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Of Engineers

New Orleans District

ARCHAEOLOGICAL SURVEYS AND EVALUATIONS OF FOUR CONSTRUCTION AREAS IN THE VICINITY OF FORT JACKSON, PLAQUEMINES PARISH, LOUISIANA

Final Report
April 1992

COASTAL ENVIRONMENTS, INC.

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Prepared for

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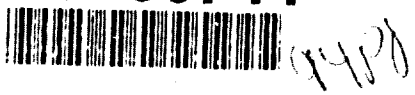

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ABSTRACT

During the period between October 1989 and April 1990, Coastal Environments, Inc. (CEI), conducted archaeological surveys and evaluations within four construction areas near Fort Jackson, Plaquemines Parish, Louisiana. This work was done for the U.S. Army Corps of Engineers, New Orleans District, as a part of the development of the New Orleans to Venice Hurricane Protection Project. The surveys and evaluations were structured according to a research design prepared by CEI under a previous contract with the New Orleans District (Hunter and Reeves 1990).

The archaeological survey of Area B, located east of Fort Jackson, recovered numerous artillery shell fragments related to the Civil War bombardment of Fort Jackson. An evaluation of the site and its artifacts determined that the area had been extensively impacted by previous collecting activities, and the area had little further research potential. Area C, which parallels the southern right-of-way of Louisiana Highway 23 south of Fort Jackson, was also investigated. Reported concentrations of small arms projectiles and artillery round fragments were not verified by the present investigations, and no other potentially significant cultural resources were encountered. The undisturbed portions of Area D, which consist of a narrow corridor between the toe of the existing levee and an exterior drainage ditch, was also surveyed. Three whole artillery rounds and three fragments were found, but they provide little distributional data that could be used to address research questions. The fourth, and last construction area surveyed was Area E, located a short distance upstream from Fort Jackson. Evidence of extensive construction-related impacts was apparent. Intensive bankline and spoil pile inspections did not produce evidence of significant resources, particularly those relating to Fort Bourbon and the site of a Civil War Union encampment. These investigations concluded that no important archaeological sites or features exist in any of these four locales.

DEPARTMENT OF THE ARMY
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REPLY TO
ATTENTION OF:

Planning Division
Environmental Analysis Branch

To The Reader:

This cultural resources effort was designed, funded, and guided by the U.S. Army Corps of Engineers, New Orleans District, as part of our cultural resources management program. The work documented in this report was a cultural resources survey of four construction areas in the vicinity of Fort Jackson, Plaquemines Parish, Louisiana.

We concur with the recommendations contained in this report. Therefore, no further archeological investigation is planned.

Edwin A. Lyon
Authorized Representative
of the Contracting Officer

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

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CHAPTER 1: INTRODUCTION

The United States Government constructed Fort Jackson as a part of the coastal defensive system after the War of 1812. This pentagon-shaped, brick fortification was built on the west bank of the lower river in what is now Plaquemines Parish, Louisiana (Figure 1). The construction of the fort began in 1822, and most of the works were completed by 1842. Throughout the last six decades of the nineteenth century, Fort Jackson with Fort St. Philip—situated across the river on the east bank—guarded the lower river approaches to New Orleans. During the Civil War, both forts underwent artillery bombardment by the Federal Navy in its attempt to capture New Orleans and divide the Confederacy. Fort Jackson is now a National Historic Landmark owned by Plaquemines Parish and operated by the Plaquemines Parish Commission Council.

Recently, the U.S. Army Corps of Engineers scheduled several construction activities in proximity to Fort Jackson as a part of the New Orleans to Venice Hurricane Protection Project. Consequently, Coastal Environments, Inc. (CEI), under contract with the New Orleans District, undertook cultural resources investigations related to five proposed construction areas in the immediate vicinity of Fort Jackson. This work, initiated in 1988, included the archaeological survey of a proposed 261.7-ac borrow pit (Area A in Figure 1) and the preparation of a research design for site survey and site evaluation in four additional construction locales (Areas B, C, D, and E in Figure 1) . This work culminated in a report, which summarized the results of the archaeological survey and presented the research design for the planned investigations (Hunter and Reeves 1990).

The research design employed intensive historical and cartographic investigations to predict the types of cultural resources that could be expected in those locales. Interviews with local collectors were used to supplement the information gained from "more traditional" sources. Additionally, the previous impacts were examined to determine the probability of intact cultural resources being extant in each area. Once the potential resources were delineated, sets of research questions and hypotheses were established to assess the National Register significance of the anticipated cultural deposits. The field methodology for survey and testing was also structured and tailored to the specific physiographic conditions of each locale and the expected resources.

The archaeological surveys and evaluations of the four construction areas were conducted by CEI under the U.S. Army Corps of Engineers' Indefinite Quantities Services Contract No. DACW29-88-D-0122, Delivery Order No. 0006. The fieldwork was initiated in October of 1989; however, inclement weather prevented its completion until April of 1990.

The present report summarizes the results of the archaeological surveys of Areas B, C, D, and E (see Figure 1). Chapter 2 is an overview of the region's natural setting—its geology, geomorphology, flora, fauna, and climate. This is followed in Chapter 3 by a short discourse on the cultural setting: the late prehistoric aboriginal occupations of the region and a historical overview of Euro-American developments in the lower delta. Chapter 4 is a historical summary of military and private developments at Fort Jackson dating from the late eighteenth century. This section of the report also discusses the American military occupation of the lower river defenses at Plaquemines Bend, the War of 1812, the construction of Fort Jackson, and land ownership conflicts between the U.S. Government and private individuals. As a part of this narrative, Chapter 4 also describes the Civil War bombardment of Forts Jackson and St. Philip by a Union naval flotilla under the command of Admiral David G. Farragut and the

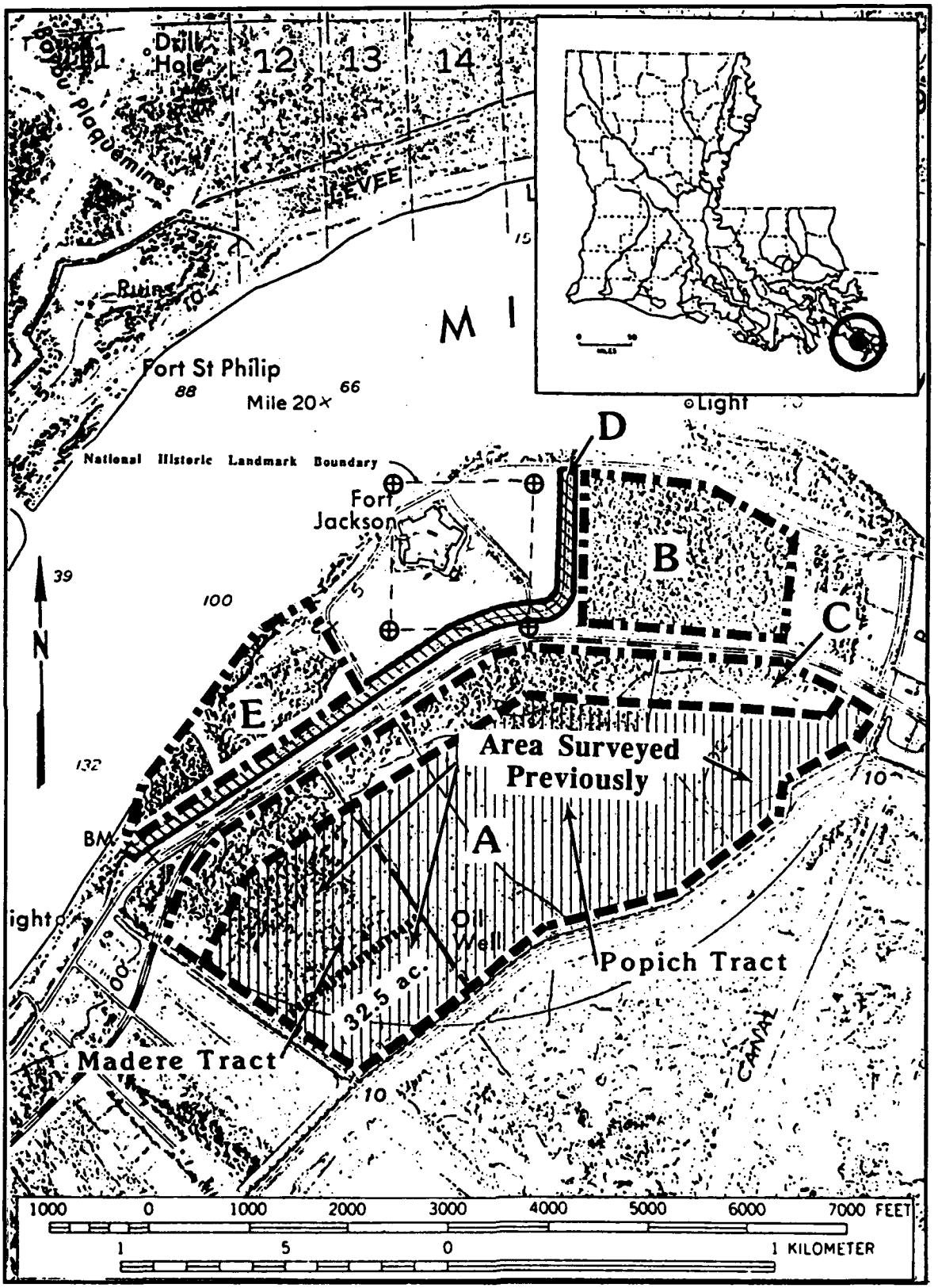

Figure 1. Vicinity map and a portion of the 1971 U.S. Geological Survey "Triumph, LA." Quadrangle, 7.5' series, showing locations of proposed U.S. Army Corps of Engineers projects in the vicinity of Fort Jackson, Plaquemines Parish, Louisiana.

fort's subsequent history. A summary and review of the previous cultural resources investigations undertaken in the project area follows in Chapter 5. Chapter 6 describes the archaeological surveys conducted in each of the four locales. The research potential, the significance of the expected resources, and previous impacts of each area are discussed first. Then the archaeological surveys—methods, results and evaluations, and recommendations—are presented. Chapter 7 summarizes the results of these investigations.

Acknowledgements

The author and CEI would like those individuals who assisted during the current investigations. Foremost is Dr. Edwin A. Lyon of the U.S. Army Corps of Engineers, New Orleans District. Dr. Lyon acted as the Contracting Officer's Representative under this delivery order. His guidance and patience are appreciated.

Secondly, thanks are extended to the staff of the Louisiana Division of Archaeology, especially Mr. Philip Rivet, Ms. Joan Exnicios, and Dr. Kathleen Byrd. As always, they have been invaluable in making available site records and contract reports maintained in that office.

Gratitude is also expressed to CEI's field crews and lab technicians who assisted in the surveys and artifact analyses. These individuals include Ms. Lettie Harkins, Mr. Cary Coxe, Mr. Greg Lambousy, Mr. Joe Stevenson, and Ms. Zolia Osteicoechea.

CHAPTER 2: NATURAL SETTING

Geology and Geomorphology

The present study area is located approximately 86 km (54 mi) southeast of New Orleans on the west bank of the Mississippi River, or about midway between the present communities of Triumph and Boothville. The landforms in the region developed over the past 1,000 years as a part of the Plaquemine-Balize delta complex of the Mississippi River prograding into the Gulf of Mexico. Numerous researchers have studied the geology and geomorphology of this modern delta complex. Among the more significant works are those of Coleman and Gagliano (1964); Fisk (1944, 1947, 1955, 1960, 1961); Frazier (1967, 1974); Gagliano and van Beek (1970, 1976); Humphries and Abbot (1876); Kolb (1962); Kolb and van Lopik (1958, 1966); Morgan (1967, 1977); Russell (1936); Scruton (1960); Thomassy (1860); and Welder (1959).

The lower delta area is made up of a mosaic of distributary passes and subdelta complexes that have developed as the Mississippi River has advanced progressively out onto the continental shelf. Figure 2 is a map depicting the aerial extent of the subdelta complexes and major passes that make up the Plaquemine-Modern delta. David Frazier (1967:307-8) indicates that all of the outgrowth in the lower delta area has taken place within the past 1,000 years. Frank A. Welder (1959) provides an excellent discussion of the processes and forms associated with delta building.

The lower delta region is essentially an environment in which only fine-grained sediments accumulate, detrital particles coarser than fine sand being rare. It is also an area of low relief wetlands. Low alluvial ridges along distributary channels and beach complexes form the only "high ground" available for habitation sites. The "high ground" is rarely more than 1 m above mean sea level, and is periodically subject to inundation during periods of river flooding and storm tides. The area is subjected to moderate-to-low wave energy conditions; lunar tides achieve a maximum of about 40 cm. A high subsidence rate, attributed to delta loading, is an important factor in the consideration of sedimentary processes in the delta.

Three major passes extend into the Gulf, repeatedly branching or bifurcating, giving the delta its characteristic "bird foot" shape. Between the major distributaries is a series of lenticular sedimentary masses. These subdeltas form in shallow bays between or adjacent to major distributaries, and extend themselves seaward through a system of radial, bifurcating channels similar in plan to the veins of a leaf (Russell 1936:153). Subdeltas initially form as a break or crevasse in the major distributary natural levee during flood stage, enlarge as flow increases through successive floods, reach a peak of maximum discharge and deposition, wane, and become inactive. As a result of subsidence, the abandoned subdelta is gradually inundated and reverts into a bay environment, thus completing its life cycle. The mass of sediment resulting from a crevasse is relatively thin, from 3 to 13 m. The active life of historically documented crevasse systems is usually about 100 years. Thus, the subdelta is a scaled-down version of a major delta lobe, both in size and time, and has been used as a model of deltaic processes. In fact, it has become increasingly evident that subdeltas are the building blocks of major delta lobes, and therefore provide a basis for understanding their detailed history, from the standpoints of both natural development and human utilization.

The environmental succession that accompanies the waxing and waning of the subdelta (CEI 1977:1:182) has a significant bearing on human use. As indicated in Figure 3, initial

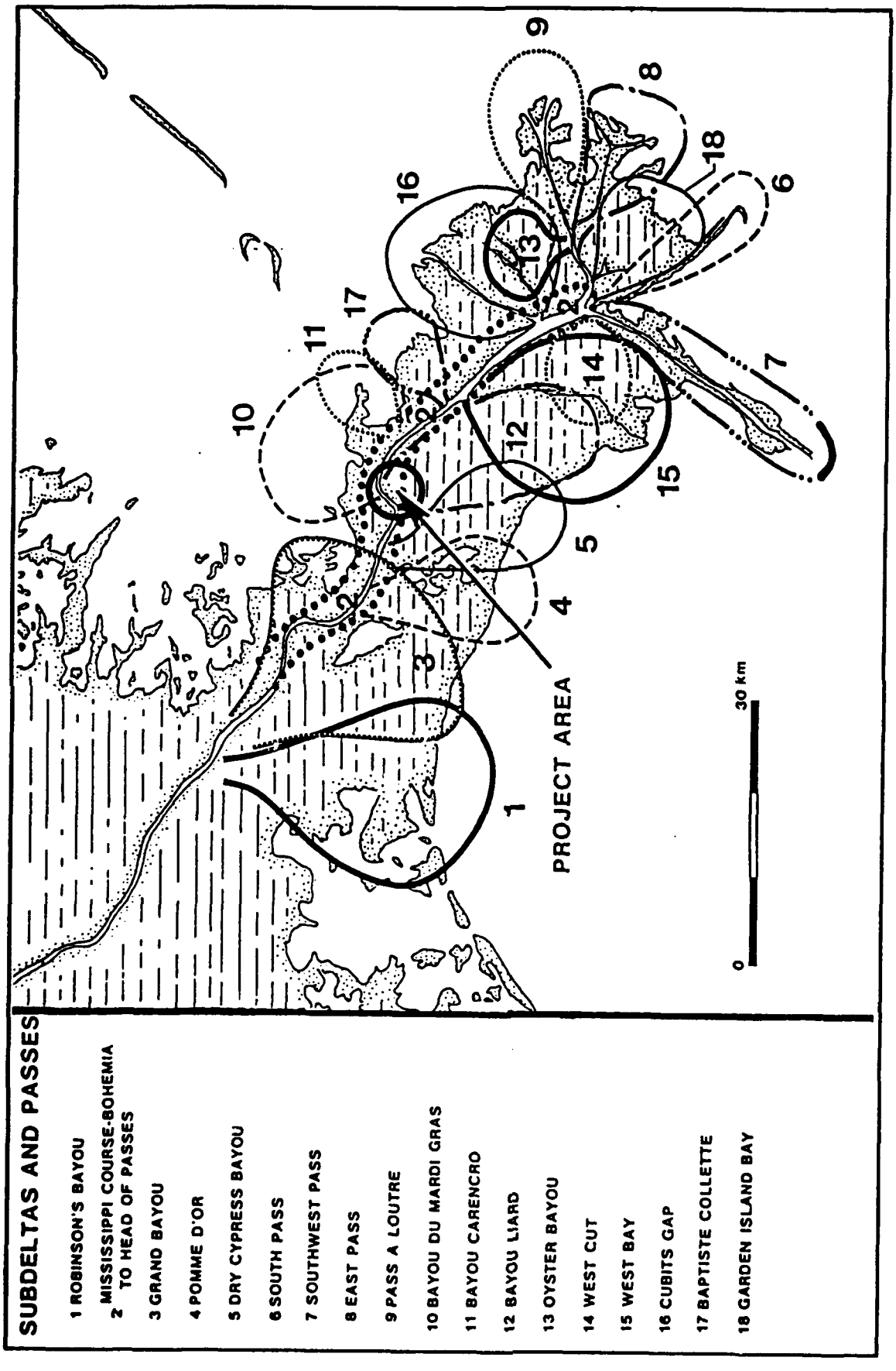

Figure 2. Episodes in the lower Mississippi River delta as represented by the development of subdeltas and passes (after Gagliano and Weinstein 1979; for chronology, see Figure 4).

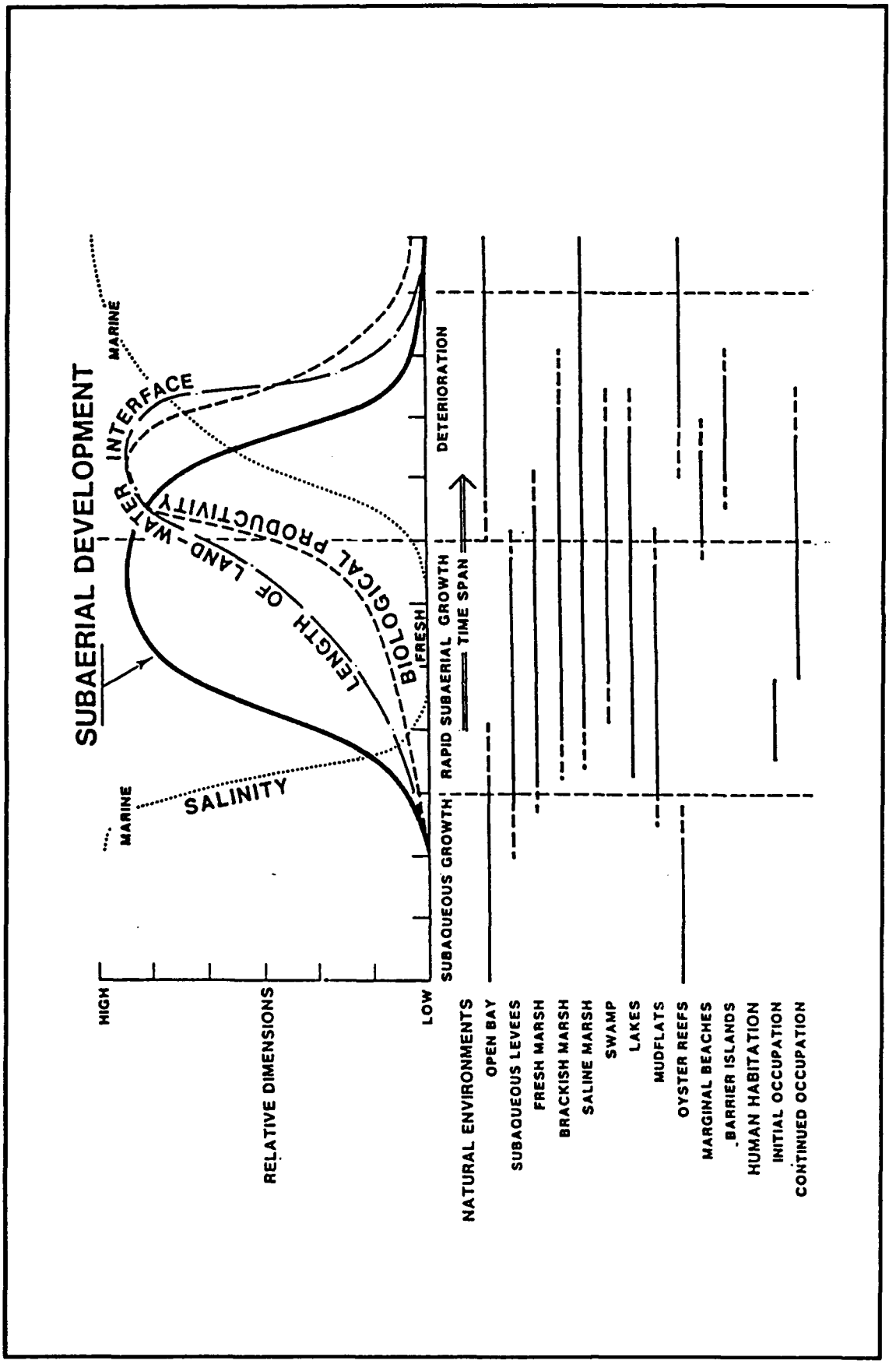

Figure 3. Typical delta and related environmental succession (after Weinstein and Gagliano 1985:124).

human occupation is often associated with the early stages of subaerial development. It should be noted, however, that biological productivity is highest during the early stages of deterioration. It is during these stages that utilization of subdelta lobes by hunting-gathering peoples is usually greatest.

Figure 4 shows the chronology of the various growth episodes of the subdelta complexes and major distributary passes of the lower Mississippi River delta, as shown in Figure 2. The data presented in Figures 2 and 4 are drawn from a number of published sources and tempered by an interpretation of maps, aerial photographs, and archaeological and historical data reviewed during the course of previous studies.

