1				1			2
Rockinghamware						1			2
Stoneware ale bottle		1	2	1		4			11
Grey saltglazed stoneware			2						2
Grey saltglazed stoneware, brown interior engobe						1			1
Grey saltglazed stoneware, albany slip interior		4	9	2		15			30
Grey saltglazed stoneware, yellow exterior engobe albany slip interior						4			4
Brown saltglazed stoneware		2				1			3
Buff saltglazed stoneware, albany slip interior cobalt handpainting		1							1
Buff saltglazed stoneware, albany slip interior						1			1
Porcelaneous stoneware									1
Decaled porcelain									1
Burnt ceramics						4			4
TOTAL	4	15	16	7	2	48	5	3	201

version of Stanley South's (1977:201-236) Mean Ceramic Date formula was used to date the ceramics from this privy at Vacherie. This formula was developed as a method for calculating the mean date of manufacture for British ceramics found on eighteenth century historical sites. Like Ford's (1962) seriational method, the MCD formula is based on the twin assumptions of normalcy and unimodality, so that a ceramic type's peak popularity is represented by the median date between its introduction and discontinuance in the sequence. South's date ranges for each of seventy-eight ceramic types are derived in large part from Ivor Noel Hume's A Guide to Artifacts of Colonial America (1970), and from personal communication with Noel Hume.

Although Mean Ceramic Dating was developed for eighteenth and early nineteenth century ceramics, South (1977:213) did not preclude its application to nineteenth century sites. Rather, he offered the possibility that the formula might be extended to include additional types, providing that dates of manufacture are known. In fact, this is a necessity if the formula is to be used with any accuracy for subsequent periods. The major limitation of the method as presented by South (1977) is that as one historically approaches and surpasses the mid-nineteenth century, mean ceramic dates become increasingly too early (Goodwin, Gendel, and Yakubik 1983a, 1983b; Goodwin and Yakubik 1982a, 1983). The following types, date ranges, and median dates, as shown in Table 19, constitute both a modification of South's method and an addition to his original data base.

In addition, Worthy (1982) makes the excellent though obvious suggestion of utilizing datable makers' marks to provide date ranges and median dates for individually marked pieces. Of course, the limitation to this method is that one cannot expect to get an adequate sample of makers' marks from an individual provenience to yield reliable dates. However, the combination of Worthy's (1982) system with the date ranges and median dates provided here broaden the usefulness of this method.

Ceramic artifacts from the privy feature provided a Mean Ceramic Date of 1846.9 (N=21). This date appears to be too early; the pearlware sherds seem to be relects. When the formula is recalculated without them, the Mean Ceramic Date was 1856.76 (N=17). Because of the small sample size, the results of this chronological experiment are questionable.

Glass from Vacherie dated from the later nineteenth and twentieth centuries (Table 21). It is not surprising that the glass artifacts appear to be less old than the ceramic. Recent work at Algiers Point has demonstrated that glass does not appear in large quantities in archeological contexts until after the Civil War (Goodwin, Yakubik and Gendel 1984).

A variety of metal objects were recovered at 16 SJ 40; these are shown in Table 22. Other artifacts collected include two milk glass bottoms (late nineteenth century), a modern tile, and an

Table 21. Glass Artifacts from Vacherie, 16 SJ 40, by Field Specimen Numbers.

	001	002	003	004	008	009	010	014	015	018	025
Amethyst glass							1				
Amethyst pressed glass			1			1					
Amethyst goblet/tumbler					2						
"Black" bottle base, no seams											
"Black bottle base, improved pontil			1								
Brown glass											
Brown bottle neck, applied lip									1		
Clear glass		1									
Clear pressed glass		2								1	
Clear goblet stem	1										
Clear tumbler											1
Clear bottle neck, tooled lip		1									
Clear paneled flask, automatic bottle machine										2	
Clear bottle, automatic bottle machine	1										
Clear bottle, 2 piece mold, tooled lip											
Clear glass decanter, hand blown											
Green glass								1			
Green paneled flask neck tooled lip											
Green opaque glass				1							
Light green base, 2 piece post mold		1									
Light green neck, tooled lip		2									
Olive bottle neck, laid											

Table 21 continued.

	029	031	032	034	037	038	041	TOTAL
Amethyst glass								1
Amethyst pressed glass								2
Amethyst goblet/tumbler			1					3
"Black" bottle base, no seams		1						1
"Black bottle base, improved pontil					1			2
Brown glass						1		1
Brown bottle neck, applied lip								1
Clear glass				1		1		3
Clear pressed glass	1							4
Clear goblet stem								1
Clear tumbler								1
Clear bottle neck, tooled lip								1
Clear paneled flask, automatic bottle machine								2
Clear bottle, automatic bottle machine							1	2
Clear bottle, 2 piece mold, tooled lip							1	1
Clear glass decanter, hand blown	1							1
Green glass						2		3
Green paneled flask neck tooled lip				1				1
Green opaque glass								1
Light green base, 2 piece post mold		1						2
Light green neck, tooled lip				1				3
Olive bottle neck, laid								

Table 21 continued

	001	002	003	004	008	009	010	014	015	018	025
on ring											
Olive bottle neck, tooled lip		3									
Olive bottle base, kick-up, no seam		2									
Plate glass											
Red pressed glass								1			
TOTAL	2	12	2	1	2	1	1	2	1	3	1

Table 21 continued.

	029	031	032	034	037	038	041	TOTAL
on ring	1			1				2
Olive bottle neck, tooled lip								3
Olive bottle base, kick-up, no seam				1				3
Plate glass				1				1
Red pressed glass								1
TOTAL	3	2	1	6	1	4	2	47

Table 22. Metal Artifacts from Vacherie, 16 SJ 40, by Field Specimen Numbers.

	001	002	010	012	013	015	017	019	020	022	024
Spike	2	2				2		1		1	
Square cut nail						1					
Wire nail						1					
Screw		1									
Metal nut	1						1				
Copper clamp											
Hinge											1
Door hook											
Latch											
Metal plate											
Can opening key											
Chain link			1								
Chain					1						
Harness ring				1							
Harness buckle											
Horseshoe					1						
Wagon hitch hardware											
U-shaped stake									1		
Crank											1
Belt buckle											
Civil War poker chip											
Slug											1
Weight					1						
Wrought iron											
Ornament											
Misc. metal											
TOTAL	3	3	1	1	3	4	1	1	1	1	3

Table 22 continued.

	025	026	029	030	034	036	039	040	041	TOTAL
Spike		1			2	1			1	13
Square cut nail							1		1	3
Wire nail										1
Screw										1
Metal nut										2
Copper clamp						2				2
Hinge						1				2
Door hook						1				1
Latch		1								1
Metal plate	1									1
Can opening key							1			1
Chain link										1
Chain										1
Harness ring		1								2
Harness buckle								1		1
Horseshoe				1						2
Wagon hitch hardware		1								1
U-shaped stake										1
Crank										1
Belt buckle						1				1
Civil War poker chip			1							1
Slug										1
Weight										1
Wrought iron								1		1
Ornament		1								1
Misc. metal							2			2
TOTAL	1	5	1	1	2	6	4	2	2	46

unusual smoking pipe of porcelaineous stoneware that was covered with an opague brown glaze. This pipe dates to after 1880.

Artifacts from Marchand

Two ceramic sherds were found adjacent to the brick feature at Marchand that has been designated 16 AN 37. The first of these was late spatter, which dates ca. 1880-1920. The second sherd is grey salt glazed stoneware with an albany slip interior. Although this type was manufactured ca. 1810-1900+, this particular fragment appears to date from the late nineteenth century.

Artifacts from New River Bend

Few artifacts were recovered within the New River Bend survey area. Two corroded spikes and two brown glass fragments were collected. These apparently had eroded from a riverbank below the Carville dump; no other remains were found in the area. None of these artifacts are diagnostic for dating purposes. A fragment of thick green plate glass and an amber pressed glass cake stand were collected from the Carville dump, site 16 IV 144. These appear to date from the twentieth century.

CHAPTER IX

CONCLUSIONS AND RECOMMENDATIONS

This report has presented the results of archival, cartographic, field, laboratory, and oral informant interview research pertaining to the history and historic archeology of five revetment project areas along the Mississippi River. During the course of research, a total of nine historic archeological sites were located and examined. Each of the five revetment items contained at least one site. Table 23 summarizes these sites, and presents management recommendations for them.

At the Port Sulphur revetment project area, two sites were located. One of these, 16 PL 131, comprised a redeposited surface scatter that was observed in spoil piles created during dredging. This site lacked all of the criteria of significance enumerated in Title 36 CFR 60.4. It is devoid of contextual integrity, and it has no research potential. A second site at Port Sulphur, 16 PL 132, consists of the Old St. Patrick's Church Cemetery. This cemetery was moved in 1951, and all human remains were reinterred in a new cemetery facility built adjacent to LA Highway 23, in front of St. Patrick's Church. Tombs, vaults, and markers at 16 PL 132 are destroyed, or missing. The site lacks contextual integrity, and it has no research potential. It does not exhibit the criteria of significance presented in Title 36 CFR 60.4. For both of the sites in the Port Sulphur revetment project area, then, no further work can be recommended. The Port Sulphur revetment project will not impact any significant cultural resources.