Inspection of Figures 2 and 4 indicates that beginning in late prehistoric times an orderly succession of the development of subdeltas and distributary passes can be traced. The present study area is associated with two of these features, the Bohemia to Head of Passes Mississippi course and the Bayou Liard subdelta. As such, the natural levee features associated with the main channel could conceivably support late prehistoric sites; whereas, the land surfaces formed by the Bayou Liard subdelta are recent formations, perhaps with the initial development commencing as late as the mid-eighteenth century.

Environmental Setting

The study area is characterized by a limited range of environmental types found in the low-relief, predominantly wetland setting of the lower delta landscape. While the range of types is relatively small, the biological productivity is exceptionally high. The lower Mississippi delta area is noted for its abundant fish and wildlife resources; these in turn are dependent to some extent on the prolific growth of vegetation in the delta wetlands. Large areas of brackish-to-saline marsh are found today in the study area. While the list of brackish marsh plants (most commonly cord grass, *Spartina patens*) provides few potential staple food species for humans (Penfound and Hathaway 1938:22), elevated areas within the marsh present an entirely different picture. The vegetation of former beach ridges and natural levees, which now stand as islands in the marsh (or in many cases have completely subsided), includes the following known or potential food resources: Virginia live oak (*Quercus virginiana*), hackberry (*Celtis laevigata*), persimmon (*Diospyros virginiana*), marsh elder (*Iva frutescens*), mulberry (*Morus rubra*), palmetto (*Sabal minor*), elderberry (*Sambucus canadensis*), greenbrier (*Smilax spp.*), wild beans (the root) (*Phaseolus diversifolina*), foxtail millet (*Setaria lutescens*), and wild potato (*Ipomoea pandurata*) (Brown 1936:428-433; Bushnell 1909:8-9; Penfound and Hathaway 1938:23; Swanton 1911:344-345). Except for greenbrier, the root of which is available for use in the spring and summer, and the mulberry, ripe in spring (Byrd 1974:113, 175), most of these ripen in the late summer to early winter (Byrd 1974:174).

In addition to edible types, some other useful plants found in the lower delta include black willow (*Salix nigra*), which can be used for making baskets, traps, and other bentwood applications; bald cypress (*Taxodium distichum*), a soft, decay-resistant wood used for dugout boats, paddles, utensils, and other wood carving; switch cane (*Arundinaria tecta*), used for basketry, mats, arrow shafts, etc.; Yucca (*Yucca spp.*), a source of fibers for cordage; oaks (*Quercus spp.*), a source of hardwood for handles and other durable wood uses; and moss (*Tillandsia usnecides*), a plant of many uses for padding, fibers, etc. During historic times, wax myrtle (*Myrica cerifera*) was used by local inhabitants of the study area to make candle wax (WPA 1941:564-565).

Fish are so abundant in the lower delta that during certain times of the year they literally wash up onto the beaches. For example, during periods of onshore winds during winter

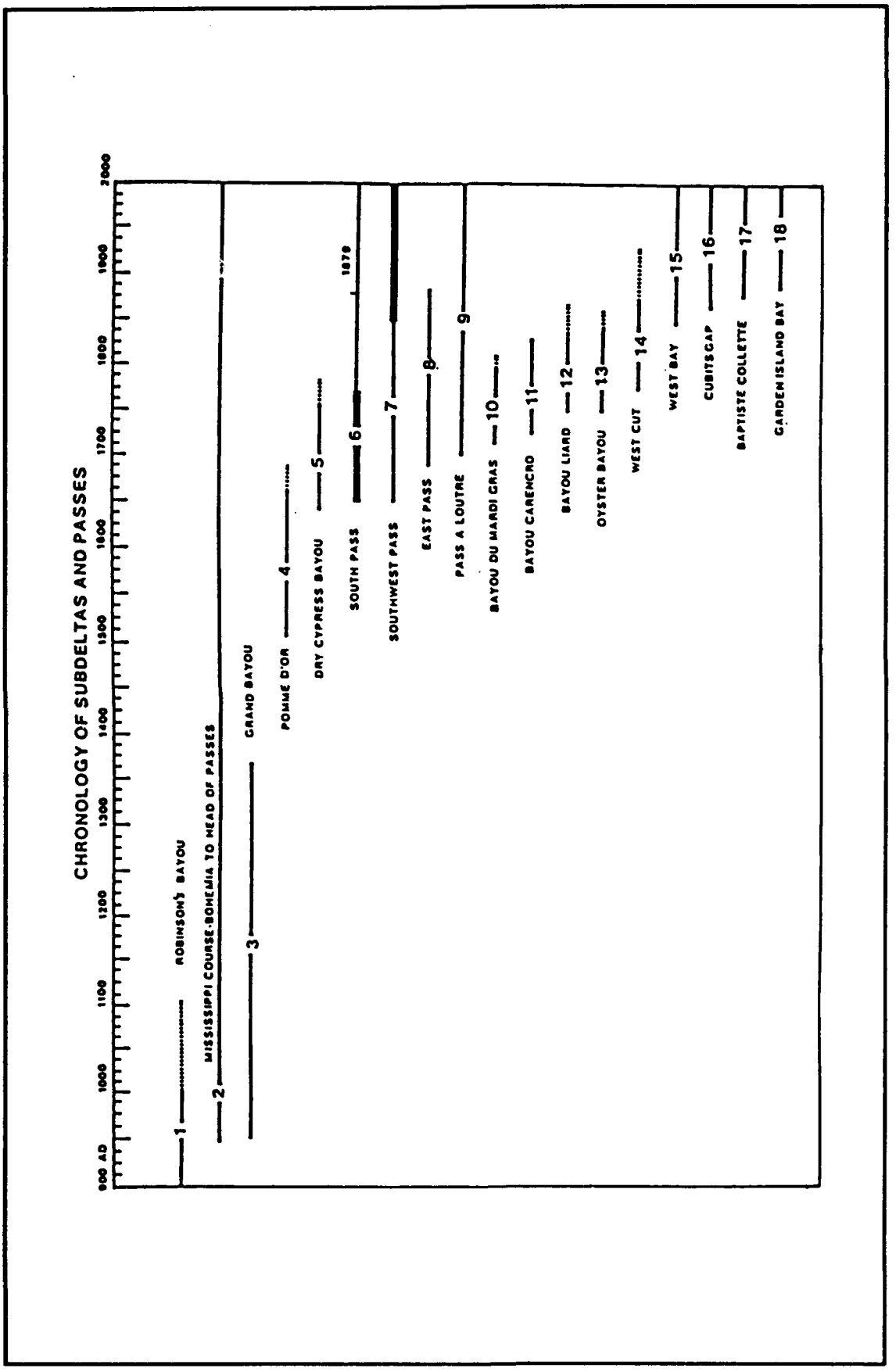

Figure 4. Chronology of development of subdeltas and passes in the lower Mississippi River delta (after Coleman and Gagliano 1964; Morgan 1977).

months in the lower delta, large red snappers (*Lutjanus campechanus*), one of the region's most delectable fish, become entrapped in the surf at the bars at outlets of the major passes and wash up in the surf. They can be readily collected by walking along the beach. Likewise, the shallow interdistributary bays of the lower delta are ideally suited for weirs and traps to harvest the abundant estuarine finfish.

Although it has become popular in recent years for researchers to downplay the importance of shellfish as a food resource because of their relatively low caloric value in comparison to other available foodstuffs (usually less evident in the archaeological record), the importance of shellfish to lower delta people should not be underestimated. First, they were important because they represented a dependable, readily available food supply, available on short notice when other sources may have been in short supply. Second, the shells represented the single best raw material in the wetland area for building up living areas. The old concept of harvesting this resource for the dual purposes of food supply and building material should be resurrected. Use of at least four types of shellfish are documented in the lower delta: oyster (*Crassostrea virginica*), *Rangia* (*Rangia cuneata* and *Rangia flexiosa*), marsh mussel (*Brachidontes spp.*), and fiddler crab (*Decapoda vea*). Freshwater mollusks (*Unio spp.*) have not been found in archaeological context on the Mississippi delta, nor have swimming crustaceans, such as blue crab (*Callinectes spidus*) or shrimp (*Penaeus spp.*), although these species were undoubtedly utilized.

It is interesting to note that oyster fishing was one of the earliest historic activities in the study area, and it remains one of the most important present-day activities. Throughout historic times, the small wooden boats rigged with lug-type sails were one of the most common sights on the lower Mississippi River. The presence of oyster shells in virtually every historic plantation site upstream for 400 km attests to the importance of oystering in the early local commerce of the region.

Probably the single most important element in the prehistoric economy of the lower delta was wildlife. The coastal marsh variety of deer (*Odocoileus virginianus mcilhennyi*) was heavily utilized; however, this was probably overshadowed by the use of abundant small mammals, migratory waterfowl, fish, reptiles, wading birds, shorebirds, and other fauna indigenous to the delta marshes and natural levee ridges.

Climate

Occupants of the study area enjoy a mild, subtropical climate with an average annual temperature of 21.5° C. The moderating effect of the Gulf results in mild winters and a long growing season. The waters of the northern Gulf have an average temperature of 17.7° C in February and 28.8° C in August. The average low temperature in January, the coldest month, is 12.3° C; while in July, the hottest month, the average is 27.7° C. The growing season (number of days between the last freeze in spring and the first freeze in fall) is about 335 days (Kniffen 1968:22). Killing frosts, which are exceedingly rare, seldom occur after January. The area receives high precipitation, averaging 150 cm per year. During the flood period, from December to May, the river water has an average temperature of about 18.3° C. As this is usually colder than the air temperature, thick river fogs usually result, particularly when southerly winds prevail.

There is a pronounced annual cycling related to stage conditions of the river. Long-term records indicate that the river is usually at low stage from late August until about the beginning of December. It rises gradually through the months of December through March, and reaches a peak typically during the latter half of April. Falling stage begins in early May and continues

through mid-August. In the lower delta, under natural conditions, annual flooding usually approaches the crests of the natural levee ridges, and once about every two years the levees are topped.

Probably the most severe environmental constraint is related to severe flooding and high velocity winds associated with the passage of tropical storms or hurricanes. Winds that accompany these storms frequently exceed 160 km per hour in sustained gusts, and are even higher in local tornadoes that spin off from the storm. In addition to these severe effects, hurricanes may also produce torrential rains. The most severe flooding and damage, however, are caused by wind-generated tidal surge. When Hurricane Camille struck the Mississippi delta area in 1969, a tidal surge of approximately 4.5 m was reported in the area, causing heavy property damage and loss of life. Hurricane season lasts from June through November, with most storms occurring during September.

CHAPTER 3: CULTURAL SETTING

Prehistoric Aboriginal Occupations

Numerous archaeological surveys conducted along the lower Mississippi River delta have recorded few prehistoric aboriginal sites. This, as initially noted by Fred B. Kniffen (1936:417), is reflective of the recent geologic age of the region. The aboriginal occupation of the lower delta comes at the end of Louisiana's prehistoric culture sequence (Figure 5) during the Mississippi period (A.D. 1200-A.D. 1700). That was a time during which mound building in the Southeast reached its peak, and maize agriculture probably became a major element in the subsistence base. In Louisiana, two cultural manifestations, Plaquemine culture and Mississippian culture, are recognized. The criteria for distinguishing the two are primarily the occurrence of certain ceramic decorative elements and the presence or absence of shell-tempered pottery at archaeological sites of that period.

Mississippian culture seems to have emerged in the vicinity of St. Louis around A.D. 800 and spread into the Southeast and westward into present-day eastern Oklahoma by A.D. 1200. The Mississippian peoples developed a tightly-structured social system governed by a chiefdom and ruling warrior class. They constructed large ceremonial centers, which frequently featured multiple truncated pyramidal mounds and central plazas. Extensive trade networks were established for the importation of such exotic raw materials as Great Lakes' copper, galena, conch shells, greenstone, sharks' teeth, and a wide variety of cherts and flints. A ceremonial complex, which archaeologists refer to by various names—Southern Cult, Buzzard Cult, Death Cult, or Warrior and Eagle Cult—was maintained by this tightly structured society.

In the Lower Mississippi Valley, Plaquemine culture seems to have developed out of the preceding Coles Creek culture (A.D. 700-A.D. 1200), because Plaquemine ceramics seem to have roots in the earlier period (Neuman 1984). The emergence of Plaquemine culture has been viewed by many archaeologists as resulting from Mississippian influences on resident Coles Creek peoples (Weinstein 1985). Plaquemine culture displays much similarity to Mississippian culture. Both groups practiced mound building and normally constructed truncated pyramidal mounds that frequently supported structures (i.e., temples, charnel houses, residences of high-status individuals, or other civic-ceremonial buildings). Each of the groups were agriculturalists, and both supplemented their diets to varying degrees by hunting, fishing, and gathering. The burial complexes found in Plaquemine and Mississippian sites exhibit a wide variety of mortuary practices, including primary, secondary (disarticulated), and isolated skull burials. Interments were made either in pits intruding into the summits of mounds or in cemeteries.

As noted above, Plaquemine and Mississippian sites are distinguished by their ceramics. The non-shell-tempered Plaquemine pottery of the Lower Mississippi Valley includes such types as Addis Plain, Anna Incised, Coleman Incised, L'Eau Noire Incised, Harrison Bayou Incised, Maddox Engraved, and a distinctive brushed ware suitably known as "Plaquemine Brushed." The Mississippian ceramic complex hosts a number of shell-tempered types. In coastal Louisiana, these types include Leland Incised, Mound Place Incised, Barton Incised, Winterville Incised, and Owens Punctated. Occasionally, sherds from Mississippian sites in Louisiana bear the distinctive design elements related to the Southern Cult.

While Plaquemine sites are common throughout much of Louisiana, Mississippian sites are relatively rare. Most of the latter seem to be confined to the northeastern or southeastern portions of the state (Neuman 1984). However, at some Plaquemine sites, Mississippian

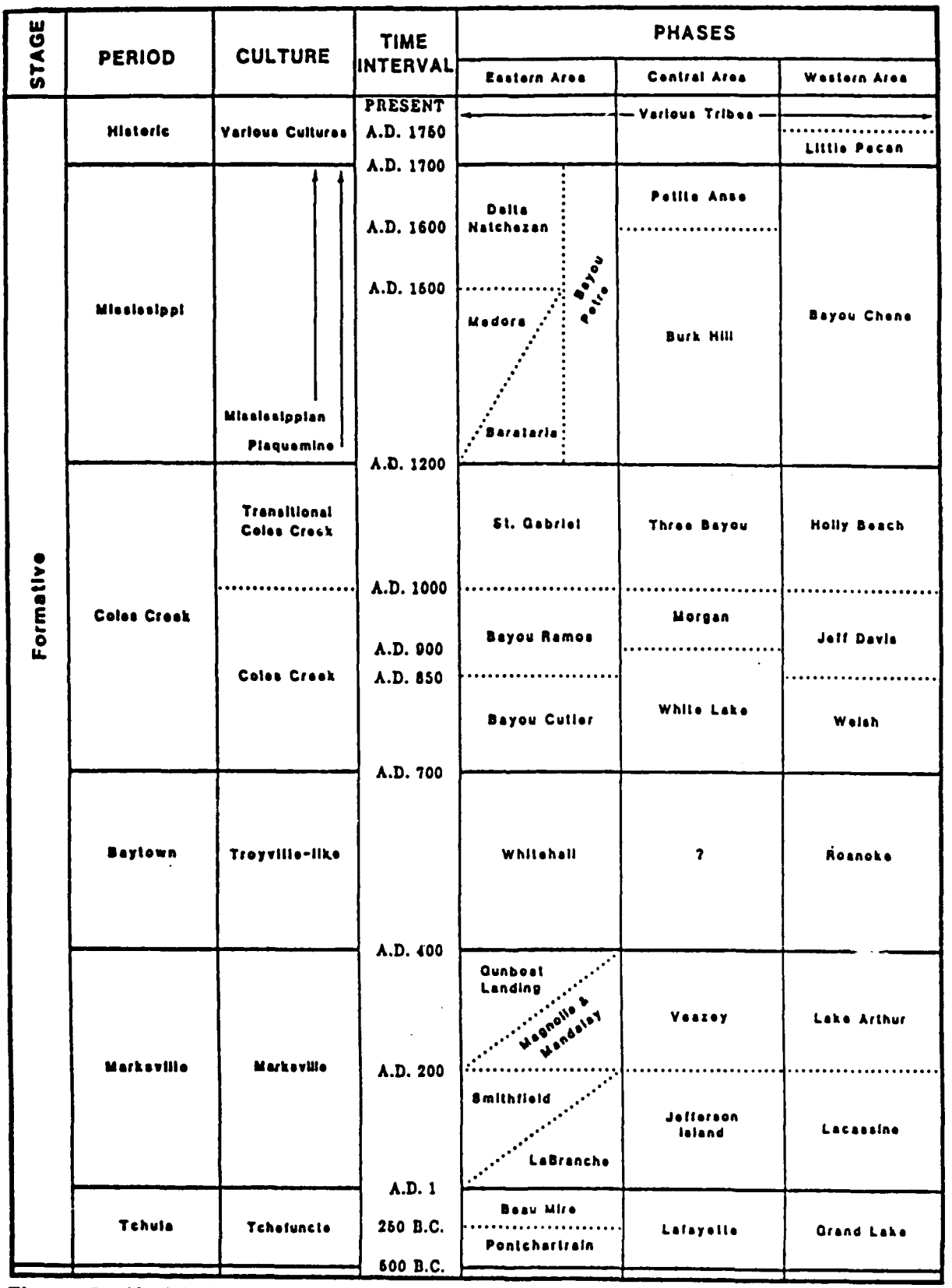

Figure 5. Aboriginal culture sequence of coastal Louisiana from the Tchula period (after Weinstein 1985).

influence is sometimes seen in the occurrence of occasional shell-tempered ceramics, some of which feature Mississippian decorative or Cult design elements. These influences continued during protohistoric times, and it seems that they culminated in the development of of Louisiana's historic Indian cultures.

The Buras Mounds site (16 PL 13), located approximately 8 km west/northwest of Fort Jackson, is the closest known prehistoric site to the present study area. This prehistoric mound group was first identified by Fred B. Kniffen in his 1936 report on the Indian mounds and middens of Plaquemines and St. Bernard Parishes. His map (Kniffen 1936:Figure 36) shows the Buras Mounds as the site situated farthest downstream on the Mississippi Delta. Even today, no other prehistoric site has been reported closer to the mouth of the river.

In the 1950s William G. McIntire visited the Buras Mounds and noted three mounds, one of which was situated on a shell midden base (McIntire 1958:88). He also described an adjoining beach deposit that was probably associated with the mound group. The aboriginal ceramics recovered from both the mound and beach area indicated an initial Plaquemine occupation of the site (McIntire 1958:127).

Some 20 years later, in 1978, the site was more intensively investigated by Sherwood M. Gagliano and Johannes L. van Beek of Coastal Environments, Inc. (Gagliano and Weinstein 1979). A recently-dredged canal cut had exposed previously undiscovered midden in some of the spoil piles. The spoil was sampled, hand-auger borings were made, and a sketch map of the site was drawn.

The site description provided by Gagliano and Weinstein (1979:A-4) reads as follows:

> Only the tops of the mounds stand above the surface of the marsh....The mounds were apparently arranged around a rectangular plaza (about 50 m by 40 m) oriented approximately to the cardinal directions....The mound with the largest aerial extent lies at the northern end of the "plaza," while the lowest mound lies at the southern end. On the east side of the "plaza" is a very steep-sided mound standing 3 m above the marsh surface. Finally, on the west side is a large mound of modest height, approximately 1 m above the marsh.

From reportedly undisturbed spoil piles made by a dragline bucket and from hand-auger borings, a description of the site's stratigraphy was obtained. Collections at the site recovered a quantity of faunal remains that included human (*homo sapiens*); deer (*Odocoileus spp.*); alligator (*Alligator mississippiensis*); various species of finfish; brackish water clam (*Rangia flexuosa* and *Rangia cuneata*); oyster (*Crassostrea virginica*); ribbed mussels (*Modiolus demisus granossimus*); and snail (*Neritina recivata*). Some well preserved floral material was also retrieved from the spoil piles, among which was a concentration of charred corn (*Zea mayes*) cobs.

The collections made by Gagliano and van Beek at the Buras Mounds also included 155 aboriginal sherds. Most of the recovered ceramic types (Addis Plain, *var. unspecified*; Mississippi Plain, *var. unspecified*; and Leland Incised, *var. unspecified*) led the authors to conclude that the major occupation at the site transpired during the middle-to-late Mississippi period (A.D. 1500-A.D 1700). Three sherds, one Avoyelles Punctated, *var. unspecified*, and two of an unspecified variety of Coles Creek Incised, also argued for an initial, smaller, early-to-middle Mississippi period (A.D. 1200-A.D. 1500) component (Gagliano and Weinstein 1979:A-29).

Recent refinements in ceramic typologies and chronologies have somewhat altered the interpretations that may be made from the Buras Mounds' ceramics (Weinstein 1985).

Nevertheless, two distinct ceramic assemblages can be seen. The largest, dominated by unspecified varieties of Addis Plain, along with Leland Incised, possible Hardy variants of Coles Creek Incised, Avoyelles Punctated, and Buras Incised, *var. Buras* (Moundville Incised on an Addis paste), is believed to be associated with an earlier, Plaquemine (Barataria phase) occupation of the site (A.D. 1200-A.D. 1500). It is suggested that the other assemblage, characterized by the Mississippian shell-tempered wares—Mississippi Plain, *var. Pomme d'Or;* Bell Plain, *var. unspecified*; and Barton Incised, *var. unspecified*—relates to a smaller and later Bayou Petre phase component (Weinstein, personal communication 1988).

Historical Overview

The first European intrusion into the lower Mississippi delta region came in 1543 when remnants of Hernando de Soto's entrada descended the Mississippi River in an effort to reach New Spain via the Gulf of Mexico. De Soto died in the province of *Ouachoya* a year before, and Luys de Moscoso de Alvarado was named his successor. In a first attempt to reach Mexico after De Soto's death, the Spaniards undertook a four-month-long overland trek across what is believed to be the presents states of Louisiana, Arkansas, and Texas. The army, however, finding little plunder among the western Indians, returned to the Mississippi. There, in the province of *Aminoya*, the entrada established winter quarters and started constructing five brigantines to use in descending the river to the Gulf of Mexico.

In early July 1543, the boats were completed and the army departed *Aminoya*. Throughout most of its descent, the entrada was harassed by numerous Indian groups residing along the river. When the army neared the mouth of the river, the Spaniards anchored and rested three days. The following extract from the narrative of Garcilaso de la Vega (in Varner and Varner 1962:595) presents the first known description of the coastal Indians then inhabiting the present study region:

> In the afternoon of the third day, they caught sight of seven canoes setting out toward them from some rushes, and in the first of these canoes they beheld an Indian very different in aspect and color from those they had left inland, for he was as large as a Philistine and as black as an Ethiopian. The cause of this exceptional swarthiness in the coastal Indians is the salt water in which they are continually fishing, for the land being sterile, they sustain themselves by this means. Furthermore, the heat of the sun, which is more intense along the coast than inland, contributes toward making them dark.

After a battle with these Indians, during which the Spaniards suffered numerous casualties, the army descended to the mouth of the river and, hugging the coastline, eventually made its way to New Spain. There was no further exploration in the Lower Mississippi Valley over the next 140 years, perhaps because De Soto's expedition found no gold, silver, or other precious metals.

The second recorded European intrusion into the Lower Mississippi Valley came when Rene-Robert Cavelier, Sieur de LaSalle, descended the Mississippi River to its mouth in 1682. Some 19 leagues (approximately 57 mi) above present Head of Passes, or near the present Phoenix community in Plaquemines Parish, LaSalle and his men came upon a destroyed Tangipahoa Indian village. Minet (1987:54), who accompanied LaSalle on both his first and last expeditions, noted in his journal:

> First we noticed something like many people; when we had landed, we saw that the crowds were crows, eagles, and other beasts that seek our carrion. We knew by this that the village had been destroyed. On approaching, we saw only the carcasses of men and women, ruined huts, and others full of dead bodies, a

> coating of blood on the ground, and all their canoes broken and cut up with axes.

Reaching present Head of Passes, the expedition descended the center branch (Main Pass) but returned upstream after finding no place to camp. During the following days, parties led by LaSalle and his captain, Henry de Tonti, descended each of the three passes and eventually reached the Gulf. Although the remnants of De Soto's army had assuredly passed through one of the three major distributary channels of the lower Mississippi delta 140 years earlier, LaSalle's expedition was the first to explore each of the three main passes. Unfortunately, the narratives of LaSalle's trip down the Mississippi River present few descriptions of the lower reaches of the river or its native populations.

After ascending the river back to Canada, LaSalle returned to France to fund a second expedition to the Mississippi River. His plan was to establish a colony and fort near the mouth of the river to prey on Spanish shipping in the Gulf. LaSalle's expedition (actually begun in July of 1684) missed the mouth of the Mississippi. The Frenchmen landed on what is now Matagorda Bay on the south central Texas Gulf Coast where they eventually perished by disease and conflicts with local Indians. LaSalle's second expedition did not enter the lower reaches of the Mississippi; therefore, it did not contribute directly to the early exploration of the river's mouth and lower delta. However, the expedition did draw other explorers, both Spanish and French, into the area in search for LaSalle's lost colony. Among these were that of Henri de Tonti, who served as LaSalle's captain on the first expedition; the 1686 Barroto-Romero expedition dispatched by Spain to locate and destroy LaSalle's colony (McWilliams 1969); and Admiral Don Andres de Pez's 1693 survey of the Northern Gulf Coast (McWilliams 1969). None of these added directly to the subsequent development or colonization of the lower Mississippi delta.

In 1698, Pierre le Moyne d'Iberville proposed to Louis XIV's Minister of Marine, Louis de Pontchartrain, a plan to locate the mouth of the Mississippi from the Gulf, establish a fort and a colony, and thereby reaffirm France's claim to the region (McWilliams 1969:135). Iberville's plan was approved and funded. In February 1699 the expedition entered the Gulf and made landfall at Biloxi Bay. Inland, Iberville encountered Bayougoula and Mugulasha Indians who informed him of a large river to the west. On February 27, 1699, he set out from Ship Island in two Biscayan longboats and two bark canoes to locate the mouth of the river. During a storm on the afternoon of March 2, 1699, the boats were forced near shore where the expedition accidentally found the mouth of what is now known as East Pass, which was obscured by mud lumps that were piled with dead trees (McWilliams 1969:135-138). Iberville's party ascended the river and on the following day celebrated Mass on a small bayou opposite the site of what is now Fort Jackson. That day being Mardi Gras, the Frenchmen named the bayou "Bayou Mardy [*sic*] Gras," a name it retained throughout most of the eighteenth century. Iberville, writing that day, March 3, 1699, noted in his journal:

> Mardy [*sic*] Gras day, wind in the northeast, so that I cannot take soundings to locate the passes of this river; however, I do not believe that there are any more. I went up the river, finding it quite deep at a longboat's length from the bank, 20 feet of water; in the middle, 48 and 50 feet of water. Two leagues and a half above the mouth it forks into three branches: the middle one is as wide as the one through which I entered, being 350 to 400 fathoms wide; the other, which flows along the land to the southwest, does not appear to be so big. All this land is a country of reeds and brambles and very tall grass. Above the forks the river is some 550 fathoms wide, gradually becoming narrower as one goes upstream, until it is no wider than 300 fathoms. The very low land is covered with reeds, clumps of alder within them, short, and as big as the leg and the thigh, and that in certain spots. Six leagues upstream, trees begin to appear,

> especially on the left side going upstream, which are alders as big as a man's body and 30 to 40 feet high. From the forks up to 6 leagues inland, the river is rather straight, running northwest 5° north; then it winds west for 2 leagues and again runs northwest. I came on and spent the night at the bend [Plaquemines Bend] it makes to the west, 12 leagues above the mouth, on a point on the right side of the river, to which we have given the name Mardy [*sic*] Gras. I had two canister shots fired to give notice to the Indians, if there were some in the vicinity. There is no indication that any came. I climbed to the top of a nut tree as big as my body, but saw nothing other than canes and bushes. The land becomes inundated to a depth of 4 feet during high water. I made the decision to go upstream as high as the Bayougoula to see whether I could get news of the Quinpypssa, whom the [LaSalle] narratives mention, locating them 25 leagues from the sea [Iberville 1981:53-54].

Iberville explored up the river for several days and then returned to Biloxi Bay to start construction of Fort Maurepas. Later that year, he went back to France but returned to Fort Maurepas in January 1700. There, he learned that his brother, Jean Baptiste Le Moyne de Bienville, had encountered an English ship in the Mississippi. Bienville had been successful in bluffing the English captain to turn and leave the river without incident. Iberville, determined to prevent any further English intrusion, set on a second expedition to establish a fort 17 or 18 leagues from the sea. The fort was called Fort Mississippi or Fort de la Boulaye. Its location is believed to have been near the present Phoenix community in Plaquemines Parish, possibly near the site of the destroyed Tangipahoa village mentioned in the LaSalle narratives. Construction on the fort began in February of 1700; however, due to periodic overflow and lack of adequate supply, Fort de la Boulaye was abandoned by 1707 (Casey 1983:29). Even though the fort was occupied during this short period, its construction represented the first French settlement on the Lower Mississippi River.

In 1718 the West India Company, attempting to settle and populate Louisiana, sent 800 colonists to settle on the Mississippi. Some were granted concessions upriver among the Natchez, while others were settled at New Orleans. For nearly 16 years the Lower Mississippi remained unprotected by French fortifications. However in 1721, as the fledgling French colony on the Mississippi grew, the Company of the Indies ordered that the capital of Louisiana be moved from Mobile to New Orleans and a fort built near the mouth of the river to protect French establishments on the Mississippi. The site of the fort was at Balize, located on the old Southeast Pass of the river. By June of 1722, a small detachment of soldiers had been stationed there (Casey 1983:7).

The living conditions at Balize were considerably less than ideal, and the fort suffered damage from flooding and hurricanes (Casey 1987:7). A good description of these fortifications and the lower reaches of the Mississippi River was given by the noted eighteenth-century French historian Antoine Simon Le Page du Pratz (1975:155-156):

> There is, moreover, the South-east Pass, where stands Balise, and the South Pass, which projects farther into the sea. Balise is a fort built on an island on sand, secured by a great number of piles bound with good timberwork. There are lodgings in it for the officers and the garrison; and a sufficient number of guns for defending the entrance of the Missisippi [*sic*]. It is there they take the bar-pilot on board, in order to bring the ships into the river. All the passes and entrances of the Missisippi [*sic*] are as frightful to the eye, as the interior part of the colony is delightful to it.
>
> The quagmires continue still for about seven leagues coming up the Missisippi [*sic*] at the entrance of which we meet a bar, three fourths of a league

> broad; which we can not pass without the bar-pilot, who alone is acquainted with the channel.
>
> I again enter the Missisippi [*sic*], and pass with speed over these quagmires, incapable to bear up the traveller, and which only afford a retreat to gnats and moskittos [*sic*], and to some water-fowl, which doubtless, find food to live on, and that in security.
>
> On coming out of these marshes, we find a neck of land on each side of the Missisippi [*sic*]; this indeed is firm land, but lined with marshes, resembling those at the entrance of the river. For the space of three or four leagues, this neck of land is at first bare of trees, but comes after to be covered with them, so as to intercept the winds, which the ships require, in order to go up the river to the capital. This land, though very narrow, is continued, together with the trees it bears, quite to the English Reach, which is defended by two forts; one to the right, the other to the left of the Missisippi.

It is interesting to note that du Pratz mentions the two forts at English Reach (more commonly referred to as English Turn, the bend in the river near present Belle Chase, Louisiana, where Bienville bluffed the English vessel into turning and leaving the river). There is some question about the date at which these defenses were constructed. As early as 1722, instructions had been given by the Company of the Indies for the construction of batteries and a warehouse at English Turn. Casey (1983:202), however, questions whether any sort of defenses were actually constructed in this locale until the late 1740s. If du Pratz's writings relate to the period he was actually in Louisiana (1718-1734), this correlation would indicate that the French had established fortifications at English Turn prior to 1740.

The eighteenth-century history of the Lower Mississippi Delta is primarily related to the development of defenses built to protect New Orleans. The lack of other development in this region during the late 1760s was noted by British Captain Philip Pittman who was conducting a reconnaissance of French fortifications on the Mississippi in 1765:

> From this place [the Balize] nothing is to be seen but low marshes, continually overflowed, till we get within a few leagues of the Detour de L'Anglais [English Turn], where there are some few plantations...[and] two forts...[which] are only enclosures of stockades...on points of land bounded by the river on one side and by swamps on the other [Pittman 1973:8-9].

With the exception of the military installations constructed by the colonial and American governments, it appears that little economic development transpired in what is now Lower Plaquemines Parish during the early nineteenth century. In 1803, Pierre Clement de Laussat, the French colonial prefect and commissioner in New Orleans at the time of the Louisiana Purchase, noted that between Fort Plaquemine (Fort St. Philip) and English Turn there was little else except "a few miserable shacks...and no road other than the paths made by wild animals and hunters" (Laussat 1978:16).

Apparently, during the early nineteenth century, the major economic activities conducted within this area were hunting, fishing, and trapping. Evidently, some shell extraction for the production of lime was another economic enterprise undertaken during the late eighteenth century. This is suggested by the fact that Gilbert Antoine de St. Maxtent, the owner of the property immediately surrounding Fort Bourbon during the 1790s, regularly sold shells, lime, and brick to the Spanish government for repairs and construction at Forts St. Philip and Bourbon (Favrot Papers 1988 II:226). More definite proof of early shell extraction and lime

production comes from Major A. LaCarriere Latour's (1964:190) statement that British forces captured a lime kiln situated just below Fort St. Philip during the naval bombardment of 1815.

It seems that large-scale agriculture was of little importance to the early economy of lower Plaquemines Parish. In 1834, John B. Latrobe, the son of well-known architect Benjamin H. B. Latrobe, noted that the first plantation (Magnolia Plantation belonging to William M. Johnson) above the mouth of the Mississippi River was situated approximately 1 mi below present West Pointe a la Hache (Latrobe 1986:37).

In the mid-nineteenth century, a trickle of Yugoslavians started settling in Plaquemines Parish. Many of these settlers, known locally as Slavonians, had strong seafaring traditions and had initially come to New Orleans as sailors or officers of the Austrian merchant fleet. Most came from the old Dubrovnik Republic or the Bay of Kotor region, an area known as Dalmatia. By 1840, New Orleans had a growing Slavonian population, and many of its members were successful businessmen. Some of the Dalmatians, who had close ties to the seas, moved into lower Plaquemines Parish and lived by fishing oysters or growing vegetables and oranges (Vujnovich 1974:21-24).

Throughout the nineteenth century, the Slavonian population of Plaquemines Parish steadily increased. By 1860, the Dalmatian population of south Louisiana was estimated to have been around 600 (Vujnovich 1974:28). The Federal census of New Orleans lists such names as Bojanovich, Davidovich, Gravolina, Jacovich, Petrovich, and Zorlovich among the Slavonians residing in that city. Their listed occupations were widely varied. Fruit dealers, marketmen, and sailors were among the most frequent occupations noted (Vujnovich 1974:31-32). Conversely, the Slavic population of Plaquemines Parish in 1870 had close ties to the fishing industry. The preponderance of South Slav males listed in the 1870 census of Plaquemines Parish were fishermen (Vujnovich 1974:34-37). Only a handful derived their livelihood from such activities as farming, seafaring, carpentry, and steamboats piloting (Vujnovich 1974:34-37).

As will be discussed in detail in a subsequent chapter, Lower Plaquemines Parish saw military conflict during the early years of the Civil War, when Admiral David G. Farragut's Union Fleet entered the mouth of the Mississippi River in the spring of 1862. Farragut's plan was to ascend the river, capture New Orleans, and then proceed upstream in an attempt to divide the Confederacy. Forts Jackson and St. Philip guarded the lower river between the Gulf and the city. The Northern fleet ran the forts after six days of heavy bombardment. New Orleans fell to Union forces shortly thereafter, and no further military engagements of any consequence were fought along the lower river during the remainder of the war.

Apparently, the economy of the study region did not suffer as much during Reconstruction as did other areas in Louisiana and the South. Fishing, hunting, trapping, oystering, vegetable farming, and orange growing continued to be the main economic activities conducted in Lower Plaquemines Parish (Gagliano et al. 1979:3-7). These did not require the large capitol outlays and extensive labor forces that former slave-based plantation agriculture did. Moreover, New Orleans, situated some 70 mi upstream, provided a nearby market for produce and seafood.

In the 1870s agricultural development extended downriver as far as Forts Jackson and St. Philip, as indicated by Colonel Samuel H. Lockett, Professor of Engineering at Louisiana State Seminary:

> Plaquemines. This parish is but little more than a narrow neck of land following the course of the Mississippi River from the city of New Orleans to the Gulf of Mexico. It lies between the parishes of St. Bernard and Lafourche Interior. The main bodies of its habitable lands are immediately on the banks of

> the Mississippi. These lands begin to diminish gradually in width at the English Turn below New Orleans and finally become a narrow strip not more than 100 or 200 yards in width near Forts Jackson and St. Philip. Most of the firm lands on either bank of the river to the forts are occupied by sugar and rice plantations, vegetable gardens, and orange orchards.
>
> Below the forts a narrow strip of firm land continues on each side of the river, on which numerous herds of cattle graze winter and summer. The west bank contains extensive areas of reeds and cane brakes, and a line of wood for several miles, but the east bank is mostly open and presents the appearance of cultivated grain fields [Lockett 1969:120].

With the increased demand for oysters during the nineteenth century, the local reefs soon became over-fished. However, during the mid-nineteenth century, Luke Jurisich, a Slavonian known as the "Father of the Modern Louisiana Ouster Industry," began cultivating oysters in the Bayou Cook area (Bilich 1931). Through the pioneering efforts of such men as Jurisich, artificial reefs began to thrive in the area, and oystering again became an important economic activity within Lower Plaquemines Parish. By the turn of the twentieth century, virtually all of the naturally suitable oyster bottoms had been leased by private oystermen for the purpose of cultivating marketable oysters from cultch or planted seed (Moore 1898).

The third decade of the twentieth century saw the development of the petroleum industry in south Louisiana, and Plaquemines Parish shared in this economic boom. Commercial fishing and citrus production remained important economic activities in the area, but the petroleum industry became the greatest source of local revenue. Sulphur mining also began in the area during this period, adding to the economic diversity of the region (Gagliano et al. 1979:3-20). These activities remain the leading economic pursuits today, even considering the depression recently seen in the oil industry.

CHAPTER 4: HISTORY OF THE FORT JACKSON AREA

The purpose of this chapter is to summarize the early development and land use of the area surrounding Fort Jackson and to briefly discuss the history of the fort itself. Most of the present narrative has been taken from *A Research Design for Cultural Resources Investigations in the Vicinity of Fort Jackson, Plaquemines Parish, Louisiana* (Hunter and Reeves 1990), which presents a concise history of these topics. For additional information, interested readers may also consider *A Special History Study: The Defense of New Orleans, 1718-1900* (Greene 1982) and *The History of Forts Jackson and St. Philip with Special Emphasis on the Civil War Period* (Landry 1938).

Early Development in the Vicinity of Fort Jackson

Early land use in the vicinity of Fort Jackson follows the general pattern of development in the lower delta region throughout the eighteenth century. Basically, this is related to the construction of fortifications to protect New Orleans from assault from the Gulf via the Mississippi River. Although plans had been devised for defensive fortifications at Plaquemines (French for persimmon) Bend as early as 1747, no such structures seem to have been built there during the French administration of Louisiana. Even though various designs for forts on both sides of the river were made during the first two decades of Spanish rule, actual fortifications were not constructed there until 1793. At that time contracts were awarded by Governor Louis Hector de Carondelet to one Gilbert Antoine de St. Maxent, a merchant-trader and prominent contractor of the colony, for the construction of a prominent brick fort—Fort Plaquemines—on the east side of the river and a smaller redoubt—Fort Bourbon—on the west bank (Coleman 1980:112).

St. Maxent built the forts with the labor of his own slaves. He lost several men in August 1793 when a hurricane hit the construction site, and several laborers drowned (Greene 1982:47). Both Fort Plaquemines—now known as Fort St. Philip—and an early version of Fort Bourbon were completed by the spring of 1794. Again, in August 1795, Plaquemines Bend was ravaged by a hurricane during which Fort Bourbon was destroyed and Fort St. Philip received substantial damages. Fort Bourbon was not reconstructed until repairs could be made on St. Philip. Work repairing the fort was hindered by another Gulf storm which struck the lower delta a year later in August 1796. This prevented construction from beginning on new Fort Bourbon until later that fall (Figure 6).

Until that time only a corporal and four men were stationed at the site of Fort Bourbon, where a small house had temporarily replaced the fort pending its rebuilding. Carondelet specified that a small troop such as this should be kept on the west bank at all times, although the personnel could be relieved every two or three days (Favrot Papers 1988, II:201, 226). The soldiers were needed, because the forts at Plaquemines bend actually functioned as military and political checkpoints for the Spanish, and incoming ships were required to stop there to present their papers or passports, or occasionally to be searched. Although policy dictated that ships had to stop at Plaquemines Bend, no ship was in fact allowed to approach the main fort on the east bank. Carondelet officially noted in August 1796, "Ships must approach the opposite bank, where Fort Bourbon formerly stood" (Favrot Papers 1988 II:218).

In 1795 Gilbert Antoine de St. Maxent [III], the son of the then deceased contractor who had originally constructed the forts, received a grant from Carondelet for the lands surrounding the site of old Fort Bourbon. This grant in effect gave the younger St. Maxent a further interest in an area where he already had an enterprise. Even considering the amount excluded—200

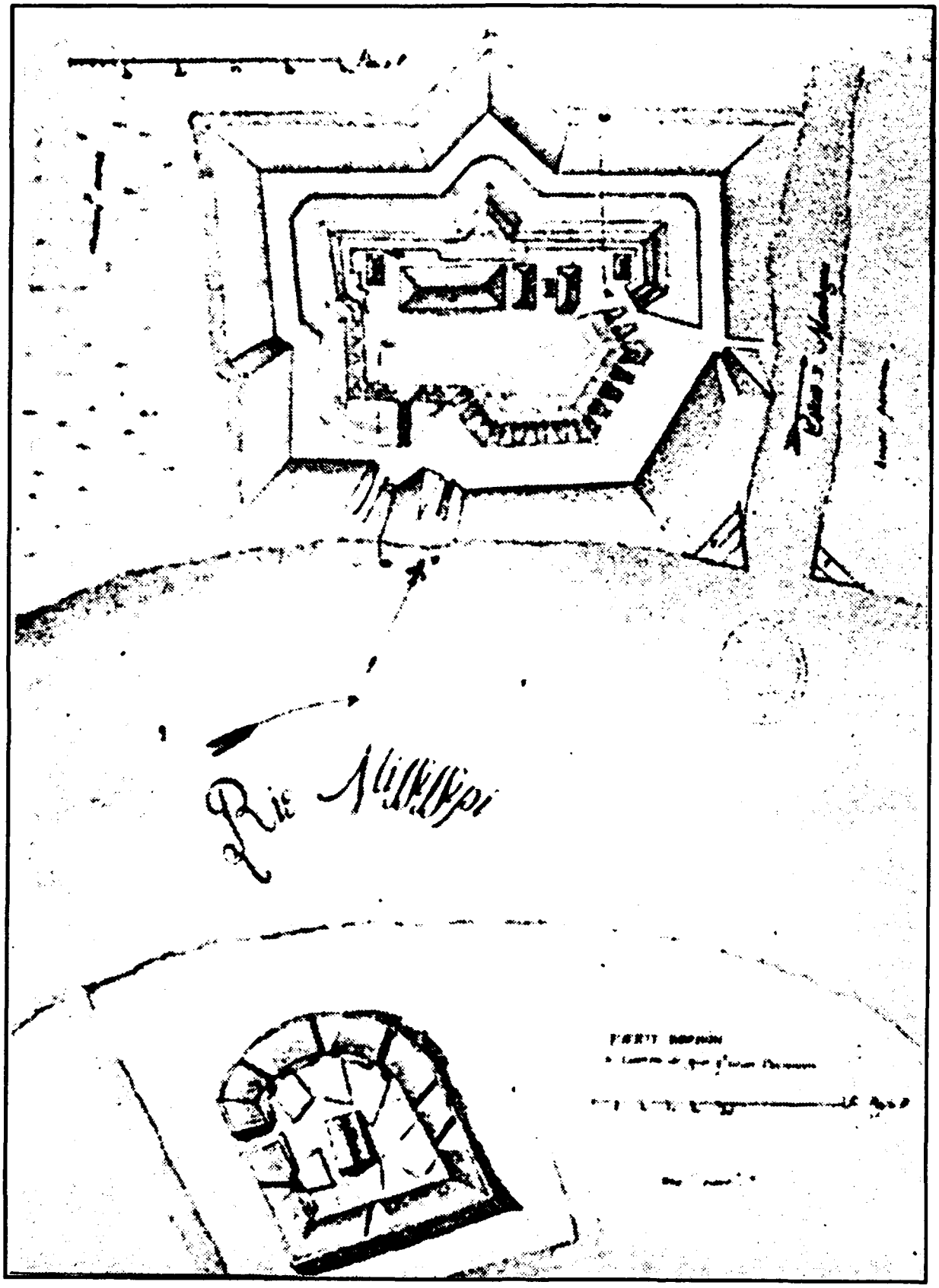

Figure 6. A 1795 Plan by Perchet of Spanish Forts St. Philip and Bourbon (after Casey 1938:Plate 158).

toises from the original fort site—the grant was for 6,624 arpents, 684 toises of land fronting the Mississippi on a prominent bend that was considered the first stable ground above the mouth of the river. Two bayous "that lead to the sea" bordered the land north and south. St. Maxent explained his interest as one of wanting to "employ in the agriculture thirty-five negroes of his own" (U.S. Court of Claims 1865).