The Vacherie revetment project area, in St. James Parish, Louisiana, stretches along a bank of the river that was settled early in Louisiana's history. Historic archeological remains are visible and plentiful virtually the entire length of the planned revetment construction zone. This site contains stratified historic remains that span a period from the late 18th century until 1917, at which time a gravel levee road was constructed that effectively sealed the earlier deposits. In addition, this site, designated 16 SJ 40 by the Division of Archeology, contains a number of nearly intact cypress rice irrigation flumes that date from the Reconstruction period. After the Civil War, sugar became unprofitable for a number of key reasons discussed above. The adoption of rice agriculture by the residents of St. James Parish represented a distinctive adaptation to a changing socio-economic milieu that was a direct outgrowth of a singular and significant event in our National history. The configuration of the Vacherie site, 16 SJ 40, and the distribution of archeological features there, are shown in Figure 18. Archeological features at Vacherie are enumerated in Table 6. Because of the presence of stratified and datable cultural refuse deposits there; of a number of agricultural features deriving from rice irrigation efforts during the Reconstruction period; and, since the site contains four plank privies, one of which produced substantial domestic

Table 23. Summary of Cultural Resources located in each of the five Revetment Project Areas, with Management Recommendations.

Port Sulphur Revetment

Site	Recommendations
16 PL 131 - Home Place Surface Scatter Site	Site lacks contextual integrity; redeposited artifacts in spoil mounds only; not viewed as a significant resource; no further work recommended.
16 PL 132 - Old St. Patrick's Church Cemetery Site	Cemetery dismantled and moved in 1951; burials dis/reinterred at that time; all tomb remains in very poor - nearly destroyed condition at this time; site lacks context and integrity; not viewed as a significant resource; no further work recommended.

Vacherie Revetment

Site	Recommendations
16 SJ 40 - Vacherie Batture Historic Site	Multi-component historic site; late 18th - early 20th century; major rice agricultural features; plank privies; stratified historic lenses in river cut bank; research potential on 19th century economic adaptations high; good probability of in situ remains in old levee; unique area in terms of the importance and technology of rice production; site clearly significant; "no work" area recommended; detailed testing for documentation recommended; HAERS documentation of rice flume features recommended; because of the imminence of site loss due to river encroachment, it is recommended that follow up work be initiated as soon as possible, and that the site be monitored regularly until it is fully documented.

Table 23. (Continued)

Romeville Revetment

Site	Recommendations
16 SJ 39 - Romeville Batture Surface Scatter	Redeposited late 19th and early 20th glass and ceramic scatter at water line; remains water-washed; site lacks contextual integrity; no research potential; site not viewed as a significant resource; no further work recommended.

Marchand Revetment

Site	Recommendations
16 AN 37 - Marchand Brick Scatter	Small brick scatter without clear structural or historical associations; no research potential; lacks contextual integrity; not viewed as a significant cultural resource; no further work recommended.
16 AN 38 - Ashland - Belle Helene Landing	Brick foundation for former Ashland - Belle Helene Landing; Ashland Plantation is a National Register site (1979); Plantation was owned/ operated by Duncan F. Kenner, a significant contributor to the growth and development of south Louisiana; site in poor condition, due to bulldozing for lime yard and for pipeline crossing; most of site lost; excellent historical source materials available on the history and use of the site; imminent loss of site expected within the year; recommend consideration of SHPO for expanding Ashland's listing on the National Register to include its archeological resources; although this site has very limited archeological potential, it is viewed as significant by virtue of its associations with significant historic persons and events and due to the scope and quality of the archival record for the site; mitigation alternatives would include a historical narrative report, and HABS documentation.