The younger St. Maxent followed in his father's footsteps, at least in providing the colony with bricks, shell, and lime. In the meantime, Fort Bourbon was being rebuilt and Fort St. Philip was being repaired. The government needed lime and shells, but St. Maxent held the price high (Favrot Papers 1988, II:226). Work dragged on at Fort Bourbon through 1797. A gap in the historical record occurs after that until 1802, but the redoubt at Fort Bourbon was eventually completed and manned.

During the eighteenth century, most activities at Plaquemines Bend centered around constructing the two forts and those associated with the daily lives of their garrisons. There is some indication that the St. Maxents may have produced lime and bricks locally for the construction of Forts Bourbon and St. Philip, and the historical record clearly indicates that Pierre Joseph Favrot, who assumed command of St. Philip in the summer of 1796, ranged cattle and hogs around both forts. Since colonial times, however, governments have reserved the land surrounding their fortifications for military purposes, both to insulate the works and to provide for the convenience of the military. At Plaquemines Bend during the eighteenth century, the land around the forts was reserved for purposes of ownership and use. No one, for example, could hunt or fish within a radius of one league of the forts, since, as Carondelet wrote in his general instructions of August 1796 "this privilege is reserved exclusively for the garrison and dependencies of the fort" (Favrot Papers 1988 II:222). During the 1790s, however, there was also a "canteen," or enlisted men's tavern, set up just outside Fort Bourbon with the governor's express permission (Favrot Papers 1988 II:269).

Additionally, there were camp followers at Plaquemines—Negro women, for example, who functioned either as servants or as concubines to the men. Regulations restricting their access inside the fort attest to their *de facto* presence. Carondelet's general instructions of 1796 limited Negro women servants in Fort St. Philip to the Commandant's two and to one each for the storekeeper and the surgeon. Except for those servants, the orders read, "all Negro women must live outside the walls" (Favrot Papers 1988 II:269).

As to the land around Fort Bourbon, St. Maxent eventually, at an unknown date, sold his land grant around Fort Bourbon to one John Dennis. Little has been learned about Dennis or his use of the land. At some point before the end of 1806, Dennis sold to Harris Hove (or Hooe) and James S. Smith (U.S. Court of Claims 1865:62).

Considerable research has turned up little about Smith and Hove. It is suspected that they were merchants who bought the land at Plaquemines Bend as a cattle ranch to supply meat to the garrisons at the fort or forts, which at that time had been taken over by the United States after the Louisiana Purchase. Smith's occupation is not clearly documented, and it can only be determined that he was a resident of Natchitoches, Louisiana, in 1809. Hove, on the other hand, described himself in 1809 as a former "contractor's agent" for the U.S. Army (New Orleans Notarial Archives [NONA] 1809a). He was involved in several lawsuits with another "contractor's agent," James Morrison, during the summer of 1809, for a sum Hove claimed was owed him (NONA 1809b).

In June 1809, U.S. Land Commissioners appointed by Congress recommended confirmation of Smith and Hove's claim to the land around Fort Bourbon. The American board's confirmation, while giving Smith and Hove clear title, still carried certain conditions

that reflected those of 1795. It reserved to the United States "the ground within 200 toises of Fort Bourbon," while recognizing the certain terms and conditions specified in St. Maxent's petition to Carondelet (U.S. Court of Claims 1865:70).

That year, Smith resolved a lawsuit with the Federal Government involving the land, thereby clearing the way for him to sell his half-interest in the "tract of land with the cattle thereon and appurtenances" (NONA 1809c). On 9 November 1809, he and Hove sold the tract and cattle to New Orleans merchant Juda Touro, whose heirs maintained the property until 1860.

The Americans and the War of 1812

Shortly after the Americans assumed control of Louisiana, Fort St. Philip was garrisoned by U.S. troops. Throughout the first decade of American control, the fort served primarily to enforce quarantine regulations requiring ships carrying passengers with contagious diseases to dock below the fort. During those early years the slave revolt in Santo Domingo brought about fears that slaves being brought into Louisiana from that Caribbean Island would incite insurrection among blacks in the territory. As a result, Territorial Governor William C.C. Claiborne ordered the garrisons at St. Philip and Balize to turn back any ships carrying slaves from Santo Domingo. Additionally, all armed ships ascending or descending the lower river were generally required to stop at St. Philip for clearance (Greene 1982:66-68).

At the time the American garrisons occupied St. Philip, the fort had deteriorated from neglect and subsidence during the late Spanish period. Claiborne, noting the defensive importance of the fort, requested the Federal Government repair and strengthen the works at Plaquemines Bend. The expansion and renovation of the works at St. Philip began in 1808. Hampered by at least one hurricane and continued complaints of extravagant costs, work dragged on for four years. With the outbreak of war with England in 1812, work on the lower river fortifications hastened. By June 1814, much of the essential work at St. Philip had been completed. Also, plans had been made for constructing a battery on the west bank of the river where Fort Bourbon formerly stood (Greene 1982:68-71).

The completion of most of the new construction at Fort St. Philip came at a critical time during the war when England was increasing her activities in the Gulf. General Andrew Jackson made an inspection tour of the lower river defenses in the early part of December 1814. He instructed that a battery be placed on the west side of the river near old Fort Bourbon. Construction of the west bank battery commenced on December 15; however, when the British surprised and captured the guard at Balize, this work was halted and the guns were taken to Fort St. Philip (Latour 1964:189).

With the British approach, final preparations were being made to repel the enemy. St. Philip's garrison was reinforced by a company of free men of color and another of Seventh Infantry. On December 15, Major W.H. Overton of the Rifle Corps replaced Captain Charles Wollstonecraft as commander of Fort St. Philip. Overton's men worked hastily to strengthen and camouflage the fort's main magazine before the British fleet ascended the river. On January 8, 1815, the day before the British reached St. Philip, the U.S. Gunboat No. 65 arrived at the fort and was anchored in Bayou Plaquemine to provide flanking support (Latour 1964:189).

Around noon, on the ninth, the British vessels, which included the *Harold* Sloop-of-War, a schooner, a gun brig, and two bomb boats, anchored below St. Philip. Shortly thereafter, marines landed on the east bank and captured the abandoned signal station and a lime kiln, both of which were supposed to have been destroyed by the American troops stationed there. At 3:00 P.M. the British vessels advanced within 1.5 mi of the fort. St. Philip's left battery and

water battery opened on the boats, causing them to retreat to a point nearly 4,000 yd below the fort. With the bomb vessels anchored broadside to St. Philip, ahead of the *Harold*, the British commenced the bombardment. Firing one round every two minutes, they continued shelling the remainder of the day and throughout the night (Latour 1964:190-192).

On the first night of the bombardment, several British vessels drew near St. Philip and fired grape and solid shot into the American defenses. As the wind was blowing from downriver, Overton suspected that this advance was a diversion designed to conceal the main fleet attempting to pass the fort. Consequently, the American batteries did not return fire and the British vessels retreated downstream (Latour 1964:192).

The following day, January 10, 1815, the shelling continued, except for one hour at noon and another at sunset. Occasionally during the bombardment, the American guns opened on the enemy vessels, but most of their rounds fell short. The British mortar fire continued at the same rate until the fourteenth. Prior to this, most of their shells sank into the soft ground around St. Philip before exploding and did relatively little damage. At that time the British started timing their fuses so that their bombs would explode in the air over the fort. The Americans in St. Philip hurriedly began throwing up covers in their batteries to protect the gun crews from the rain and falling shell fragments (Latour 1964:193-195).

The morning of the fifteenth saw a break in the weather and the arrival of supplies from New Orleans. Among the ordnance received were badly-needed fuses for St. Philip's 13-in mortar. That evening, American gunners opened this large gun on the British fleet, and during the night a shell from the mortar struck and sank one of the enemy's bomb boats. The American and British artillery exchanged fire until the morning of January 18, 1815. Shortly before dawn that day, the English fleet weighed anchor and retreated downriver. Much of the land within a 0.5-mi radius of the fort had been cut up by the British shelling. Buildings surrounding St. Philip, including the hospital, workshops, and stores, had been completely destroyed. Remarkably, the Americans suffered few casualties, only two men killed and seven wounded (Landry 1938:11-15; Latour 1964:195-197).

The Construction of Fort Jackson

After the war, Congress recognized the need for constructing a substantial, permanent fortification on the west side of the Mississippi, although the guns at Fort St. Philip had successfully stopped the English fleet without the aid of the Bourbon Batteries. As a consequence, several designs for west-bank defenses were made between the end of the War of 1812 and 1817. A final plan prepared by Brigadier General Simon Bernard was eventually accepted, and construction began on Ft. Jackson—named after Major General Andrew Jackson—in 1822 (Greene 1982: 126-127).

During the 21-year period between 1822 and 1843, construction, hampered by extreme weather conditions and occasional Gulf storms, dragged on at the fort. During the early years (1822-1832), numerous buildings, including a bakery, laborer's quarters, a carpenter shop, a blacksmith's shop, overseer's quarters, and a stable, were built on the north side of the fort. Among the more permanent of these buildings were the officers' quarters, a hospital, and an inspector's quarters (Greene 1982:128-129).

The fort itself was a regular pentagon with bastions at each point of the polygon. There were casemates designed for eight guns each on both the upstream and downstream riverfronts. Mounted *en barbette* above each were 17 and 18 guns, respectively; both supported two additional guns to provide flanking fire. The three landfronts were each designed to mount 11 guns *en barbette* and, also, two casemated flanking cannon. Ten mortars

were also planned to be mounted on the ramparts, giving a total of 104 guns planned for the fort (Greene 1982:130).

By 1830 the basic structure of Fort Jackson was substantially complete to allow it to be garrisoned by Company 1 of the Second Artillery. However, the entire fort—as it was originally designed—would not be finished until 1845 (Figure 7), while some additional work, such as the exterior water battery, would not be completed until the early years of the Civil War (Greene 1982:130-134). Writing in 1938, Landry (1938:18-21) described the completed works:

> The fort was a regular star-shaped pentagon, with walls twenty-five feet above the water line of the wet ditch or moat which surrounded it. The walls were made of brick and the gun foundations were of grey and red granite. The two curtains bearing on the river were casemated for eight guns each. Guns could also be mounted on the parapets. In the center of the fort was a defensive barrack of decagonal shape [the citadel]. It was intended as a bombproof building, having a roof of heavy timbers with a covering of earth one-foot thick. The building would accommodate four or five hundred men, and there was still the bombproof shelter of the casemates, where the garrison was well protected from bombardment. A drawbridge which was lifted by huge weights and chains, provided entrance over the moat. Outside of the moat another brick wall was constructed, facing a second ditch. A bridge over the second ditch led southward to a water battery whose guns faced the lower part of the river.

The Military Reservation and Land Conflicts

In 1842, the United States Government claimed a military reservation around the newly-built fort, which included Sections 5, 6, 7, 8, and 9 of Township 20 S., Range 30 E. of the Southeastern District of Louisiana (U.S. Court of Claims 1865). Five years later, Juda Touro, who had purchased the land from Smith and Hove in 1809, applied for a patent to be issued pursuant to the 1809 decision of the Board of Commissioners, from which a patent never had been issued. It then became necessary to determine the nature and extent of any military reservation that would be made part of the patent. To make this determination, the Louisiana Surveyor General referred the matter to U.S. Attorney General Nathan Clifford, who decided that conditions in the original grant were broad enough to entitle the United States to a reservation around Fort Jackson of 1,500 Castilian varas (about 4,125 ft) (U.S. Court of Claims 1865).

Later in 1847, the U.S. General Land Office finally offered Touro a patent in the name of Smith and Hove or their assigns. Touro refused the patent because it reserved "to the United States, as a military reservation, the area within the distance of 1,500 Castilian varas from the most salient parts of the extreme outerworks of Fort Jackson" (1 Court of Claims Reports 199). Touro protested this reservation around Fort Jackson, because the Spanish grant had reserved only 200 toises (1,300 ft), and that around old Fort Bourbon, not Fort Jackson.

The matter was still in dispute when Judah Touro died in 1854. The Plaquemines Bend property went into his estate, and according to his will, passed to Touro's lifelong friend and universal residuary heir, Rezin D. Shepherd (NONA 1854). Shepherd, along with Aaron K. Josephs, Gershom Kursheedt, and Pierre A. Cazenave of New Orleans, was Touro's testamentary executor (NONA 1854). The executors appealed to Congress that the reservation of 1,500 Castilian varas was excessive, and subject to compensation for the use of more than 200 toises of land. They asked that the Federal Government compensate the estate for "the

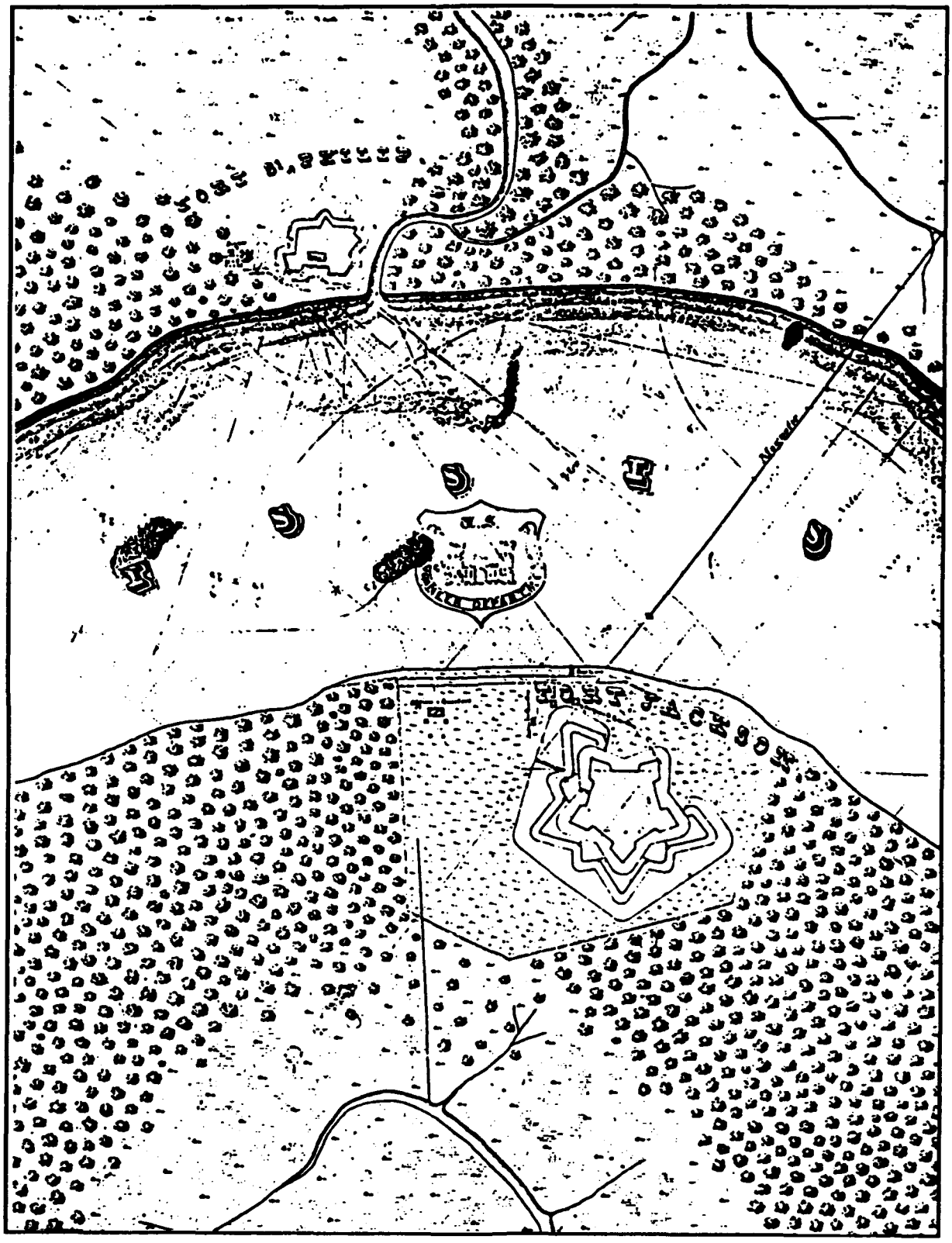

Figure 7. A portion of an 1841 map entitled "Map of the Vicinity of Fort Jackson and St. Philip surveyed under the direction of Capt. J.G. Barnard, Corps of Engineers, by Charles Fiesca" (after National Archives, Record Group 77, Drawer 88, Sheet 15).

value of the land so used" (the Fort Jackson Military Reservation) and for damages or injury to the residue of the tract, as shown by their evidence (U.S. Court of Claims 1865).

This claim went to Congress in February 1855, whereupon the judiciary Committee of the House of Representatives reported favorably on the Touro Estate's claim (House of Representatives, 33rd Congress, 2nd Session, Report No. 86, cited in U.S. Court of Claims 1865). Congress, however, did not act on the claim and referred the matter to the Washington-based U.S. Court of Claims in 1855.

The Fort Jackson Reserve remained in dispute through the Civil War, as the Court of Claims did not issue a decision in the case until 11 December 1865. At that time, the court flatly refused the executor's claim for compensation, while not denying that the presence of the fort had severely impacted the value of the land around it. As several witnesses for the Touro claim had testified in depositions, having a fort built on one's land not only used up the best part of the land, but made it impossible to manage slave labor so close to a garrison of soldiers.

Thomas G. Mackey, a rice planter of Plaquemines Parish, was the first to testify on behalf of the claimants. He considered the Touro tract "well adapted to the culture of rice" and worth $500 per acre if sold together with the lower rear lands. If sold separately, Mackey noted, the high land on the river bank would probably bring a much higher price. Mackey had recently purchased a tract adjoining the upper line of the Touro tract for $500 per front acre, which he considered "very cheap." He believed, however, that:

> the existence of a military post in a similar position to that occupied by Fort Jackson upon the Touro tract would, in my opinion, greatly impair, if not destroy, the utility and value of the surrounding land for a plantation The vicinity of a garrison of soldiers could not fail to interrupt the labor and discipline of the negroes [U.S. Court of Claims 1865:26-27].

Nathanial Cathcart, the following witness, was Assessor of Plaquemines Parish and a planter of orange trees. He testified that he knew the Touro tract well, and had recently reduced its assessed value from $100,000 to $20,000, in light of the occupation by the United States. Cathcart believed that high lands on the riverfront in Plaquemines were worth $2,000 per acre for the cultivation of oranges, while rear lands were "well suited to the cultivation of rice." He also believed that the land occupied by the military was the highest and best part of the Touro tract and worth from $15,000 to $20,000 for orange cultivation.

Cathcart and a later witness gave first-person testimony that even then no remains of Fort Bourbon were visible. Shown a State Land Office plan of the Fort Jackson area, Cathcart remarked, "I have seen no vestige of the same, nor are there any existing on the said tract, to my knowledge" (U.S. Court of Claims 1865:33). Charles F. Berens, a land surveyor residing in Plaquemines Parish, agreed:

> I have been upon the said Touro tract and am well acquainted with its general outlines...The annexed plat corresponds with my recollections of the same. There are no vestiges of Fort Bourbon or any military works at the point which indicates its site...I have a knowledge of the general effect of the current of the Mississippi in the vicinity of said Fort Jackson. The tendency on that side is to wash away, on account of the strength of the current and the peculiar formation of the point marked as Fort Bourbon; having the force of the current at the end of a long reach, it is particularly exposed to be washed away with great rapidity, and the accretion of batture on the opposite side of the river is correspondingly great.

Berens added that he had recently done some surveying on the opposite side of the river at the upper line of Fort St. Philip. He had surveyed it in 1842, and had seen it again in 1855. He found that in that time, the land had extended about 2 ac into the river. "From my knowledge of the course of the river about there, I should add that there must have been a corresponding loss of land on the opposite side of the river, the width of the river always remaining the same" (U.S. Court of Claims 1865:36-41).

Oscar Arroyo, a Plaquemines Parish notary public and Parish Treasurer, agreed that the front part of the Touro tract was very high and well adapted for oranges. He noted that the rear was suited both for rice cultivation and for cattle pasturage. He believed that the land "upon which the Fort and buildings [were] situated [was] the highest and best part of the tract." It could reap about $400 to $700 annually per acre in profits from orange cultivation and, in good years, $900 to $1,000. "The labor necessary for the cultivation of this fruit is very trifling," he said, "and the growth is more rapid than in other parts of the parish, owing to the proximity to the ocean."

Arroyo had lived to see the river bank near the site of Fort Bourbon wash away. "Within my recollection the waste has been very great," he testified. "During the last 16 years, at least twenty acres have been washed away from the front of the same. The bank immediately opposite has increased by formation of alluvion or batture to a very considerable extent."

Arroyo had been Parish Recorder from 1846 to 1854 and had charge of the parish assessment rolls during that time. He knew that Touro had paid his taxes on the land, but he believed that the "existence of a military fort must prove injurious to a plantation." "It is to my knowledge," he added, "that a quantity of cattle which were at pasturage in said tract during the Mexican War were destroyed and killed by some of the soldiers then in garrison there" (U.S. Court of Claims 1865:48-49).

Robert Johnson, the final witness, was sixty-four years old and had been Sheriff of Plaquemines Parish for the preceding eight years. He testified that he had known the Touro tract since 1829 as the property of Judah Touro, with whom he was personally acquainted and who had paid the taxes to him as sheriff. He had "worked as a stone cutter under Major [Richard] Delafield while the fort was being built," which, he believed, was about 1830.

Johnson's testimony provides early primary evidence of the disappearance of Fort Bourbon:

> There were no signs at that time of any old fort or building on the spot marked as Fort Bourbon—it was clean river bank. The effect of the current at that point, is to wash away the ground very rapidly. I have visited it from time to time since I worked there, and from two to three acres in depth have caved in, within my recollection.—I placed a sun dial near said point when I worked there, which I have twice been compelled to move farther back, on account of the ground falling in [U.S. Court of Claims 1865:51-53].

Although the case dragged on until 1865, Rezin D. Shepherd, as universal heir and legatee of Touro after all bequests were fulfilled, took possession of the land, minus the government tract, before the Civil War. He sold this land in 1860 to Dr. William Booth, for whom Boothville, Plaquemines Parish, was later named (NONA 1860). The sale to Booth included 5,575 ac and cost $3,000. It was bounded on the upriver side by land of Richard S. Booth and on the downriver side by the Government Reservation.

The Civil War Siege of Forts Jackson and St. Philip

Forts Jackson and St. Philip maintained relatively small garrisons until the Mexican War, during which time both served as training stations and points of debarkation. Following the war with Mexico, relatively few troops were stationed at these two lower river defenses.

At the outbreak of the Civil War, New Orleans, situated near the mouth of the Mississippi River, was the South's largest city, the seat of commerce for the western states, and the Confederacy's leading industrial center. Therefore, the defense of the city was necessary for the survival of the rebellion. Military strategists on both sides realized that the capture of New Orleans would be required to gain control of the Mississippi and, subsequently, divide the Confederacy.

Forts Jackson and St. Philip were regarded as the primary defensive fortifications guarding New Orleans. The other water approaches to the city, protected by Forts Pike, Livingston, and Macomb, were generally too shallow for large naval craft. If the Union Navy was to launch an assault against New Orleans from the Gulf of Mexico, it would first have to pass Forts Jackson and St. Philip.

Under the direction of Louisiana Governor Thomas O. Moore, both Forts Jackson and St. Philip were seized by state troops on January 10, 1861, some 16 days prior to Louisiana's secession from the Union. Forces under the command of Major Paul E. Theard met no resistance at Fort Jackson where Ordnance Sergeant H. Smith surrendered to Theard's superior forces. St. Philip, at that time, was not garrisoned. Within five days, a small detachment of Louisiana militia relieved Theard's troops and occupied both forts. Brigadier General J.K. Duncan, a West Point graduate, subsequently assumed command of Forts Jackson and St. Philip and immediately began initiating repairs and training the garrisons (Greene 1982:135; Landry 1938:24-25).

By December, the artillery at Fort Jackson had been slightly strengthened by Duncan's efforts to include sixty-nine pieces of ordnance: ten 24-pounder howitzers, two 48-pounders, two 9-in mortars, one 10-in mortar, one 10-in columbiad, three 8-in columbiads, twenty-six 24-pounders, and six 42-pounders. St. Philip had forty-five pieces consisting of three field pieces, one 10-in mortar, one 8-in mortar, four 8-in columbiads, twenty-two 24-pounders, nine 32-pounders, and six 42-pounders (Landry 1938:26-27). Despite the armament maintained at the forts, both Duncan and Brigadier General Mansfield Lovell, who had been assigned the task of the defense of New Orleans and the lower coast, agreed that the addition of heavy guns and an obstruction in the river would be required to stop the passage of a steam-powered fleet. Under the direction of Confederate General P.T. Beauregard, Lovell constructed a raft barrier in the river between the two forts. By February, a large amount of drift had accumulated along the obstruction, and the strong current of the Mississippi caused the barrier to break. The chain was repaired but broke again during a severe storm. Repairs were made a second time using hulks of old ships anchored in the river and connected together with large cables. Attempts by Lovell to obtain huge chains to strengthen the barrier were unsuccessful (Greene 1982:147-148; Landry 1938:28-30).

Lovell tried desperately to obtain heavy guns from Richmond and Pensacola. However, most of the Confederate military strategists believed an attack on New Orleans would come from upriver and that heavy guns should be placed there, not on the lower river. Three 10-in columbiads and five mortars were finally sent to Forts Jackson and St. Philip, as well as twelve 24-pounders (Stewart 1904:253-254). Early in 1862, Duncan completed the exterior water battery immediately below Fort Jackson, which mounted one 10-in seacoast mortar, two 32-pounder rifled guns, one 10-in columbiad, and two 8-in columbiads. The total armament of Fort Jackson included seventy-four pieces: fourteen 24-pounder smoothbores mounted in the

casemates; ten 24-pounder flanking howitzers; one 6-pounder fieldpiece; one 12-pounder in the parade; one 8-in howitzer; one 7 3/8-in howitzer; eleven 24-pounders; fifteen 32-pounders; six 42-pounders; two 10-in columbiads; three 8-in columbiads; two 8-in mortars; and one 7-in rifled gun mounted *en barbette* on the ramparts, in addition to the guns in the exterior water battery (Greene 1982:143). On the east bank of the river, St. Philip mounted fifty-two artillery pieces of types similar to those found in Fort Jackson, with the notable exception of one 13-in seacoast mortar (Greene 1982:143-144).

As early as the fall of 1861, Union military leaders were developing a plan to capture New Orleans by an assault launched from the Gulf of Mexico. The plan, developed by Commander David D. Porter of the mortar flotilla of the West Gulf Blockading Squadron, called for the reduction of Forts Jackson and St. Philip by bombardment, the passage of the forts, and the subsequent capture of New Orleans. Porter's plan was approved by President Lincoln and Union military leaders on November 15, 1861, and on January 9, 1862, Commander David G. Farragut was commissioned as flag officer.

Farragut received his orders on January 20, 1862, prior to departing to the Gulf to assume his command:

> When these formidable mortars arrive and you are completely ready, you will collect such vessels as can be spared from the blockade and proceed up the Mississippi River and reduce the defenses which guard the approaches to New Orleans, and when you will appear off that city and take possession of it under the guns of your squadron, and hoist the American flag thereon, keeping possession until troops can be sent to you. If the Mississippi expedition from Cairo shall not have descended the river, you will take advantage of the panic to push a strong force up the river to take all their defenses in the rear. You will also reduce the fortifications which defend Mobile Bay and turn them over to the army to hold, as you have expressed yourself satisfied with the force given to you, and as many more powerful vessels will be added before you can commence operations, the Department and the country will require your success [Official Records of the Union and Confederate Navies, I:XVIII:8 quoted in Landry 1938:42].

That February, forces under the command of General Benjamin P. Butler occupied Ship Island, located in the Gulf south of Biloxi. At headquarters established there, Farragut's fleet assembled and formulated the final invasion plans. Instrumental in the development of this offensive strategy was a report to the Union Secretary of the Navy, Gideon Wells, from Brigadier General J.G. Barnard, who had been one of the builders of Fort Jackson. Barnard's report included sketches of Fort Jackson and its environs. It suggested that a mortar fleet of 20 boats and a naval contingent of 300 guns could successfully reduce the forts by bombardment and run the forts under heavy shelling during the night. Barnard reasoned that troops landed above and to the rear of Fort Jackson and Fort St. Philip could lay siege to both and force their surrender. Once the forts fell, New Orleans would immediately surrender, Louisiana would fall, and the Union would have complete control of the Mississippi River (Landry 1938:43).

Butler's occupation of Ship Island in February made it evident to the Southern commanders that any attack on New Orleans would come from the mouth of the Mississippi. Consequently, immediate measures were undertaken to strengthen the downriver defenses. At Quarantine Station, located a short distance above the forts, 500 militiamen of the Chalmette Regiment were stationed to repulse any attack on Fort Jackson or Fort St. Philip by infantry or marines. Below the forts, in the woods on each side of the river, nearly 250 sharpshooters of Captain W.G. Mullen's company were positioned to harass the enemy's advance. The garrison of the forts and the other land-based forces included Company 1, Louisiana Volunteers; the Twenty-

second Regiment, Louisiana Volunteers; St. Mary's Cannoneers; Company C, Confederate Recruits; Company B, Twenty-fourth Regiment, Louisiana Volunteers; and Massicot's Company of the Chalmette Regiment (Landry 1938:27).

Above the forts, a Confederate flotilla of 22 vessels under the command of Captain J.K. Mitchell was assembled. Most of the boats, such as the *Jackson*, the *Governor Moore*, and the *General Quitman*, were converted steamers that mounted one or two 32-pounder smoothbore guns and had cotton and pine bulkheads. Others, such as the *Defiance*, the *Resolute*, and the *Warrior*, were additionally outfitted with iron prows designed for ramming enemy vessels. There was also the *McRae*,a steam-powered gunboat which mounted eight guns: six, light, 32-pounder broadside guns; one 9-in pivot gun mounted amidship; and one 12-pounder howitzer mounted on the poop. Among the more formidable Confederate vessels was the iron-plated ram *Manassas* and the yet uncompleted ironclad battery *Louisiana*.

On March 13, 1862, Porter's mortar flotilla arrived at Ship Island. By this time the vanguard of Farragut's fleet had entered Southwest Pass. It took nearly three weeks to tow the Union fleet across the bar at the mouth of the river. Many of the larger vessels had to be stripped of guns and armament to lighten them until they reached the deeper channel of the river (Landry 1938:44). On April 9, 1862, a Confederate reconnaissance boat on the lower river was chased by Union gunboats to a point just below the forts. The batteries of Jackson and St. Philip opened fire, and the Federal gunboats withdrew unharmed. Four days later, on April 13, several of Farragut's gunboats ascended the river and briefly engaged the Southern batteries. Confederate sharpshooters below Fort Jackson, many of whom were wading waist deep in the cypress trees along the river, opened fire on the boats and were dispersed by a return of grape and canister from the Union gunboats (Stewart 1904:264). These gunboats had been dispatched to escort a Coast Survey party under Ferdinand H. Gerdes who had been sent by Farragut to make an accurate map of the river below the forts and ascertain the range of the Confederate batteries (Navy Department 1971:II:42, 50).

By April 16, 1862, Farragut had towed all of his fleet across the bar at the mouth of the river and had moved upstream to a point just below the forts. The Federal fleet contained 21 armed vessels in addition to an equal number of mortar schooners commanded by Captain David D. Porter. The guns in the Federal fleet greatly outnumbered those in the Confederate flotilla. Most of the Northern ships mounted two heavy rifled guns in addition to numerous broadside cannon of various sizes. Porter's mortar schooners each carried one 13-in seacoast mortar, capable of delivering a 200-lb projectile a distance of 4,300 yd, as well as two 12-pounder howitzers.

By April 18, Farragut had positioned Porter's mortar flotilla behind a line of woods some 3,000 yd below Fort Jackson. At. 9:00 A.M., the Federal fleet opened with the mortars and rifled guns, concentrating most of their fire on Fort Jackson (Figure 8). Most of the Confederate return fire fell short because of a lack of elevation and the inferiority of the powder. Even the Southerners' closest gun, a 10-in seacoast mortar in the water battery below Fort Jackson, could not reach the Federal fleet (Stewart 1904:266). The bombardment continued throughout the day, only to cease at 7:00 P.M. after delivering 1,997 mortar shells. Although the Union gunners could not see their target, their shells fell with amazing accuracy. Their bombs cut the levees surrounding Jackson, allowing the high water of the river to flood the fort to a depth of 18 in. Most of the buildings outside the fort were destroyed, the citadel was fired, and the magazines threatened (Stewart 1904:264).

At six o'clock on the morning of the nineteenth, the mortar fire resumed. The Confederates responded with heavy shelling from St. Philip and the water battery of Fort Jackson. One of the mortar schooners, the *Maria J. Carrolton*, was hit by a solid shot and sunk. Farragut dispatched three gunboats, the *Oneida*, the *Sciota*, and the *Pinola*, to draw fire off the mortar flotilla. The *Oneida* was hit three times by 10-in solid shot fired from a columbiad at the fort.

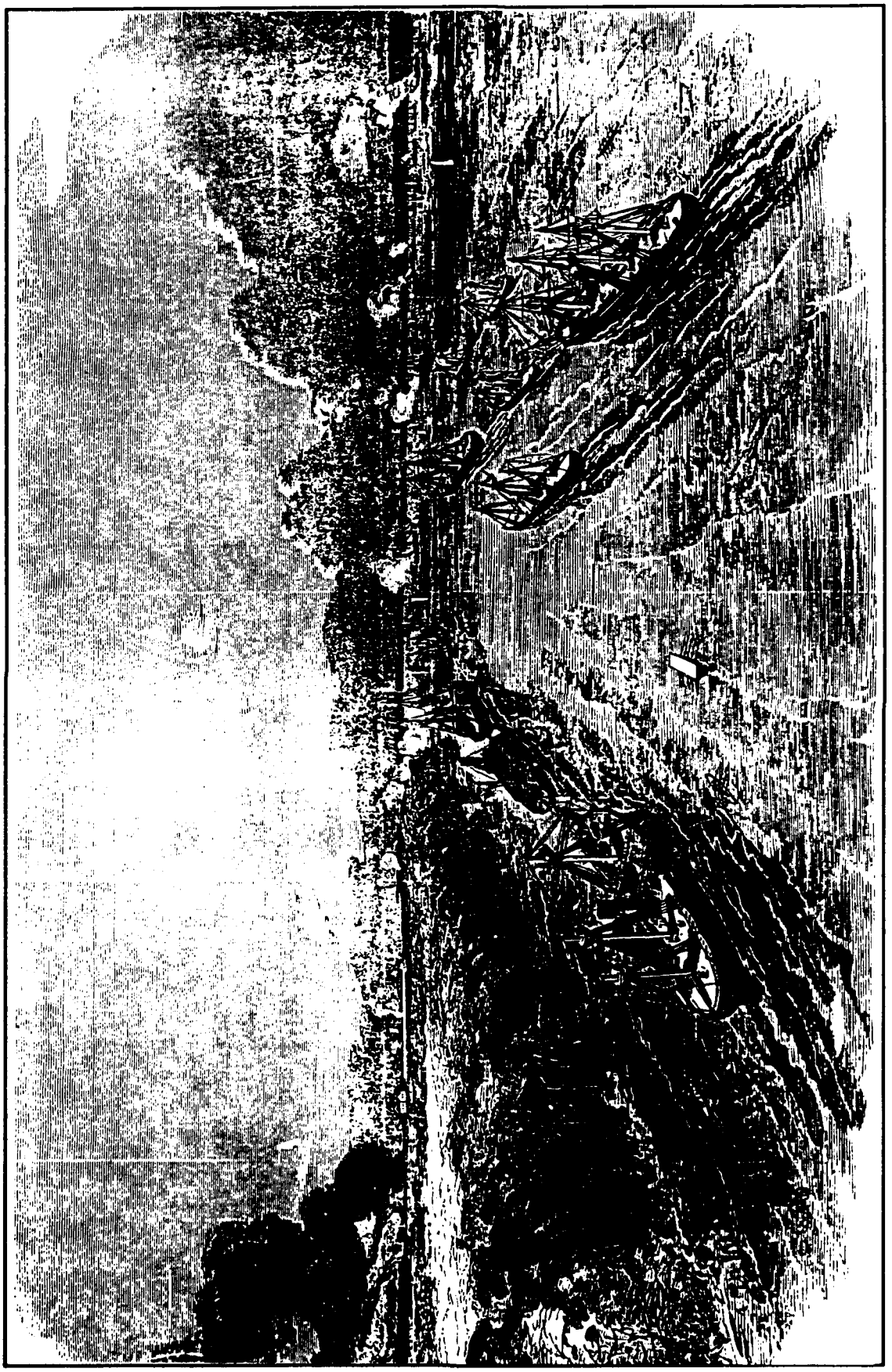

Figure 8. "The Great Naval Battle on the Mississippi—First Day's Bombardment—Federal Schooners off Forts Jackson and St. Philip, Commanding the Passage of the River" (after Moat 1977:132).

Nine men aboard the vessel were wounded. Her 11-in pivot gun and one 32-pounder were disabled. The *Oneida* withdrew with heavy damage, but did not sink.

At Fort Jackson, the mortar shelling cut up the terreplein and the parade. Parapets and platforms were destroyed, and the casemates were heavily damaged. One 10-in columbiad, one 8-in columbiad, one 32-pounder, one 24-pounder, one 10-in mortar in the main work, and two 32-pounders in the water battery were disabled. Despite the severity of the damage done to Fort Jackson, the water battery outside the fort kept returning fire against the Federal fleet (Stewart 1904:136-137, 266).

Mortar fire from Porter's flotilla continued throughout the night of the nineteenth. Farragut believed the shelling was having little effect on Fort Jackson because of the intensity of the return fire from the Confederate batteries. However, on April 20, the Federal forces apprehended a deserter from Fort Jackson, who informed the Union commanders of the destruction and demoralized conditions at the fort. That night Farragut sent his second in command, Captain H.H. Bell, with two gunboats, the *Pinola* and the *Itasca*, to destroy the chain obstruction between the forts. Under the cover of darkness and a heavy fire from the mortar flotilla, the crews of the gunboats were not able to destroy the chain but were able to open a gap large enough for the fleet to pass. Confederate fire from the forts prevented the Yankees from completing the mission, and the Federal gunboats withdrew after taking a raking fire (Landry 1938:46; Stewart 1904:135, 266).

The bombardment of Fort Jackson continued day and night on the twenty-first and twenty-second. On the night of April 21, the Confederate ironclad battery *Louisiana*, still uncompleted, arrived from New Orleans. Farragut continued to doubt that Porter's mortars could silence the guns at Fort Jackson. The Union ammunition supply was running low, and the mortar crews were near exhaustion. As early as April 21, Farragut had considered attempting to run the forts; however, unfavorable winds and a strong current increased the probability that his vessels might collide during a night assault (Landry 1938:47-48; Stewart 1904:266-267).

Duncan, assuming that the mortar fleet's ammunition would soon be exhausted, anticipated that Farragut would bring his large ships into action against the forts. Desperately, he tried to persuade Mitchell to bring the *Louisiana* to a point a short distance below St. Philip to disperse the mortar fleet and repel any attempt by the Union fleet to run the forts. Mitchell, however, refused to move the ironclad battery in the direct line of fire of the Federal vessels.

On the night of April 23, 1862, Farragut sent Lieutenant Commander Caldwell in the *Itasca* to insure that the obstruction across the river was still open. The Confederates ignited fires along the riverbanks and released several fire rafts that exposed the *Itasca* to the enemy's raking fire. The *Itasca* withdrew, remarkably without serious injury, to report that the chain had not been repaired.

The mortar bombardment continued until midnight on the twenty-third. The Confederate command dispatched *Launch No. 6*, under the command of C.B. Fairbanks, down a short distance below the forts to signal any enemy advance. At two o'clock on the morning of April 24, when the Federal fleet weighed anchor to begin its assault, Fairbanks withdrew without signalling the enemy's approach, grounded his boat, and with his crew, fled into the swamps.

The Union Navy's advance came in two columns, which were divided into three divisions. The first division was commanded by Captain Theodorus Bailey. It was composed of eight vessels led by the divisional flag gunboat *Cayuga*, which was followed by the *Pensacola*, the

Mississippi, the *Oneida*, the *Varuna*, the *Katahdin*, the *Kineo*, and the *Wissahickon*, in respective order.

The second division, under Flag Officer Farragut, consisted of three vessels, the *Hartford*, the *Brooklyn*, and the *Richmond* (Figure 9). Commander H.H. Bell led the third division. The boats in Bell's division, listed in the order of placement, included the divisional flag gunboat *Sciota*, the *Iroquois*, the *Kennebec*, the *Pinola*, the *Itasca*, and the *Winona* (Landry 1938:51; Stewart 1904:164). It was nearly 3:30 A.M. when the entire fleet got underway. In silence, Bailey's division passed through the break in the chain to open fire on Fort St. Philip with broadsides of grape and canister. The mortar flotilla initiated its most intensive shelling of the bombardment to provide cover for the passing fleet. Four of Farragut's vessels, the *Colorado*, the *Westfield*, the *Portsmouth*, and the *Miami*, closed within 200 yd of Fort Jackson's water battery and drove the Confederate gunners from their cannon with rounds of canister and grape (Stewart 1904:168, 238, 383, 389).

The second division held close to the west bank and poured canister and grape shot into Fort Jackson. Return fire from the Confederate batteries generally passed over the Federal gunboats without doing much damage. The ships of the second division, the *Hartford*, *Brooklin*, and *Richmond*, were larger vessels than most in the Union fleet, and, therefore, drew fire from both forts. Crossing the river, the second division emptied their broadsides into Fort St. Philip, driving the Confederates from the parapets with canister and grape.

Above the forts, the passing fleet encountered the Confederate flotilla. The *Hartford* was engaged by the iron-plated ram *Manassas*, which was pushing a fire raft. Attempting to dodge the ram, the *Hartford* ran aground and was soon ablaze. The *Mississippi* came to the aid of the *Hartford*, running the *Manassas* aground. After receiving two broadsides, the crew of the ram abandoned her to see the vessel slide downstream into the river eventually to sink (Stewart 1904:142, 157). The crew of the *Hartford* extinguished the blaze on ship and successfully got her back underway.