Table 23. (Continued)

New River Bend Revetment

Site	Recommendations
16 IV 143 - Hard Times Plantation Batture Surface Scatter	Surface scatter of late 19th and early 20th century domestic debris; redeposited, lacks contextual integrity; not viewed as a significant resource; no further work recommended.
16 IV 144 - Carville Dump Site	Modern (second half of 20th century) dump site containing small numbers of earlier materials; no research potential; not viewed as a significant resource; no further work recommended.
16 IV 145 - New River Bend Site 1	Late 19th century furnace believed to have fueled a boiler for a steam-driven engine, perhaps a water pump. Site in very poor condition; only brick foundation remains; not viewed as a significant resource; no further work is recommended; the attention of the SHPO and of appropriate Federal agencies is called to the fact that very little data are available on such furnace - boiler-engine sites in south Louisiana; no steam powered water pump sites are preserved or protected as of this date.

debris, the entire site area from N290 to N1272 is viewed as a significant cultural resource, with the potential to yield information important to the historical and archeological understanding of settlement and economic adaptation in the St. James Parish area. Because the site contains so many distinct features and classes of remains as it stretches fully one kilometer along the river cut bank, the Vacherie site may be understood more precisely as a multiple component archeological district. As noted previously, the loss over a ten day span of a portion of the Vacherie project area indicates clearly that the entire site area is in imminent danger of loss to riverine processes. The condition of the various archeological remains at Vacherie in general is good, and a number of features are well preserved. Insofar as the National Register criteria are concerned, 16 SJ 40 is demonstrably associated with "events that have made a significant contribution to the broad patterns of our history" (36 CFR 60.4). Besides the Civil War and Reconstruction, the Vacherie site may be associated with the settlement of the first Acadian Coast, as well as with other themes identified in the Chapter of this report synopsizing the history of south Louisiana. As the discussion of rice flume irrigation in this volume demonstrates, 16 SJ 40 already has demonstrated its ability to provide information important in history. Finally, the site has a large number of components that are in primary archeological context. There is no question that the Vacherie site meets the National Register of Historic Places criteria of significance.

Measures should be undertaken immediately to preserve knowledge of the Vacherie site for posterity, especially insofar as the site was observed to have lost at least one important archeological feature within a ten day period to the effect of river action. It is recommended that a "no work" area be created, to protect the site from direct project impacts until mitigation measures can be taken. Furthermore, it is recommended that monitoring of the revetment area be undertaken at regular intervals. Such a monitoring program would provide the opportunity to collect eroding remains from known points, thus salvaging potentially important data before they are lost to the river. Historic American Engineering Record recordation of each and every rice flume at the Vacherie site should be undertaken, before they are lost. Such an effort would provide a unique comparative data base on 19th century agriculture in south Louisiana, and it would aid in establishment of a site specific chronology of irrigation features. Because it appears likely that some of the rice flumes at Vacherie were installed as a community effort, while others were put in place by large plantation owners, a morphological and chronological evaluation of the rice flume features would elucidate important social, cultural, and economic patterns and processes that were extant during the Reconstruction period. In addition, although archival documentation of Magnolia and Crescent Plantations at Vacherie is good, little is known archivally about the intervening small tracts and farms. Additional archival research, as part of a mitigation effort, should focus on these tracts.

Insofar as the Romeville revetment area is concerned, the site 16 SJ 39 meets the minimum requirements established by the State of Louisiana for consideration as a site, but it does not meet any of the criteria for National Register eligibility detailed in 36 CFR 60.4. This redeposited scatter of glass and ceramic sherds from the turn of the last century and later lacks research potential and contextual integrity. The archeological material cannot be identified with historic plantation remains in the project area. No further work is recommended.

Two archeological features were found at the Marchand revetment area. Both of these features are on the grounds of the Ashland-Belle Helene Plantation (16 AN 26). One of these, M-100, is a brick scatter without observable structural or historical associations. It lacks integrity and research potential. No further work is recommended there. At Feature M-101 a tiered foundation, perhaps a warehouse, was found at the former Ashland Plantation Landing. Although the condition of this foundation is poor (See Chapter 6), this landing site is associated "with events that have made a significant contribution to our history (36 CFR 60.4)," including the War Between the States. It also is associated with a person significant in our past, on both the state and regional level. Duncan F. Kenner's contributions to Louisiana and to the South are well documented; he also served as a Minister Plenipotentiary during the presidency of Jefferson Davis. Substantial documentary information is available on Duncan Kenner and his family, including the family papers which are on file at the Archives and Manuscripts Division of the Louisiana State University Library. An annotated list of these holdings is contained in Appendix II. The near absence of artifactual remains suggests an archeological milieu reminiscent of Bourbon Plantation, where detailed test excavation of massive brick foundations produced very few artifacts (Goodwin, Yakubik, and Gendel 1983). Although private development and use of the batture in the area of Feature M-101 has demolished a portion of the site, we believe that its associational significance and historic notoriety warrant complete documentation if it cannot be avoided during revetment construction. Such a mitigation effort should include a complete and detailed archival reconstruction, focusing on the use of the landing warehouse, an example of a class of sites that is poorly documented or appreciated. It should be noted that Ashland Plantation is a National Register property; the SHPO is advised that the outbuildings and facilities of Ashland also may be significant, and that the Ashland Plantation listing should be expanded to protect any such resources.

At the New River Bend revetment project area, three sites were located. Site 16 IV 143 is a surface scatter that does not meet any of the criteria established in 36 CFR 60.4. The artifacts recorded at the site are redeposited material lacking contextual integrity. The Carville Dump, 16 IV 144, is a twentieth century facility which conains largely post-1950 material. The dump is of archeological interest only insofar as the pattern of refuse disposal on the batture is concerned. The Carville Dump site is

not viewed as a significant resource; no further archeological research is recommended at this site. Site 16 IV 145 constitutes the remains of a furnace that apparently fueled a steam boiler that, in turn, powered an engine, perhaps a water pump that moved water to the sugar mill that was located further back on the Maryland Plantation. Although this site is destroyed, and thus lacks the requisite integrity for National Register status, the attention of the SHPO and of the appropriate federal agencies are called to the lack of sufficient archeological evidence pertaining to this class of structures in south Louisiana, even though they were ubiquitous during the last century. No further work is recommended.

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APPENDIX 1

Transcript of Taped Oral Interview

Interview with Mr. Pierre Larroque, President, Moresi's Foundry, Jeanerette, Louisiana, pertaining to the furnace site (16IV145) found in the New River Bend project area.

Q: Last time I was down there I talked to you about that feature on the batture in Iberville Parish that looks like some kind of a furnace.

A: Yeah.

Q: And it had a brick wall built into the old levee there, and there was this iron door that they'd picked up.

A: All right.

Q: You remember it's kind of, it's square on one side, on the other side it's kind of got a little curved angle.

A: Uh huh.

Q: And it's got two big hinges on the top of it, and then a little handle you pull up from on the bottom or on the side of it.

A: All right.

Q: And it looks kind of like that one that you had told me about that is shown in the museum over there in Jeanerette like they used on those...

A: Kettle.

Q: On the kettles in the refining.

A: Yeah, well that one that I saw in the museum, the kettles weren't, the fire wasn't built right under the kettle.

Q: The fire was not right under the kettles in the one...

A: Under the kettles they have a series of kettles, side-by-side, and in line with the kettle, but further down was where they had a furnace, exactly what you saying, it's a furnace.

Q: Yeah.

A: And what they had routed fire and the heat from the furnace underneath the kettle.

Q: What kind of flue system did they have?

A: It was brick.

Q: It was a brick flue?

A: And they had a brick vertical flue, with a small chimmney, you see.

Q: And they had a brick vertical flue, too.

A: Yeah, horizontal, and then vertical.

Q: Horizontal and vertical.

A: Yeah, and the flue got bigger as the gases, lost the heat. The flames of the heat went beneath the kettle.

Q: Uh huh.

A: And uh, but that sounds like what you have there.

Q: Well, how did they build that furnace? What was the configuration of the furnace?

A: I would say it would be like an oven almost, with a door and uh, either burn wood probably in it.

Q: Uh huh.

A: And, I would think it would be like a oven, you know, and when I saw the picture of this, the gases ran horizontal underneath these kettles and on one end was where, and it need, they need a grate or a door, to feed it and also to clean it, you see.

Q: It wasn't a very big door, now.

A: No, I wouldn't think it would be a big door, what maybe, eighteen inches by a couple of feet, or something like that, I would guess.

Q: It's two and a half by one and a half feet.

A: Well, that's about what I said.

Q: Yeah, you're right.

A: Uh?

Q: Yeah, that's about right.

A: If that was on a furnace, that's what it was, I would think.

Q: Now, they also found a great big piece of flat metal, iron.

A: Flat.

Q: Flat, long, I'd say about eight or ten inches wide, and maybe six feet long, laying there. It was just a cast sheet of metal, it was fairly thick, where do you think that might have fit?

A: That could be, it could have been like a bed plate.

Q: A what?

A: A bed plate, a plate that went under maybe, on the mills, they might have had a mill, they should have, but on each, you know how the mills is, you got two housings that the shaft sits in.

Q: Yeah.

A: All right, two vertical housings, well those housings usually fit on a bed plate, and that plate send the load to the foundation, and that levels that housing.

Q: Would they have used one of those in a furnace?

A: No, that wouldn't have been in the furnace. That was in the furnace?

Q: It was right there by the furnace.

A: I can't imagine what that was for. And they only had one furnace, huh?

Q: That's all we could see. Now, the river has taken some of it, well the old levee has been torn up a little, they set that levee back, you know.