Although the fighting in the river was bitter, the Union fleet amazingly lost only one ship, the *Varuna*. Above the forts, the *Varuna* was attacked by two Confederate steamers, one of which was the *Governor Moore*. After being rammed by the Confederate vessels and cut up by their shot, the *Varuna* sank, but not before sinking both of her attackers (Stewart 1904:157). Three other Federal vessels of the third division, the *Itasca*, the *Kennebec*, and the *Winona*, were feared lost. With approaching daylight and silhouetted against the early morning sky, the ships of the third division became easy targets for the Confederate gunners. The *Winona* and the *Kennebec* became entangled in remnants of the chain and were badly cut up before freeing themselves and returning downriver. The *Itasca* received a 42-pounder solid shot through her boiler, lost power, and drifted downstream where she grounded (Stewart 1904:226-227). The Confederate river fleet fared far worse. Thirteen vessels—the *Belle Algerine*, the *Breckinridge*, the *General Lovell*, the *General Quitman*, the *Governor Moore*, the *Manassas*, the *Mosher*, the *Morgan*, the *Music*, the *Phoenix*, the *Resolute*, the *Stonewall Jackson*, and the *Warrior*—were either destroyed by enemy fire or grounded and burned by their own crews to prevent them from being captured by the Union fleet (Landry 1938:64; Stewart 1904: 263, 270, 291, 295-297).

After Farragut's ships passed the forts, the mortar flotilla ceased its bombardment. The fleet continued upriver to Quarantine Station where Bailey captured and subsequently paroled 500 men of the Chalmette Regiment commanded by Captain Symanski. The dead of the Northern fleet were buried at Quarantine Station, and the wounded were disembarked and treated. Telegraph wires connecting the forts with New Orleans were cut, and the fleet departed for the city at 10:00 A.M. (Landry 1938:75).

Figure 9. "The Great Naval Battle on the Mississippi—Passage of the Second Division of the Federal Squadron Past Fort St. Philip, April 24th, 1862" (after Moat 1977:133).

Until this time, Porter was unaware that the *McRae* and the ironclad battery *Louisiana* were anchored near Fort St. Philip. Porter did not know the *Louisiana* was still uncompleted, and naval intelligence indicated that she was one of the most powerful ironclads yet constructed. Not having heavy rifled guns to pierce the *Louisiana's* armor, Porter left six gunboats below the forts and withdrew his mortar schooners to Pilot Town (Landry 1938:75).

On April 25, 1862, the forts and the Union gunboats did not exchange fire. Farragut had reached New Orleans and demanded its surrender. Meanwhile, plans were being made to land Butler's troops at Quarantine Station and behind Fort St. Philip to lay seize to the forts and force their surrender. Two days later, on the morning of April 27, troops of the Fourth Wisconsin, the Twenty-sixth Massachusetts, and the Twenty-first Indiana started landing at Quarantine Station. That day, Porter again dispatched a gunboat under a flag of truce to demand the surrender of the forts. Again, Duncan refused. That night the garrison of Fort Jackson turned on its officers, mutinied, and, after spiking their guns, surrendered to Butler's troops (Landry 1938:76-79; Stewart 1904:272).

The following morning Duncan communicated news of the mutiny to his second in command at St. Philip, Lieutenant Edward Higgens. In a meeting with their officers, Duncan and Higgens agreed that it would be senseless to attempt to garrison both forts with their remaining troops and withstand a Federal assault. The forts were surrounded by Butler's troops, and the probability of the Confederates receiving reinforcements or supplies from New Orleans was remote. To Duncan and Higgens, surrender was the only logical decision to prevent useless bloodshed, as the forts would inevitably fall to the Northern forces. Duncan communicated the decision to Mitchell, who decided that it would be best to destroy the *Louisiana* to prevent her from being captured.

Word of the Confederates' decision to surrender was sent under a flag of truce downstream to the Union gunboat *Owasco*. The following day, April 28, 1862, four of Porter's gunboats, the *Winona*, the *Kennebec*, the *Westfield*, and the *Harriet Lane*, came upriver and anchored near Fort Jackson. There, a small boat was dispatched to bring Duncan and Higgens aboard the *Harriet Lane*, Porter's Flagship, where the terms of the surrender were negotiated. The Confederate commanders noted that the Southern vessels would not be included in the surrender, as the army had no control over the navy. During the negotiations, the *Louisiana* was fired by Mitchell's men. The *Louisiana's* mooring ropes subsequently gave way, and the burning vessel, with loaded guns, drifted down on the Federal fleet finally to explode near Fort St. Philip. The blast did no harm to the Union gunboats; however, it did kill one man and injure several others at St. Philip. Both Porter and Farragut viewed the firing of the *Louisiana* as a criminal attempt by Mitchell to destroy Porter's gunboats while the surrender was being negotiated. Consequently, the Confederate naval commanders, when subsequently captured, were not paroled but sent north to Federal prison camps. The remainder of the defeated Confederate forces, including the Army officers, were paroled and taken to New Orleans where they were released. With word that Forts Jackson and St. Philip had surrendered, Union troops occupied the city and control of the Mississippi fell into Northern hands (Landry 1938:80-83; Stewart 1904:250, 274).

Available evidence suggests that life at Fort Jackson during the Civil War was empty and full of privation. The garrison that manned the fort during its attack by a Union fleet from April 15 to April 24, 1862, suffered simultaneously from flood, fire, fear, and lack of sleep. During the bombardment of Fort Jackson by Porter's 21-schooner mortar fleet, 7,500 shells were lobbed into and around the fort. Two thousand 200-lb bombs fired by Porter's 13-in mortars hit the fort on April 17, 1862, alone. At Fort Jackson, nine were killed and twenty-one wounded, the only soldiers ever killed there defending their country.

Subsequent History

In October 1862 Forts Jackson and St. Philip were garrisoned by the Thirty-first Regiment of Massachusetts Volunteers under the command of Colonel O.P. Gooding. His command included 16 commissioned officers and 341 enlisted men (National Archives 1965:521:October 1862). The following month, November 1862, Gooding reported that the strength of his garrison remained about equal to that of the preceding month with 9 officers and 354 enlisted men. In addition to these figures, his returns listed 74 prisoners confined and a total of 231 "contrabands" (144 men, 38 women, and 49 children) present at the forts (National Archives 1965:521:November 1862).

On January 23, 1863, Colonel Gooding turned his command over to Colonel Henry Rush of the Thirteenth Maine Regiment. Fort Jackson was then garrisoned by Companies A, G, and I of the Thirteenth Maine, while St. Philip had Companies B, E, and H of the Thirteenth Maine and one company of the First Louisiana Colored Heavy Artillery. In mid-February, reinforcements, which included Companies D and F of the Thirteenth Maine, arrived from Ship Island off the Mississippi Gulf Coast. The total number of Union troops stationed at Plaquemines Bend was then 627—307 at St. Philip and 320 at Fort Jackson (National Archives 1965:521:January-February 1862).

Until August, the Thirteenth Maine manned the garrisons of the two forts. On August 13, Rush's regiments were relieved by 11 companies of the Fourth Infantry, Corps d'Afrique, under the command of Colonel W. Drew. Throughout the remainder of August and until December, the forts were occupied by nearly 1,000 Black troops and 31 white officers. Fort St. Philip was garrisoned by Companies A, D, F, and I of the Thirty-fourth Infantry Corps d'Afrique and Company A of the First Louisiana Colored Heavy Artillery; Fort Jackson was garrisoned by Companies B, C, E, G, H, and J of the Fourth Infantry Corps d'Afrique (National Archives 1965:521:September-November 1862).

Drew's second in command was Colonel Augustus Benedict, who was especially known for his severe and often cruel treatment of his black command. On several occasions Benedict was observed by his fellow officers at St. Philip striking soldiers for small violations in uniform or conduct. During one instance, Benedict reportedly had a black soldier stripped and staked spread eagle with molasses covering his hands, feet, and face to attract ants. This virtual torture was carried out for two days (Winters 1987:313). At Fort Jackson, on December 9, 1863, Benedict again vented his anger on two black drummers who had not turned out in their coats. The Negro garrison watched as Benedict flogged the two with a mule whip. Once Benedict left the parade, the angered troops rioted, stormed the armory, seized loaded weapons, and began firing aimlessly. The near mutiny was finally quietened by white officers who persuaded the soldiers to return to their quarters (Landry 1938:84; Winters 1987:313). After this incident, 12 officers and 272 enlisted men of the Eighty-third Ohio Volunteers under the command of Brigadier General William Dwight were brought in to maintain order at the forts (National Archives 1965:521:December 1863).

During the court martial that followed this incident, nine members of the black garrison were found guilty of mutiny and were sentenced to hard labor. Two soldiers were convicted and sentenced to be shot; however, they were taken away from the forts, and their fate remains uncertain. Benedict was found guilty of administering cruel and unusual punishment and discharged from the service (Landry 1938:84). The post returns for December show that some 21 officers and 498 enlisted men of the Fourth Infantry Corps d'Afrique remained at Plaquemines Bend, while 291, apparently those who participated in the near mutiny, were transferred. Although the returns are not specific to the causes, three men were discharged, an equal number deserted, and seven were listed as having died during December (National

Archives 1965:521:December 1863). These numbers are unusually high in comparison to other months, and, apparently, they relate to the incident of December 9, 1863.

By mid-January 1864, things were back to normal at Jackson and St. Philip. The Eighty-third Ohio Volunteer group withdrew, and command was returned to Colonel Drew. By February, only one company of the Fourth Infantry Corps d'Afrique remained at Plaquemines Bend. That month Drew was replaced by Lieutenant Colonel Jonathan Tarbell of the Ninety-first New York Volunteer Infantry. The garrison then consisted on 12 officers and 433 enlisted men of that regiment; 4 officers and 112 men of the First Wisconsin Heavy Artillery; and 1 officer and 23 men of the Corps d'Afrique (National Archives 1965:521:February 1864). By March, when Brigadier General T.W. Sherman assumed command of the lower river defenses, the remaining company of the Corps d'Afrique had been relieved, although the New York and Wisconsin units remained.

During the following month, April 1864, black troops were once again stationed at the forts. These included nearly 400 enlisted men of the Seventy-seventh U.S. Colored Infantry under the command of Colonel Charles A. Hartsvell and 117 troops commanded by Captain E.P. Loring of the Seventh U.S. Heavy (Colored) Artillery. On the June returns, Hartsvell commented on the quality of his command:

> The men of this company as well as Cos. "H" "I" and "K", all of which have recently been annexed to the 77" U.S. Cold. Inft. Cannot Compare with the old Companies either mentally, phisically [*sic*], or morrally [*sic*]. Many are under age. Great culpability is due somewhere for the Enlistment of such men [National Archives 1965:521:June 1864].

Throughout the remainder of 1864 until April 1866, the size of the garrisons stationed at Plaquemines Bend varied between nearly 400 and 1,000 troops. Primarily, the soldiers belonged to black infantry and artillery units (National Archives 1965:521:July 1864-April 1866). From April 1866 through September of the same year, the size of the garrisons decreased. By September, only Companies A, B, and H of the Tenth U.S. Colored Heavy Artillery remained at the forts with a total garrison of 143 enlisted men and 5 officers (National Archives 1965:521:April-September 1866).

In January 1867, Companies G and K of the Twentieth U.S. Infantry arrived at the forts and relieved the detachment of the Tenth U.S. Colored Artillery. The garrisons then consisted of 3 officers and 108 enlisted men. During the following month, February, Companies D and F of the Thirty-ninth U.S. Infantry, which consisted of 91 enlisted men and 2 officers, arrived at Forts Jackson and St. Philip. The two Twentieth Infantry regiments were then relieved and transferred to Alexandria and Shreveport. From February 1867 until March 1869, this detachment of the Thirty-ninth Infantry commanded the two lower river forts (National Archives 1965:522:January 1867-March 1869).

On April 16, 1869, Companies B, D, and G of the U.S. Infantry joined the post from the Department of the South and were consolidated with Companies D, F, and G of the Thirty-ninth Infantry to form Companies B, C, and H of the Twenty-fifth Infantry. On April 26, Company H of the Twenty-fifth Infantry was transferred to Opelousas, leaving the forts garrisoned with 5 officers and 199 enlisted men (National Archives 1965:522:April 1869). There was no change in the garrisons of the two forts between April 1869 and the end of the year; however, there was a steady decrease in their size from 199 in April to 116 in December. This decrease resulted from the loss of men discharged at the end of their enlistments (National Archives 1965:522:April-December 1869).

In 1870, an Assistant Surgeon of the U.S. Army, P.F. Harvey, examined Fort Jackson for health purposes, and found it extremely wanting. There were no bathhouses or toilet facilities anywhere, the garrison being expected to use "a sink, built projecting over the water, on the remains of an old gunboat at the bank of the river." There was not enough air space for soldiers to dress, rest, eat, or sleep. The buildings lacked roof ventilators, sufficient windows, and overhangs. The fort grounds were constantly overflowed, and rainfall was exceeded only by mosquitoes. The humidity was so high that materials rusted or became soggy. In dry seasons, however, the cisterns would go dry, and the garrison would have to drink river water. In the moat were alligators and moccasins. Rattlesnakes in the vicinity were "numerous and formidable," one caught was reportedly about 12 ft long. There was no garden or library (Harvey 1870).

Only a few favorable points appeared in the report. Trees flourished in the vicinity—ash, cypress, white oak, willow, wax myrtle, cottonwood, and poplar. "The peach, plum, orange, banana, fig, and cherry are cultivated," Harvey (1870) continued, "and the nights are almost always cool enough for comfortable and refreshing sleep." There was a new hospital on the bank of the river, 135 by 25 ft, shuttered, ventilated, and warmed by stoves; however, it lacked toilet facilities and a room for cadavers. Mail came twice a week.

Harvey noted that Creoles, Spanish, French, Germans, and Irish settled the vicinity "thinly." "They follow agricultural pursuits chiefly," he wrote. He failed to mention the Yugoslavs, whose numbers were growing in the region, and who farmed oysters, raised oranges, and made wine (Harvey 1870:168-173).

Harvey's report reiterated nearly 100 years later, conditions of life at the forts from the Spanish period forward. Environmental conditions made life hard, but provided a varied and nourishing diet, especially of shellfish, beef, and fruit, if vegetables were admittedly lacking. The swampy reserve around Fort Jackson could make life wet and mosquito-filled for days on end. The land was too low, snake-infested, and marshy for use other than cattle pasturage, especially outside of the fort's levee.

In April 1870 the forts also served as a Union Military prison with the arrival of 31 convicts from Ship Island. Most of these men had received a dishonorable discharge from the Army and received sentences ranging from two to six years of hard labor for various crimes or breech of military conduct. The size of the convict population at Plaquemines Bend reached its peak of 99 inmates in July 1870. Throughout the remainder of 1870 until July 1871, the number of convicts imprisoned on the lower river ranged from 46 to 95 men, with an average prisoner population of 69 during that 12-month period (National Archives 1965:522: April 1870-July 1871).

Perhaps it was because of the vast swamps and marshes that surrounded the forts and the overall harsh environmental conditions in the region that few convicts escaped. During one attempt, on the night of July 15, 1870, three convicts surprised a sentinel, took his rifle, and forced him to flee with them into the nearby countryside. A sergeant who was pursuing them caught the three and was forced to shoot one, a former private in the Sixth Cavalry, Charles A. Hampton. Apparently, Hampton had raised his captured rifle and was about to discharge it at the sergeant when the latter fired his gun. The bullet passed through the small end of Hampton's rifle stock and killed him; the other two were returned to the forts and confined (National Archives 1965:522:January 1871). In all, seven attempts at escape were recorded—four appear to have been successful.

In August 1870 approximately half the ordnance was removed from St. Philip. Of the 40 mounted pieces that had been maintained there in the previous months, only twenty-four (two

13-in mortars, five 100-pounder Parrotts, fifteen 10-in Rodmans, and two 15-in Rodmans) remained. Fort Jackson continued to mount fifty-five guns, including ten 24-pounders, two 13-in mortars, five 100-pounder Parrotts, thirty-six 10-in Rodmans, and two 15-in Rodmans (National Archives 1965:522:August-September 1870). The removal of ordnance from St. Philip foretold the decline of the military importance of these lower river defensive structures. Within a year, on July 7, 1871, both Fort Jackson and Fort St. Philip were abandoned by Special Order No. 124 issued by the Department of Texas.

During the Spanish-American War, more modern gun emplacements were erected at both forts, and St. Philip was established as an independent post. Landry (1938:85), writing on the forts on the lower river noted:

> When American relations with Spain began to be somewhat strained toward the latter part of the [nineteenth] century, the United States War Department started the construction of two modern batteries. Battery Miller, consisting of two large guns, was built on the outside of the moat near the river bank above Fort Jackson, while Battery Ransom, a more formidable armament, was erected inside the fort where the barracks had stood during the Civil War. Two heavy disappearing guns were mounted on Battery Ransom during the years 1896 and 1897. Heavy pilings were driven side to side to form the foundation of heavy artillery. These guns were capable of discharging their shells at targets out in the bays back of Fort St. Philip where once General Butler was located with his troops during the bombardment of Fort Jackson.

Various artillery units trained at the forts during the 1890s, and St. Philip received massive improvements shortly after the turn of the century (Landry 1938:85). On April 16, 1907, both Forts Jackson and St. Philip were made sub-posts of Jackson Barracks located in New Orleans; however, the former was occupied by a single ordnance sergeant, Marius Peterson, from November 1908 until June 1914 (National Archives 1965:522:November 1908-1914).

During World War I, both forts served as training facilities and points of debarkation for American troops enroute to Europe. After the War, both were declared surplus, and Fort Jackson was sold to H.J. Harvey of New Orleans in 1926 (Landry 1938:84-86). In 1960, Mr. and Mrs. Harvey donated the fort and a portion of the former military reservation to Plaquemines Parish. That same year, Forts Jackson and St. Philip were made National Historic Landmarks by the National Park Service. In 1962, Plaquemines Parish initiated extensive renovations to Fort Jackson, which it now operates as a museum (Plaquemines Parish Commission Council n.d.:4).

CHAPTER 5: PREVIOUS INVESTIGATIONS

Over the past 11 years, seven cultural resources investigations have been conducted in close proximity to Fort Jackson. The earliest of these was in 1978 when George Castille, then working for the Louisiana Division of Archaeology and Historic Preservation, undertook an archaeological survey of the west bank of the river near the fort site (Castille 1978). Castille's investigations attempted to locate intact cultural features in a 400-m-long stretch of the batture immediately north and northwest of the fort. The survey, which was conducted at a high water stage of the Mississippi, located no new sites or features associated with the fort. It did, however, acknowledge the existence of an 1898 gun emplacement (Battery Miller) that would receive minimal impacts from the planned raising and widening of the existing levee.

One year later, in 1979, Tulane University's Department of Anthropology conducted cultural resources investigations for the New Orleans District's East Bank Barrier Levee system (Davis et al. 1981). The survey, which included a portion of the existing levee immediately south and east of Fort Jackson, reported on 23 historic sites within the total project area. None of these were located near Fort Jackson. Twenty-one of the investigated sites, most of which consisted of late-nineteenth- to early-twentieth-century structures or artifact scatters, were not considered as representing significant cultural resources. Davis et al. (1981:227-232) recommended that only two of those sites warranted further work to establish their National Register eligibility. These included 16 PL 66 (Ostrica), the site of a small Dalmation immigrant community, and 16 PL 82 (Dunn's Camp), the residence site of a late-nineteenth-century local shipbuilder, Chips Dunn.

In 1982 and 1983, Archeology Research and Survey conducted two remote sensing surveys in the river between Forts Jackson and St. Philip. The first of these (Saltus 1983) was funded by matching grant monies provided by the National Park Service to locate shipwrecks or features associated with the naval engagement fought between the Union fleet and both forts in April 1862. This study, which employed magnetometer and side-scan sonar survey techniques, located 13 anomalies, eight of which were selected for diver investigation. Of these eight, only two were identified as cultural resources: 16 PL 97, which is related to an abandoned navigational light and possible shipwreck debris (Saltus 1983:38-39), and 16 PL 96, which was interpreted as representing the remains of a mid- to late-nineteenth-century dock and refuse area (Saltus 1983:39-40).

The second riverine, remote sensing survey conducted by Archeological Research and Survey in the vicinity of Forts Jackson and St. Philip stretched from near Buras to a point slightly above Venice in Plaquemines Parish (Saltus 1984). This study, which was conducted for the U.S. Army Corps of Engineers, New Orleans District, encompassed much of the same area previously surveyed in 1982. A total of 88 anomalies were located. Twenty-five of these were attributed to modern construction or dumping activities. Only one anomaly was investigated by a diver using an 8-ft water probe; however, these efforts failed to locate the source of the magnetic disturbance (Saltus 1984:37-44).

In 1982 the National Park Service conducted another terrestrial survey in the vicinity of Fort Jackson (Stuart and Greene 1983). This investigation, again for the New Orleans District, extended upriver from just above Fort Jackson along the batture of the river's west bank. The survey failed to located any cultural resources in that area.

More recently, the Agency for Conservation Archaeology of Eastern New Mexico University developed a management plan for the treatment of all known cultural resources existing within the New Orleans District's New Orleans to Venice Hurricane Project (Montgomery et al. 1988a). The resulting report included a research design (Montgomery et al. 1988b) developed in relation to the proposed levee expansion located immediately south and east of the fort site (Area D in Figure 1). The purpose of this segment of Eastern New Mexico's 1988 report was to "serve as a means and vehicle of mitigation, should it be required" (Montgomery et al. 1988b). As such, it served as a guide for developing a mitigation plan for cultural features within the planned construction area, which is, itself, situated at some distance outside the fort proper. No features associated with Fort Jackson (or others that are potentially eligible for nomination to the National Register of Historic Places) were known to exist within Area D. Also, very little of the planned construction fell within the limits of this historic landmark (see Figure 1). The research design developed by Eastern New Mexico did not include aspects of site survey to locate and test any unknown cultural deposits that might exist with that proposed construction locale.