A: Uh huh.

Q: So the area has been torn up...

A: Oh yeah.

Q: And they put a pipeline through there, too.

A: But I wouldn't think that that plate had anything...you don't know whether they are steel or cast iron?

Q: It's cast iron.

A: It's cast iron.

Q: Yeah.

A: And it's rectangular contour? I mean the thickness, you know what I mean, it's not uh, it's a rectangular.

Q: Yeah.

A: Not square, but rectangular. Yeah, that's...no holes or anything, any holes in it?

Q: No holes in it, Pierre.

A: That's what I would think that might have been, that had

nothing to do with the furnace, but I would think it had something to do with the site.

Q: With the mill?

A: Yeah.

Q: All right, now Pierre, let me ask you this, now.

A: All right.

Q: The problem that we are having with this, is that the old map shows the sugar house being way back in the rear of the property.

A: All right.

Q: But this furnace is right on the river, it isn't anywhere near where the sugar house was.

A: Well...

Q: Now, Jill suspects maybe it had something to do with a sawmill, what do you think about that?

A: That could have been, it could have had to do with the sawmill.

Q: What would they have used that furnace for at a sawmill?

A: A boiler, it's kind of like a boiler furnace.

Q: Does the structure sound more like a boiler furnace to you?

A: It could be. You know what they had, too, the first boilers they made, the first ones they were using were on the order of locomotive type boilers. I've seen those, a locomotive type, you familiar with the steam engine on a train, or a boiler on a train?

Q: I've seen them, but...

A: Well, all right, what you have in that, you've got to visualize a steam train, you know the big boiler of the train, the engine part?

Q: Yeah.

A: Most of that, the steam engine to that, what you looking at is boiler.

Q: Yeah.

A: All right, and what it's got in it, it's got tubes running from one end of that engine to the other almost, you got tubes. But the fire is inside of the tubes. The fire is inside and the water is on the outside of the tubes.

Q: Yeah.

A: When that guy shovelling coal or putting wood in a furnace, and the fire is going through the inside of the tubes and what he's got on the other end, that little stack, well it's flue, I mean you see puffing smoke, well that's supposed to come from the fire, from the coal.

Q: Yeah.

A: And around the tubes is the boiler. And you know that dome on the top of an engine, steam engine, a train, the steam train, they had like a bonnet, it look like a vertical little piece of pipe with a round cover.

Q: Okay.

A: This is where your steam accumulated. And then the engine was right near the wheels, those pistons, you know, that's all the engine part was. But most of a steam train, the point I'm trying to make is it was probably that type, it could be that type of boiler, a setting like that. There was a simpler setting, and I'm sure the early boilers, in fact, a lot of the buildings had boilers in a similar setting. Where you had a boiler on the furnace, was a big fire box and then the fire went through the tubes and then the combustion, the air after combustion, it went out on the other end

vertically, you know, it was a small stack on the end. Now that could have been a boiler setting, like that boiler could have ran anything, it could have ran steam, it could have ran anything. I mean, it could have ran a sawmill as well as a, any power source they needed, they could have had a ferry there where they pulled somebody back and forth or something, it could have been for that.

Q: Yeah. Well, what would that plate have been used for with a boiler?

A: The boiler for it I don't know, I can't imagine where that plate would come in, unless there was an engine. It was part of an engine that was close by.

Q: Maybe a casing for an engine or something?

A: Or something like that, or something to level a engine with.

Q: Okay.

A: Something to level an engine with.

Q: I got you.

A: It sounds like a boiler. Either a boiler or either a furnace, but that's, it sounds like a furnace.

A: Yeah, well a furnace and a boiler you see, the first boilers were, like I said they wasn't big things, what they did if they needed, oh after they got to using a lot of power they put as high as fifteen or twenty of these damn things, you know, one on the side of each other. But somebody had to have steam there for something, it could have been sawmills...

Q: All right, so you think with just one small furnace it wasn't producing a lot of steam and a lot of power because it's such a small amount.

A: Right.

Q: All right, so then if it's a furnace for a boiler, then it's not for a big operation, if you say that the large operations would fit fifteen to twenty of these things...

A: No, or they could have had a water pump even there.

Q: I got you.

A: Now I tell you, there's another point I wanted to make in as far as you noticed why all the mills moved all to the waterways. Did you notice that, they were all over, you could find three or four miles of old foundations away from the water.

Q: Uh huh.

A: But you noticed how in recent times, the more modern they got, the more clustered they got?

Q: Yeah.