The most recent cultural resources investigations undertaken in the vicinity of Fort Jackson were those made by CEI to develop a research design to structure the archaeological surveys conducted under the present delivery order (Hunter and Reeves 1990). In an effort to predict the types of cultural features that might be expected within five construction areas surrounding the fort (Areas A, B, C, D, and E in Figure 1), the history of the forts and patterns of land use and development were reviewed and examined in detail. Also, a series of cartographic sources—historic maps and aerial photographs, depicting the outlying areas adjoining the fort site proper between the years 1815 and 1972—were used to predict the historic resource potential of each construction locale. The historic and cartographic data were supplemented by interviews with local collectors. These sources generally agreed that few cultural deposits were expected in any of these areas, with the exception of scattered artillery shell fragments, reported concentrations of small arms projectiles, and possible remains associated with New Fort Bourbon (Hunter and Reeves 1990:118-154).

As a part of that delivery order, CEI's fieldcrew conducted a terrestrial survey of one of the proposed construction locales—Area A in Figure 1, which is a planned 261.7-ac borrow area (Hunter and Reeves 1990:107-108). Previous historical and cartographic investigations conducted during the preparation of the research design indicated that there was a low potential for significant cultural resources existing in that locale. Historically, Area A was primarily marsh until the mid-1900s when small rear levees and draining structures were installed. From then until the time of the survey in 1988, this land had been used almost exclusively for pasturage. Local collectors acknowledged, however, that through the years, numerous artillery rounds and fragments had been found in Area A, and they also reported concentrations of small arms projectiles dating from the Civil War era (Hunter and Reeves 1990:76-81).

The survey of proposed Borrow Area A employed systematic shovel tests conducted along transects spaced at 20-m intervals. The shovel tests were spaced 100 m apart and their alignment was staggered to affect a 50-m offset pattern. This procedure was supplemented by metal detector scans conducted along each transect. In addition to numerous aluminum cans, tractor parts, welding rods, and a 6-in-diameter steel pipeline, five fragmentary and whole artillery rounds were found. These included two 11-in spherical shell fragments and two 9-in spherical case fragments. One of the 9-in fragments still had sulphur and .85-in-diameter spherical iron shot still adhering to its inner walls. An unexploded 9-in diameter U.S. Naval spherical case round was also found in Borrow Area A (Hunter and Reeves 1990:107-108).

The recovered artillery shells and fragments were randomly scattered over the relatively large borrow area. No concentrations of these artifacts or other cultural debris were

encountered. The survey confirmed what the background research had indicated—no significant cultural resources existed in that locale (Hunter and Reeves 1990:108).

The research design for the archaeological surveys of the four remaining construction areas delineated general pedestrian techniques that were believed best suited for theses locales. Shovel testing and metal detector scans were the primary procedures, because field conditions prohibited the effective use of surface collecting. Guidelines for proper site documentation were also made, and the National Park Service's evaluation criteria for significance were additionally discussed. The general guidelines established in the research design also included sections on site testing and treatment of artifacts (Hunter and Reeves 1990:109-118).

More specifically, the research design examined the potential of each area in terms of the expected types of cultural resources, their anticipated significance, and previous impacts (Hunter and Reeves 1990:118-154). To structure the evaluation of the anticipated resources, sets of questions or hypotheses were established, because a site's significance is based primarily on its ability to provide information that can address important research questions (National Park Service 1982:29). The research potential, significance of expected resources, previous impacts, and recommendations of each area presented in the research design are summarized in the following chapter.

CHAPTER 6: SURVEYS AND EVALUATIONS OF FOUR CONSTRUCTION AREAS

Area B

Research Potential

The historical and cartographic investigations conducted during the preparation of the research design (Hunter and Reeves 1990:118-128) indicated that few potentially significant cultural features should exist within Area B (see Figure 1). This statement was made in response to the very broad research question for archaeological survey, **"What cultural materials or deposits can be expected in Area B?"** The hypothesis generated from the cartographic and historical research was **"If the historical and cartographic record concerning Fort Jackson and the Civil War siege is correct, the only cultural materials in Area B will be spent artillery rounds and fragments."** It was anticipated that concentrations of artillery rounds and fragments would exist in that locale, because it was situated between the Confederate water battery of Fort Jackson and the Federal flotilla during the 1862 bombardment. Because that locale was situated outside the limits of Fort Jackson proper and its nineteenth-century protection levee, no features associated with the fort itself were expected. The research design also argued that it was doubtful whether the proposed borrow locale would contain artifacts or deposits relating to Confederate sharpshooters that were stationed below the forts to harass the Federal fleet. Additionally, few, if any, other types of cultural resources were expected within that proposed construction area.

The siege of Fort Jackson was a naval-based assault, which did not deploy a large number of troops over a various areas of the battlefield. Questions concerning troop positions and activities were not generated, because the historical record indicated that the vast majority of the Confederate troops were protected inside the fort during the siege, while the Union forces were manning vessels in the river, both areas being outside the limits presently under consideration. Therefore, it was necessary to formulate research questions and hypotheses concerning the expected types of artifacts that is, only artillery shells and fragments.

To understand the following discussions, it is first necessary to briefly examine the types of ordnance used in North America during the mid-nineteenth century. Civil War artillery can be divided into two major groups—smoothbore and rifled. Smoothbore artillery is the earliest form, while rifled guns first came onto the American scene in substantial numbers during the Civil War. Both used a wide variety of projectile types.

Smoothbore artillery was designed to fire spherical ammunition, although a variety of elongated and other types of projectiles were developed and frequently used (Figure 10). The most common smoothbore projectiles fall into four different categories. One of the earliest form is shot, a solid sphere of iron carrying no explosive charge. Shot was designed to destroy by its sheer weight and impact.

Shell, on the other hand, is a hollow sphere containing a charge ignited by various types of detonation devices or fuses (see Figure 10). Shells feature the destructive advantage of blast and fragmentation, over the mere impact of shot. Shells can be divided into three basic types. Those used in guns and howitzers were usually called "common." Others were fired from mortars. Because mortars normally used a lighter propellant charge than did guns and howitzers, the wall thicknesses of mortar shells were comparatively less, and the explosive charge within the shell was somewhat greater. The third type of shell was "case" (or "shrapnel"), which was a thin-walled projectile containing numerous lead or iron spheres.

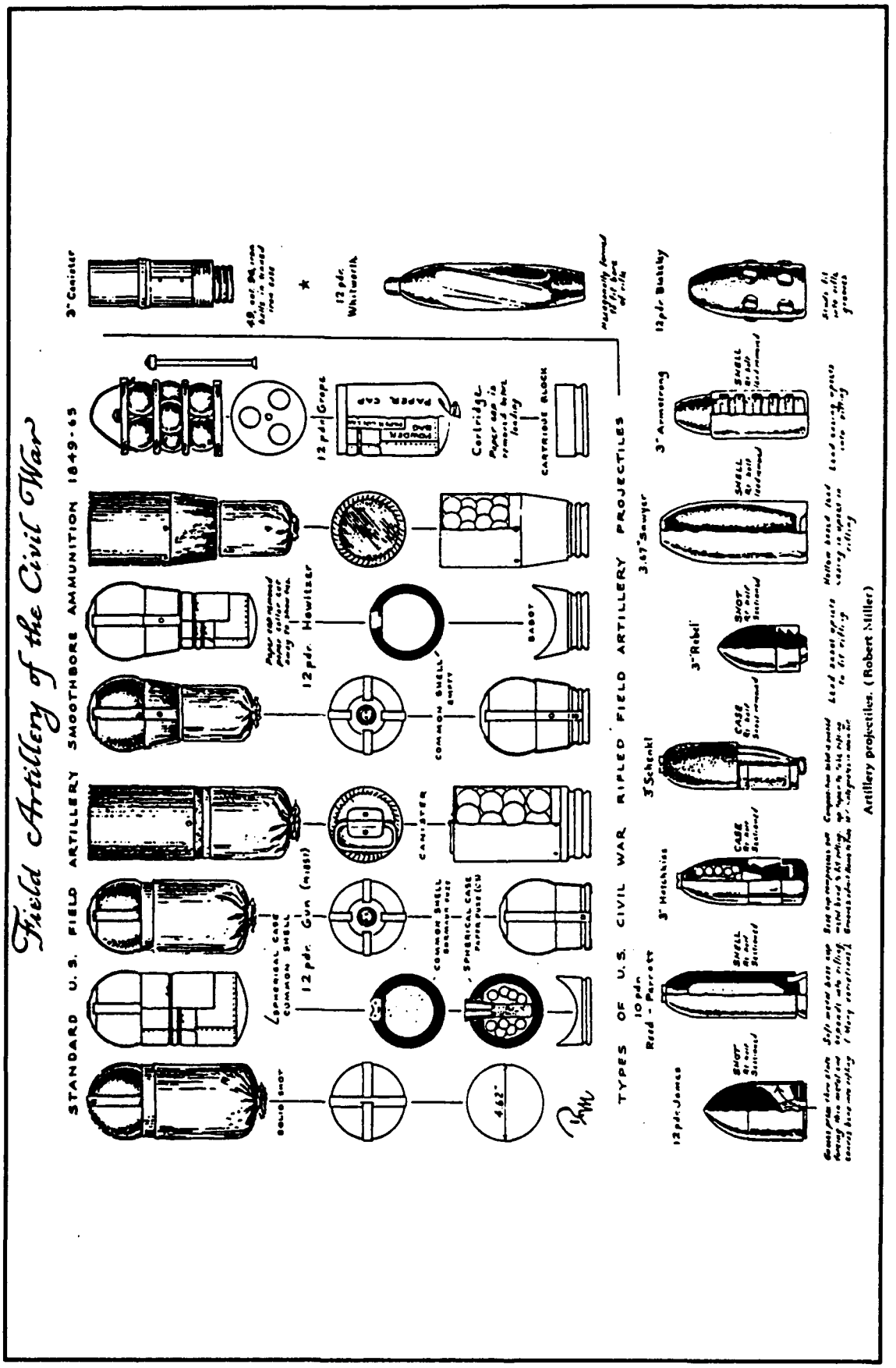

Figure 10. Common types of artillery projectiles used during the Civil War (after Lord 1979).

When a case shell detonated, the projectile acted like a large shotgun, scattering the deadly shot over a large area (Ripley 1984:258).

Canister and grape shot were similar to case in that these projectiles contained a number of smaller shot that were dispersed over a wide area when fired. Neither, however, carried an explosive charge. A strand of grape shot used in Civil War artillery usually consisted of nine iron balls—their diameter depended on the caliber of the particular gun—secured together with iron rods and plates (see Figure 10). When grape (or canister) was discharged, it was the force of the gun's propellant charge that caused the projectile components to break apart and scatter over a fairly wide area. Canister differed from grape in that the small shot were contained within a thin metal shroud or can, and canister used substantially more shot than grape (see Figure 10). Both grape and canister were extremely effective at relatively close range, but canister was more deadly because of its greater number of shot. Case shells, in some instances, offered an advantage by having the range of shot and shell and the bursting power of its explosive charge. Case shells were commonly used as effective anti-personnel projectiles at relatively great distances; whereas canister and grape were more effective at short ranges (Ripley 1984:266-268).

Rifled artillery also used similar types of projectiles. There were rifled solid shot (usually referred to as "bolts"), shell, and case. Rifled shells differed from spherical in their typical elongated form. They were also designed to engage into the spiraling lands and grooves of the gun's rifled barrel. Rifling made the projectile rotate or spin during flight, which eliminated "wobbling," thereby, increasing the gun's accuracy at relatively great distances. Numerous types of rifled rounds were used by both Confederate and Federal forces; many were designed to fit specific types or styles of guns (see Figure 10).

In relation to the expected artillery rounds and fragments in Area B, Hunter and Reeves (1990:120) wrote the following:

> Sets of hypotheses can be formulated to examine a certain number of research questions concerning the battle....Two prime hypotheses can be used to make certain statements about the types of projectiles that may exist in Area B: (1) the artillery rounds within Area B relate to the actual battle, and (2) the historical record is correct. The artifacts themselves may be used to test these hypotheses. Obviously, data that would repudiate either of these prime hypotheses would alter the following interpretations and invalidate their use for addressing research questions. **[Q. Do all of the artillery rounds and fragments in Area B relate to the Civil War siege of Fort Jackson?]** For example, the historical record indicates that 32-pounder and 100-pounder Parrott rifles were not used by the Confederate batteries of Fort Jackson during the battle with the Union fleet. Guns of these calibers, however, were mounted there after Northern forces occupied the fort (National Archives 1965: various years). If 32-pounder or 100-pounder Parrott shells manufactured after 1862 are found in Area B, they probably relate to target practice by Union artillery units and not to the battle itself. **[H. If all of the artillery rounds and fragments in Area B relate to the Civil War siege of Fort Jackson, none will be found that were manufactured after 1862.]**

Hunter and Reeves (1990:120-128) went further to develop sets of questions and hypothesis that could be addressed by the anticipated artillery rounds and fragments. The first among these concerned the types of shells that could be expected and whether it could be ascertained which side fired them: "**[Q.] What type[s] of artillery rounds can be expected in Area B and can it be determined which side fired them?**" (Hunter and Reeves 1990:120). Relying on the historical record concerning the siege, the authors noted that only the

Confederate batteries had 42-pounder, 8-in, and 10-in smoothbore cannon (Table 1). Thus, they reasoned, "**[H. If the historical record is correct and all shells and fragments within Area B relate to the Civil War siege of Fort Jackson, the 42-pounder, 8-in and 10-in smoothbore rounds are the result of Confederate fire.]**" (Hunter and Reeves 1990:125). The inclusion of 8-in smoothbores as exclusively within the category of Confederate types was an error. Current research has determined the the Federal fleet was well equipped with this type of weapon (Johnson and Buel 1887:74).

Similar types of research hypotheses were generated for other types of shells and fragments expected in Area B:

> Similarly, only the Federal fleet used 11-in smoothbores during the engagement against the forts. Therefore, any 11-in shells found in Area B would have been shot from Union vessels. **[H. If the historical recorded is correct and all shells and fragments within Area B relate to the Civil War siege of Fort Jackson, 11-in shells are the result of Northern fire.]** Therefore, any 11-in shells found in Area B would have been shot from Union vessels. Both the water battery below Fort Jackson and Fort St. Philip mounted 10-in mortars. Additionally, Fort St. Philip and the inner works of Fort Jackson were equipped with 8-in mortars. Since the Northern fleet lacked mortars of these sizes, any 8-in or 10-in mortar round found in Area B would have been fired from Confederate batteries. **[H. If the historical record is correct and all shells and fragments within Area B relate to the Civil War siege of Fort Jackson, 8-in and 10-in mortar rounds are the result of Confederate fire.]** Thirteen-inch mortars were used by both sides during the bombardment of Fort Jackson; however, the one 13-in mortar at St. Philip broke its carriage after firing 13 rounds. Therefore, if 13-in mortar rounds exist in Area B, they can probably be attributed to shelling from the mortar flotilla. **[H. If the historical record is correct and all shells and fragments within Area B relate to the Civil War siege of Fort Jackson, 13-in mortar rounds are the result of Northern fire.]** Many of the Union gunboats mounted 9-in smoothbores. The only Rebel 9-in gun was aboard the C.S.S. McRae. Thus, the majority of 9-in shells, if found in Area B, can be attributed to fire from the Northern fleet. **[H. If the historical record is correct and all shells and fragments within Area B relate to the Civil War siege of Fort Jackson, 9-in shells are the result of Federal fire.]**

The types of artillery maintained by the Northern fleet included a wide variety of rifled guns of various sizes (see Table 1). The Confederate forces, however, had fewer rifles, which were limited to unspecified types of 7-in and 32-pounders. Therefore, Hunter and Reeves (1990:125) hypothesized, "**[H. If the historical record is correct and all shells and fragments within Area B relate to the Civil War siege of Fort Jackson, all rifled shells, with the exception of unspecified types of 7-in and 32-pounders, are the result of Federal fire.].**"

In viewing Table 1, it is obvious that both sides utilized many similar types of smoothbore artillery. These included 12-pounders, 32-pounders, and 8-in guns. Thus, shells of these types cannot be specifically attributed to fire from one side, as opposed to the other. Also, the batteries at the two lower river forts were probably using, in part, captured munitions taken when Louisiana troops seized the forts in early 1861. Therefore, shells of these calibers that can be recognized as Federal ordnance, and which date prior to 1862, could have been fired from either the Northern fleet or the Southern batteries.

Table 1. Armament Used by the Opposing Forces during the Battle at Plaquemines Bend (adapted from Johnson and Buel 1887:74-75).

		Confederate Flotilla	Ft. St. Philip	Fort Jackson	Water Battery		Federal Flotilla
Smoothbores	13-in Mortars		1				19
	10-in Mortars		6		1		
	8-in Mortars		1	2			
	11-in Guns						14
	10-in Guns			2	1		2
	9-in Guns	4					97
	8-in Guns	4	5	4	2		47
	42-pdr Guns		6	6			
	32-pdr Guns	15	9	15			56
	24-pdr Guns	2	21	35			25
	12-pdr Guns		1	1			10
	9-pdr Guns	1					
	6-pdr Guns		1	1			0
Rifled Guns	100-pdr Rifles						2
	80-pdr Rifles						4
	50-pdr Rifles						1
	32-pdr Rifles			2			
	30-pdr Rifles						9
	20-pdr Rifles						14
	6-in Sawyer						2
	7-in Rifles	2	1	1			
	Unidentified	2					
	Total	40	52	66	6		302

Additional research questions concerning the distributions of spent artillery rounds and fragments were also formulated by Hunter and Reeves (1990: 125-128). It was hoped that these distributional data could lend important information concerning the battle to either confirm or add to the historical record of this military engagement. The questions and related hypotheses are as follows:

> Certain hypotheses can be developed to address research questions concerning the battle. Primarily, these relate to the distribution of artillery rounds and their fragments and, to a somewhat lesser degree, on the orientation and declination of intact rifled shells. Obviously, these two latter factors cannot be established for round shot. **[Q. What does the distribution of artillery rounds in Area B indicate about the nature of the siege?]** The following are examples of the types of research questions that may be formulated in relation to the distribution of these artifacts and hypotheses that may be used to address them.
>
> **[Q.] Was the fire from the Northern gunners relatively accurate? [H.] If the fire from Northern gunners was relatively accurate, there will be higher densities of 9-in and 11-in shells, 13-in mortar rounds, and a wide variety of rifled shells (ranging from 20-pounder to 100-pounder in size) in the western end of Area B.** Conversely, **[H.] if the fire from Northern gunners was not relatively accurate, there will be a random distribution of these types over Area B.**
>
> **[Q.] Did Northern artillery projectiles experience a high detonation failure rate (DFR)? [H.] If Northern artillery projectiles experienced a high DFR, there should be relatively high frequencies of unexploded 9-in and 11-in shells, 13-in mortar rounds, and rifled shells (ranging from 20-pounder to 100-pounder in size) within Area B.** Conversely, **[H.] if Northern artillery projectiles experienced a low DFR, there will be relatively few unexploded 9-in and 11-in shells, 13-in mortar rounds, and rifled shells (ranging from 20-pounder to 100-pounder in size) within Area B.**
>
> **[Q.] Does the distribution of spent artillery rounds within Area B indicate anything about the return fire of Confederate artillery in the water battery? [H.] If there are relatively large numbers of 42-pounder, 8-in** [as noted previously, this would not apply to 8-in rounds, because both sides had weapons of this caliber], **and 10-in shell or mortar round fragments in area B, this would indicate (1) that the fuses in the Confederate ordnance were improperly timed causing premature detonation or (2) that the propellant charges used in the Confederate artillery were insufficient to deliver the projectiles to their directed targets.**
>
> **[Q.] Does the distribution of spent Confederate artillery rounds in Area B evidence some type of undocumented land engagement attempted during the siege? [H.] If the distribution of spent Confederate artillery rounds evidences some type of undocumented land engagement attempted during the siege, discarded or lost Union military items, such as buttons, buckles, and gun parts, should be found within the distribution of the Confederate shells.**

Relatively little, if any, attention has been directed toward the archaeological study of [a] Civil War siege, such as was fought at Fort Jackson. It may be important to examine whether the horizontal orientation of the elongated rifled shells has any bearing on determining the direction from which they were fired: **[Q.] Does the horizontal orientation of a rifled projectile indicate the**

direction from which it was fired? [H.] If the horizontal orientation of a rifled projectile indicates the direction from which it was fired, there should be a relatively large number of rifled projectiles (ranging from 20-pounder to 100-pounder in size—representing those types fired from Northern guns) in Area B having a basic east-west orientation with their distal ends positioned to the west. Conversely, **[H.] if the horizontal orientation of projectiles fired from rifled guns has no bearing on the location from which they were fired, the horizontal orientation of these shells will be random.**

Similarly, the declination of rifled shells (i.e., their orientation in relation to the horizontal plane) may be able to indicate trajectory and relative firing distances. **[Q.] Does the declination of rifled shells indicate trajectory and relative firing distance? [H.] If the declination of rifled shells indicates trajectory and relative firing distances, then shells found having a high degree of declination would have been fired with a high trajectory from a relatively long distance. Similarly, [H.] if the declination of rifled shells indicates trajectory and relative firing distances, then rifled shells found with relatively little or no declination would have been fired with a low trajectory from a relatively shorter distance.**

Questions concerning shell orientation may not provide significant information on the siege of Fort Jackson that is not readily available from historical sources. Verifying that the orientation of these types of projectiles can provide information on location and relative firing distances is important, however, because this type of data may be useful in making interpretations at other sites. Questions concerning rifle shell orientation, unfortunately, hinge on finding unexploded rounds within the survey area and their being in an undisturbed context [Hunter and Reeves 1990:125-128].

Significance of Expected Resources

The significance of the anticipated cultural resources in Area B hinged on two evaluation criteria established by the National Park Service: (1) that the artifacts are "associated with events that have made a significant contribution to the broad patterns of our history" and (2) that they "have yielded, or may be likely to yield information important in prehistory or history" (National Park Service 1982). Clearly it can be argued that the siege of Fort Jackson was an important event in our nation's history, as Hunter and Reeves (1990:128) maintained:

> the engagement at Fort Jackson was a decisive battle in the Civil War. If Farragut was unsuccessful in passing the forts in April 1862, the capture of New Orleans would have been prevented or delayed. Federal control of the mouth of the Mississippi was necessary to implement the division of the Confederacy and deliver a devastating blow to Southern commerce. The early fall of New Orleans to Federal troops surely had substantial significance in the outcome of the war.