A: All right, that was for two reasons. One, they needed water for boilers and they needed condensor water.

Q: Uh huh.

A: Water to run these evaporators. You know the fellow Rillieux, the Black man that made this big contribution, but the engines took water, and when they used steam power you need not only water to create the steam, but they needed the water to condense the steam, and power transmission is very, you take every power plant, even the big ones, and on the tail end there is a condensor, where you turn steam vapors back into water. You follow me?

Q: Yeah.

A: Okay. And they all moved, they had to be close to the water then, they needed an enormous amount of water to run these condensors and to run the boilers then.

Q: For the uh...

A: For the processing of the, at one time, you see, I would think after the, when the steam engine came into use and when they went to this multiple effect evaporation, they had to be near the water. They had to have plenty of water, and these wells would have took a hell of a lot of... now that could have been a boiler and they could have had a pump at the river and they could have pumped water to the factory, you see, too. They could have done that, there could have been a big uh, a water pump there, too.

Q: Uh huh. If they were just pumping water back there, they were using a boiler to power a pump.

A: That's right.

Q: Would they have used that for rice or for sugar, or both?

A: They used it for both, but I would think that would have been to run that mill, and maybe the river moving and flooding and what have you, and the water was in one place and they wanted to put the factory away from that flood prone area, that's how they would do it, mill in Donaldsonville is still like that, most of the mills on the river in St. James, all of those mills....

Q: Yeah.

A: Yeah, they have pumping stations today. They got them at the river.

Q: Uh huh.

A: And they pump the water to the factory.

Q: Uh huh.

A: That sounds like a, they would have had a hell of a lot of water to that factory.

Q: Okay.

A: And there could have been a pump.

Q: All right, that's why there's not a whole lot more there...

A: That's right.

Q: I got you.

A: You see what they did... You couldn't run all that damn steam over there, so what they had, they had a lot of wood there, caused the wood, the coal, whatever they would cook, and they had a boiler and they had a pump, or a steam engine and driving a pump, and they were pumping water, I would think.

Q: Pierre let me ask you about the door again.

A: All right.

Q: Now this is a heavy cast iron door.

A: Uh huh.

Q: It's got like strap flanges and then underneath those flanges connecting with the door are two large hinges, that hang on that thing.

A: All right.

Q: That's the only hinges on it, the only way to connect it, now, would that have been at the top, at the bottom, at the side of the door, how?

A: I would think, what's the biggest dimensions?

Q: Two and a half feet.

A: I would think that was a vertical dimension, and your hinges ought to be perpendicular to that.

Q: Yeah, they are perpendicular to it.

A: Yeah, that's the way it set, it don't open vertically, it opens

horizontally, it's got to swing like a door in your home.

Q: Uh huh.

A: That's what I would think.

Q: Okay. Pierre, this thing is heavy, it's massive, okay.

A: Yeah.

Q: And it's got like a little handle latch down at the bottom, or on the side of it, I guess, now, we are talking to pull it open, okay. It's flat across the bottom and then the top part kind of slopes down.

A: All right.

Q: All right, that's the configuration of it. It's several inches thick, and it's got kind of a flanged lip, a rim around it all the way.

A: Yeah, that's on the inside, that would be the inside of it. Whatever it fit into, huh?

Q: That's the inside of it.

A: Yeah, that was to get some kind of seal.

Q: That's to get the seal on it.

A: Uh huh, and that would be cast iron, I'm sure it's cast iron.

Q: Okay. Pierre, this thing probably was made some time after the Civil War, I would say 1870s, maybe before 1878, something like that. Do you think you all might have made this fellow?

A: I would think that it would have come from say a foundry, yeah. There wasn't that many foundries...

Q: What were the other ones over, was there one in the Donaldsonville area?

A: There was, yeah, there was a foundry there, and there was one around Centerville or somewhere like that. I don't think they were big, you know.

Q: Uh huh.

A: I don't think they were as big...

Q: Are these the kind of things that were massed produced?

A: Yeah.

Q: Is it what you would call a stock item?

A: I would think, because they would repeat, they make so many of these things, in fact, they had some patterns for casting similar to the one you described.

Q: Do you have the molds, the frames for them?

A: Yeah, for the boiler doors?

Q: Yeah.

A: Yeah, there are some in there, I've seen them.

Q: All right, I'm going to get you to try and pull one to match this fellow.

A: I'm gonna look.

Q: And see if you can match it.

A: I'll be watching for it. I'll find the work pattern.

Q: Okay, Pierre, thank you so much my friend, good talking with you.

A: Any time.

Q: All the best to you.

A: Thank you.

Q: All right pardner, bye-bye.

A: Bye-bye.

END OF CONVERSATION

APPENDIX II

The Archives and Manuscript Collection of Louisiana State University contains numerous items pertaining to the life and career of Duncan F. Kenner (1813-1887). Kenner was a prominent Louisiana statesman, planter and lawyer. The holdings at the LSU library include a collection of papers dating from 1838 to 1894. A total of 306 separate items, two manuscript volumes, and one printed volume, are curated at LSU. There are ten items that date from 1838 to 1859, including letters, a copy of a land sale, and mercantile bills and receipts. Thirty-six items dated from 1866 to 1869 include property tax and mercantile receipts, a Constitutional Convention tax receipt, and correspondences pertaining to Kenner's association with his brother-in-law, General Richard Taylor, with whom he leased the New Basin Canal in New Orleans. Between 1870 and 1879, sixty-six items are inventoried, including correspondence with D. D. Withers related to the sale of City of New Orleans bonds, the chartering of Metairie Cemetery and its effect on the value of City of New Orleans stock, various agreements, receipts, property judgments, property mortgages, property sales, claims of title to property, and maps of two of Kenner's New Orleans properties. Fifty-six items date from 1880 to 1886, including items related to the Tehuantepec Inter-Ocean Railroad Company, stock certificates, memorandums, a receipt for purchase of Fashion Plantation, an agreement pertaining to partnership and sale of a machine with L. C.

Rutledge, letters, and a caveat filed with the U. S. Patent Office.

The remainder of the items, eighty-five from 1887-1894 and forty-four with no date, consist of miscellaneous receipts and letters pertaining to the business of Kenner immediately prior to his death; to the later business of his estate; to an inventory of Kenner's property in Ascension Parish; a list of taxable property; and, plantation weekly cash reports from January to May, 1888.

Another set of Duncan Kenner's papers, dated 1864-65, concern his Confederate diplomatic mission; loans to the Confederacy; and, references to him as a planter at Ashland.

Various other references to Duncan Kenner and his activities at Ashland Plantation are included in the Brent (Rosella Kenner) Papers, which contain recollections of Kenner's daughter, and a description of Ashland *prior to, during, and after*, a Federal raid during the Civil War; in the Bringier (Louis A. & family) Papers concerning the transferal of Ashland's ownership from Kenner to Charles Conway, Assistant Commissioner of the Bureau of Freedom in 1865; in Francois Randon's Account Book from 1876 to 1885; in the Fleming Collection, which contains five letters concerning the Confederate Army and Ashland Plantation; and, in the Tureaud (Benjamin) Papers which contain letters discussing plantation labor, orders and shipments, the sugar crop and feed for cattle at Ashland.

The library also contains a collection of William Kenner's papers from 1802 to 1832; plantation diaries, war letters, family correspondence, and other items concerning William Kenner family members from 1844 to 1892 are contained therein.

APPENDIX 3

Key to Field Specimen Proveniences at Vacherie, 16 SJ 40.

FS#	PROVENIENCE	COMMENTS
001	N260-280 E480-500	Surface
002	N280-300 E480-500	Surface
003	N300-320 E480-500	Surface
004	N340-360 E480-500	Surface
008	N460-480 E500-520	Surface
009	N480-500 E500-520	Surface
010	N500-520 E500-520	Surface
011	N520-540 E500-520	Surface
014	E580-600 E500-520	Surface
015	N600-620 E500-520	Surface
016	N620-640 E500-520	Surface
017	N640-660 E500-520	Surface
018	N660-680 E500-520	Surface
019	N680-700 E490-510	Surface
020	N720-740 E480-500	Surface
021	N760-780 E480-500	Surface
022	N780-800 E480-500	Surface
023	N800-820 E480-500	Surface
024	N820-840 E480-500	Surface
025	N840-860 E480-500	Surface

APPENDIX 3. (Continued)

026	N860-880 E480-500	Surface
027	N880-900 E480-500	Surface
028	N900-920 E480-500	Surface
029	N905 E488.5	Feature 108
030	N905 490.5	Feature 108
031	N920-940 E480-500	Surface
032	N940-960 E480-500	Surface
033	N960-980 E480-500	Surface
034	N1000-1020 E480-500	Surface
035	N1040-1060 E480-500	Surface
036	N1140-1160 E520-540	Surface
037	N719 E493	Feature 104
038	N338.5-340 E489.6	Profile 1
039	N621-622.5 E98	Profile 2
040	N621-222.5 E498	Profile 2
041	N899 E494.5	Feature 113

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