It could be argued that the artillery shells and fragments anticipated within Area B constitute a significant cultural resource, because they are associated with this important historical event. However, it also could be asserted that mere shell fragments—out of the archaeological context and, therefore, of little research value—would not constitute a significant property, especially if whole artifacts, such as those displayed at the Fort Jackson Museum, were readily available to the general public to serve as tangible links to this important event in our past. To clearly establish whether these anticipated artifacts constituted a significant historic property, their evaluation in the archaeological perspective is a must:

> The second criterion, that the site "have yielded, or may be likely to yield information important in prehistory or history," in this case, is an archaeological consideration. Simply put, do the artillery rounds and fragments and their distributions (or any unknown resources in this locale) have the potential to yield such information? Probably one of the most important research questions that can be asked in relation to this is [Q.] **Do the artifacts (projectiles and fragments) and their distributions in Area B confirm the historical record concerning the siege of Forts Jackson and St. Philip?** Also, [Q.] **do the artifacts in Area B add significant information to what is already known about this Civil War engagement?** [Hunter and Reeves 1990:128].

A standard means to determine whether a site is significant is to demonstrate that it has the ability to answer important research questions, such as those asked above.

Previous Impacts

Hunter and Reeves (1990:128-131) noted that levee construction had impacted Area B along its northern limits. Also, they observed that an unimproved road bisected the construction locale during the 1930s and that the timber had been cut from the area on at least two occasions—in 1862 and 1903. The authors indicated that it had been difficult to determine to what degree the area had been impacted by those activities. They noted, however, that many of the areas surrounding Fort Jackson had been collected by metal detector enthusiasts for several decades, and those particular impacts could possibly be the most adverse.

Archaeological Survey

Methods

Because Area B appeared to be densely overgrown, Hunter and Reeves (1990:131) recommended that the archaeological survey techniques used in that locale include extensive coverage with randomly-placed shovel tests and thorough metal detector scans. The authors believed that it would not be feasible to cut transects through the thick underbrush to carry out systematic shovel testing and electronic sensing.

When the field survey was initiated, the crew found that Area B was covered primarily with overstory vegetation, consisting mainly of large hardwood trees. Beds of ferns and large palmettos were scattered over the locale; however, the understory vegetation was not as dense as expected. In consequence of this, the survey crew established a primary baseline running east-west in the northern third of the survey area (Figure 11). Secondary baselines, spaced at 50 meter intervals, were run north-south off the primary baseline to affect a site grid. One member of the three-man crew walked each secondary baseline while the other traversed parallel transects 15 m on each side. Metal detector scans were conducted along each, and shovel tests were dug at 50-m intervals in an off-set pattern (see Hunter and Reeves 1990:Figure 42).

Results of the Survey

As expected, the archaeological survey of Area B located few cultural features with the notable exception of numerous artillery shell fragments. Additionally, a large stoneware jug fragment (Figure 12) was found on the surface at the base of an oak tree near survey coordinates S190-E300. This vessel fragment features a brown slip-glaze on both the exterior and interior surfaces. Its form is that of a common storage jug with a single strap handle. The vessel form and particular glazing techniques were common during the 50-year period between

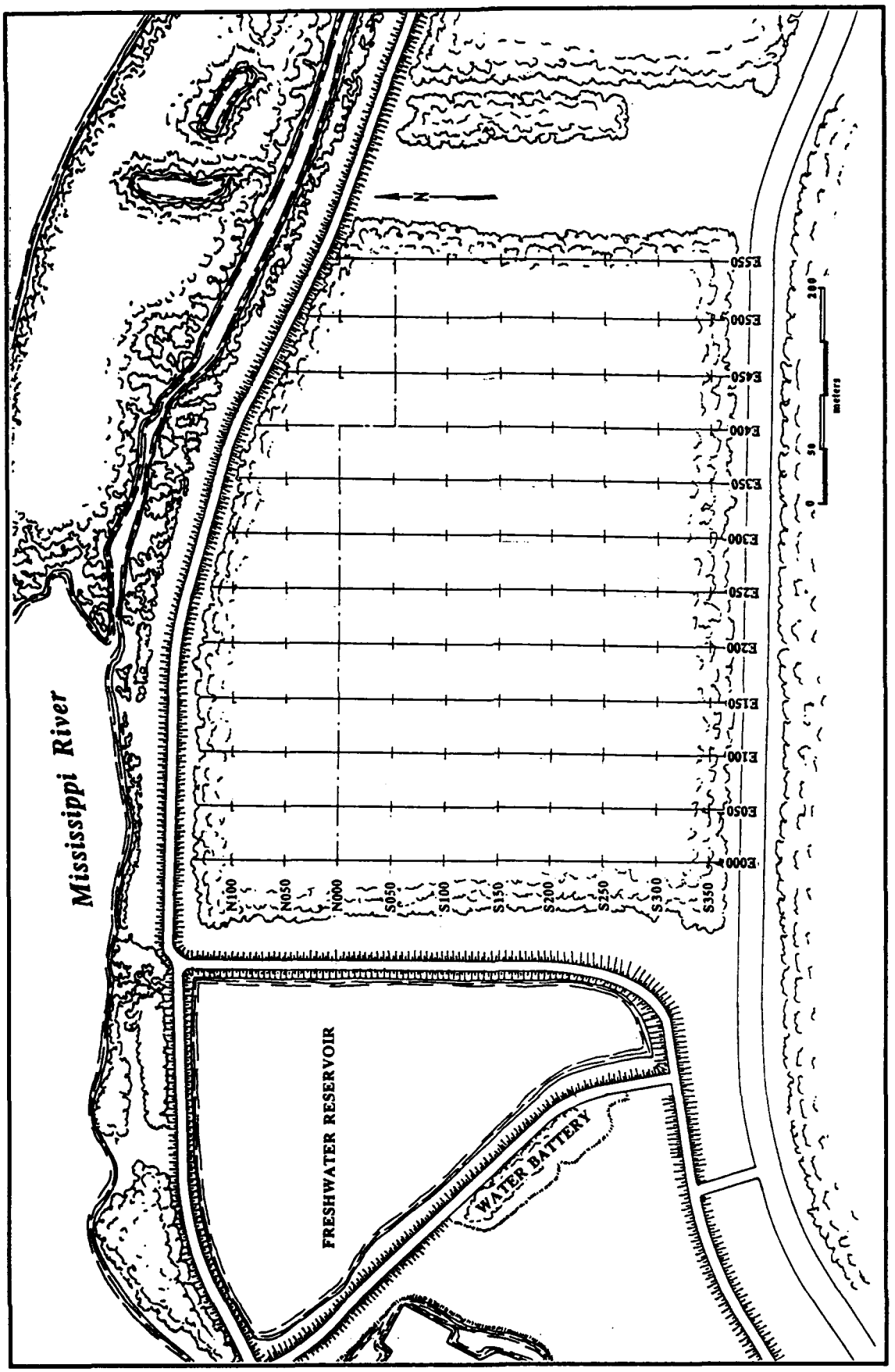

Figure 11. A map of Area B showing primary and secondary baselines forming the survey grid.

1850 and 1900 (Greer 1981). Because no associated cultural debris was found, the jug fragment appears to have been an isolated artifact that probably was not directly associated with any cultural activity in that locale. Possibly, it floated into that area during a flood prior to levee construction.

Also, near survey coordinates S042-E350 a large amount of shell from the marsh clam, *Rangia cuneata*, was exposed on the surface. In expectation that this deposit related to an aboriginal occupation, numerous randomly-placed shovel tests were excavated near that locale. These tests, plus intensive metal detector scans in the area, located numerous wire nails, machinery parts, and fragments of Portland cement concrete. Also, the remains of what appeared to be a gas or oil well head and an associated sludge pit were found. It appears that these deposits are the remains of an abandoned oil or natural gas well that was drilled in Area B sometime during this century.

As expected, the only cultural remains located during the survey of Area B, which possibly constituted a significant resource, were numerous artillery round fragments. No whole or unexploded shells were found during the investigations of that locale. Seventy-eight artillery round fragments were recovered. Among these, only one was located in the ground with the use of metal detectors. All of the others were surface finds, and none were found during the extensive shovel testing of this area. More than half of these fragments were found in various piles at the bases of trees. Those small heaps and numerous old depressions indicated that Area B had been extensively collected over the past several decades. The piles of fragments were obviously discarded in those locations, while whole shells and the more select pieces were removed from the site. Placing these unwanted fragments at the bases of trees could have been a way collectors could insure themselves they were not up-turning the same articles time and again through years of digging in the same general locale.

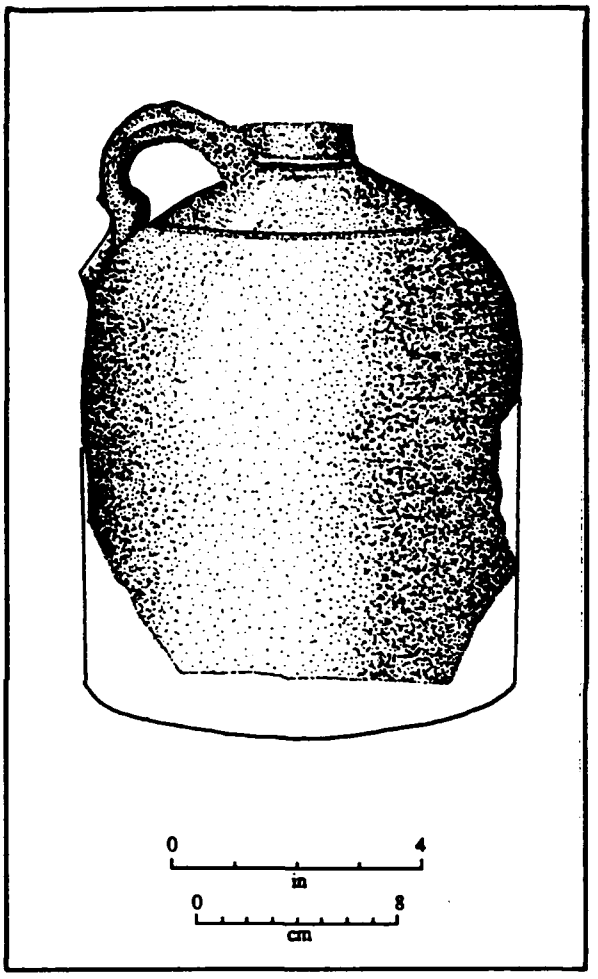

Figure 12. A drawing of a slip-glazed stoneware jug fragment from Area B (Surface, S190 E300).

The archaeological investigations conducted in Area B confirmed a prime hypothesis set forth in the research design (i.e., no significant cultural features were expected in that locale, with the possible exception of scattered artillery rounds and fragments). At first glance, it would seem that the archaeological context of these artifacts had been disturbed to such a

degree that they could no longer be used in addressing questions about this Civil War bombardment. Also, the removal of certain diagnostic artifacts—whole shells, unusual fragments, and fuse plugs—would greatly restrict archaeological interpretations.

Frequently, collectors overlook meaningful artifacts in their quest for unusual or valuable pieces. For example, "arrowhead" collectors frequently are not interested in ceramics, which in many instances are more useful in answering site-specific questions, such as site age, number of occupations, etc. Similarly, the collectors working in Area B, probably overlooked the most common types of shells and fragments, which reflect the normal range of activities typifying the siege. Although whole or unusual artifacts may have been removed from the site, there was still a potential that the artifacts, even in disturbed contexts, may have had the ability to answer research questions. Additionally, if an artifact's vertical context has been disturbed, its horizontal context (i.e., its location within the site and its horizontal relationships to other artifacts) may be relatively intact.

Many of these artifacts were relatively heavy; therefore, it was expected that they were not carried any significant distance from where they were originally found. If this assumption is valid, the horizontal context of these fragments remained relatively undisturbed. With these considerations in mind, it was hoped that these fragments might supply some general distributional data that could be used to address some of the research questions established for that area.

Because the overwhelming majority of artifacts were surface finds and because many were recovered from some distance off the individual survey transects, all were recorded as if they were found along the secondary baselines themselves. For example, if a fragment was recovered several meters east of the E350 transect, it was brought to the E350 line and its distance north or south of the primary baseline was measured and recorded. Stringent horizontal control was not deemed necessary, because all of the fragments (excepting the single one mentioned above) were in disturbed contexts. This recording method was believed sufficient to address questions concerning shell distribution in that area.

In the laboratory, the artifacts from Area B were mechanically cleaned using a wire brush and a small chisel to remove excess accumulations of rust. Outer surface curvatures and wall thicknesses were measured to determine calibers and types of projectiles (i.e., mortar, shell, or case in terms of spherical fragments). Rifled shell fragments were easily recognized by their cylindrical sections.

Table 2 lists the artillery shell fragments recovered from Area B, their proveniences, projected diameters, wall thicknesses, and probable origins (i.e., from which opposing side they were fired). The types and frequencies of the various recovered fragments are presented in Table 3. It is interesting to note that of the total 78 fragments, the types and sizes of 65 could be identified. The form of seven other fragments could not be identified, because they were either too small or lacked intact surfaces. Two spherical fragments and four rifled shell fragments were too small to identify caliber. Spherical fragments were the most numerous, 62 being found. Only seven rifled fragments were identified. The resulting ratio is approximately seven spherical rounds to every rifled round, which is slightly greater than the ratio between the combined total number of smoothbores (417) and rifled guns (40) used by both sides (i.e., slightly more than 10:1).

A primary consideration in answering the research questions concerning shell distributions in Area B was whether all of the shells and fragments were related to the Civil War siege. Hunter and Reeves (1990:120) noted that if shells manufactured after 1862 or types not used during the bombardment were found in Area B, then all of the artifacts were not related to the actual battle. It should be noted that none of the fragments found during the survey were

Table 2. Shell Fragments Revovered from Area B.

Provenience	Form	Diameter	Thickness	Remarks	Type	Probable Origin
S34 E000	Spherical	13-in	2.4-in		13-in mortar	Federal Mortar Flotilla
S034 E000	Spherical	11-in	2.1-in		11-in shell	Federal Fleet
S034 E000	Unknown	Unknown	Unknown	small	Unknown	Unknown
S121 E000	Spherical	13-in	2.3-in		13-in mortar	Federal Mortar Flotilla
S121 E000	Spherical	10-in	1.8-in		10-in shell	Unknown
S212 E000	Spherical	10-in	2.0-in		10-in shell	Unknown
S230 E000	Spherical	10-in	2.3-in		10-in shell	Unknown
S027 E050	Spherical	13-in	2.3-in		13-in mortar	Federal Mortar Flotilla
S088 E050	Spherical	9-in	1.0-in		9-in spherical case	Federal Fleet
S121 E050	Rifled	4-in	Unknown		30-pdr rifle	Federal Fleet
E50 S171	Spherical	10-in	2.1-in		10-in shell	Unknown
S220 E050	Spherical	11-in	1.7-in		11-in spherical case	Federal Fleet
S220 E050	Spherical	11-in	2.1-in		11-in shell	Federal Fleet
S220 E050	Unknown	Unknown	Unknown	small	Unknown	Unknown
S220 E050	Spherical	10-in	1.6-in		10-in mortar	Ft. Jackson Water Battery
S220 E050	Spherical	13-in	2.0-in		13-in mortar	Federal Mortar Flotilla
S220 E050	Spherical	9-in	1.0-in		9-in shell	Federal Fleet
S220 E050	Spherical	13-in	2.7-in		13-in mortar	Federal Mortar Flotilla
S220 E050	Spherical	13-in	2.7-in		13-in mortar	Federal Mortar Flotilla
S230 E050	Spherical	11-in	2.1-in		11-in shell	Federal Fleet
S230 E050	Spherical	11-in	2.0-in		11-in shell	Federal Fleet
S230 E050	Spherical	9-in	1.7-in	segmented	9-in shell	Federal Fleet
S230 E050	Spherical	9-in	1.5-in		9-in shell	Federal Fleet
E078 N000	Spherical	11-in	1.8-in	segmented	11-in segmented shell	Federal Fleet
N015 E100	Rifled	6.2-in	1.15-in			Unknown
N008 E100	Spherical	10-in	1.9-in		10-in shell	Unknown
S111 E100	Spherical	13-in	2.6-in		13-in mortar	Federal Mortar Flotilla
S121 E100	Spherical	11-in	2.0-in		11-in shell	Federal Fleet
S121 E100	Spherical	11-in	1.8-in		11-in spherical case	Federal Fleet
N085 E150	Spherical	11-in	2.0-in		11-in shell	Federal Fleet
S040 E150	Spherical	11-in	2.1-in		11-in shell	Federal Fleet
S073 E150	Spherical	9-in	1.7-in		9-in shell	Federal Fleet
S073 E150	Spherical	11-in	1.8-in		11-in spherical case	Federal Fleet
S073 E150	Spherical	8-in	1.8-in		8-in shell	Unknown
S073 E150	Spherical	10-in	1.7-in		10-in mortar	Ft. Jackson Water Battery
S072 E150	Unknown	Unknown	Unknown	small	Unknown	Unknown
S073 E150	Spherical	Unknown	Unknown	small	Unknown	Unknown
S073 E150	Unknown	Unknown	Unknown	small	Unknown	Unknown
S073 E150	Unknown	Unknown	Unknown	small	Unknown	Unknown
S073 E150	Unknown	Unknown	Unknown	small	Unknown	Unknown
S073 E150	Unknown	Unknown	Unknown	small	Unknown	Unknown
S073 E150	Unknown	Unknown	Unknown	small	Unknown	Unknown
S100 E150	Unknown	Unknown	Unknown	small	Unknown	Unknown
S100 E150	Spherical	11-in	1.9-in		11-in spherical case	Federal Fleet
S102 E150	Spherical	13-in	2.7-in		13-in mortar	Federal Mortar Flotilla
S210 E150	Spherical	11-in	2.1-in		11-in shell	Federal Fleet
S210 E150	Rifled	6.2-in	variable		7-in rifle	Undetermined Confederate
S210 E150	Spherical	10-in	2.2-in		10-in shell	Unknown
S210 E150	Spherical	11-in	2.1-in		11-in shell	Federal Fleet
S214 E150	Spherical	13-in	2.6-in		13-in mortar	Federal Mortar Flotilla
S214 E150	Spherical	8-in	1.1-in		8-in spherical case	Unknown
S100 E200	Spherical	13-in	2.5-in		13-in mortar	Federal Mortar Flotilla
S100 E200	Unknown	Unknown	Unknown	small	Unknown	Unknown
S100 E200	Spherical	13-in	2.5-in		13-in mortar	Federal Mortar Flotilla
S100 E200	Spherical	13-in	2.7-in		13-in mortar	Federal Mortar Flotilla
S078 E250	Spherical	11-in	2.2-in		11-in shell	Federal Fleet
S078 E250	Unknown	Unknown	Unknown	small	Unknown	Unknown
S107 E250	Rifled	7-in	1.2-in			Undetermined Confederate
S227 E250	Spherical	9-in	1.6-in		9-in shell	Federal Fleet
S227 E250	Spherical	9-in	1.2-in		9-in spherical case	Federal Fleet
S140 E300	Spherical	10-in	1.7-in		10-in mortar	Ft. Jackson Water Battery
S179 E300	Spherical	10-in	1.6-in		10-in mortar	Ft. Jackson Water Battery
S230 E300	Spherical	11-in	2.0-in		11-in shell	Federal Fleet
S230 E300	Spherical	11-in	2.0-in		11-in shell	Federal Fleet
S042 E350	Rifled	5.8-in max.	variable		Undetermined	Unknown
S042 E350	Spherical	11-in	1.8		11-in spherical case	Federal Fleet
S114 E350	Rifled	7-in	Unknown	small	7-in rifle	Undetermined Confederate
S128 E350	Rifled	3.2-in	1.7-in		20-pdr rifle	Federal Fleet
S196 E350	Rifled	Unknown	Unknown		Unknown	Unknown
S196 E350	Spherical	Unknown	Unknown	small	Unknown	Unknown
S031 E350	Spherical	10-in	1.6-in		10-in mortar	Ft. Jackson Water Battery
S094 E400	Spherical	11-in	1.8-in		11-in shell	Federal Fleet
S099 E400	Spherical	13-in	2.5-in		13-in mortar	Federal Mortar Flotilla
S100 E400	Spherical	9-in	1.7-in		9-in shell	Federal Fleet
S100 E400	Rifled	6.2-in	variable		Undetermined	Unknown
S250 E450	Spherical	8-in	1.0-in		8-in shell	Unknown
S140 E500	Spherical	13-in	2.5-in		13-in mortar	Federal Mortar Flotilla
S140 E500	Spherical	13-in	2.6-in		13-in mortar	Federal Mortar Flotilla

Table 3. Types of Artillery Round Fragments Recovered from Area B.

U.S. Naval Types	
13-in Mortar	15
11-in Spherical Shell	13
11-in Segmented Spherical Shell	1
11-in Spherical Case	5
9-in Spherical Shell	5
9-in Segmented Spherical Shell	1
9-in Spherical Case	2
20-lbr Rifled Shell	1
30-lbr Rifled Shell	1
Confederate Types	
10-in Mortar	5
7-in Rifled Shell	3
Shared Types	
10-in Spherical Shell	10
8-in Spherical Shell	2
8-in Spherical Case	1
Unidentified Types	
Undetermined Fragments	7
Undetermined Spherical	2
Undetermined Rifled	4
Total	**78**

datable, because all lacked fuse plugs that frequently bear the date of manufacture. It is, therefore, impossible to definitely state that all of the shell fragments in Area B are related to the bombardment itself. Because that area was situated between the water battery of Fort Jackson and the Federal fleet during the battle, it would seem logical to assume that most, if not all, of the recovered artifacts relate to the Civil War siege. An additional argument that these fragments were associated with the actual battle may be made by the fact that all of the recovered types were known to have been used either by Confederate or Union forces during the siege, and other types, which are not known historically to have been used in the battle, were not found.

Assuming that all fragments relate to the battle, some interesting observations can be made when viewing Table 3. Forty-four fragments could be identified as coming from the Northern fleet, while only eight could identified as definite Confederate types. These determinations were made primarily on the basis of projected shell diameters. Because it was known that certain types or calibers of guns were unique to a particular side during the siege, it was

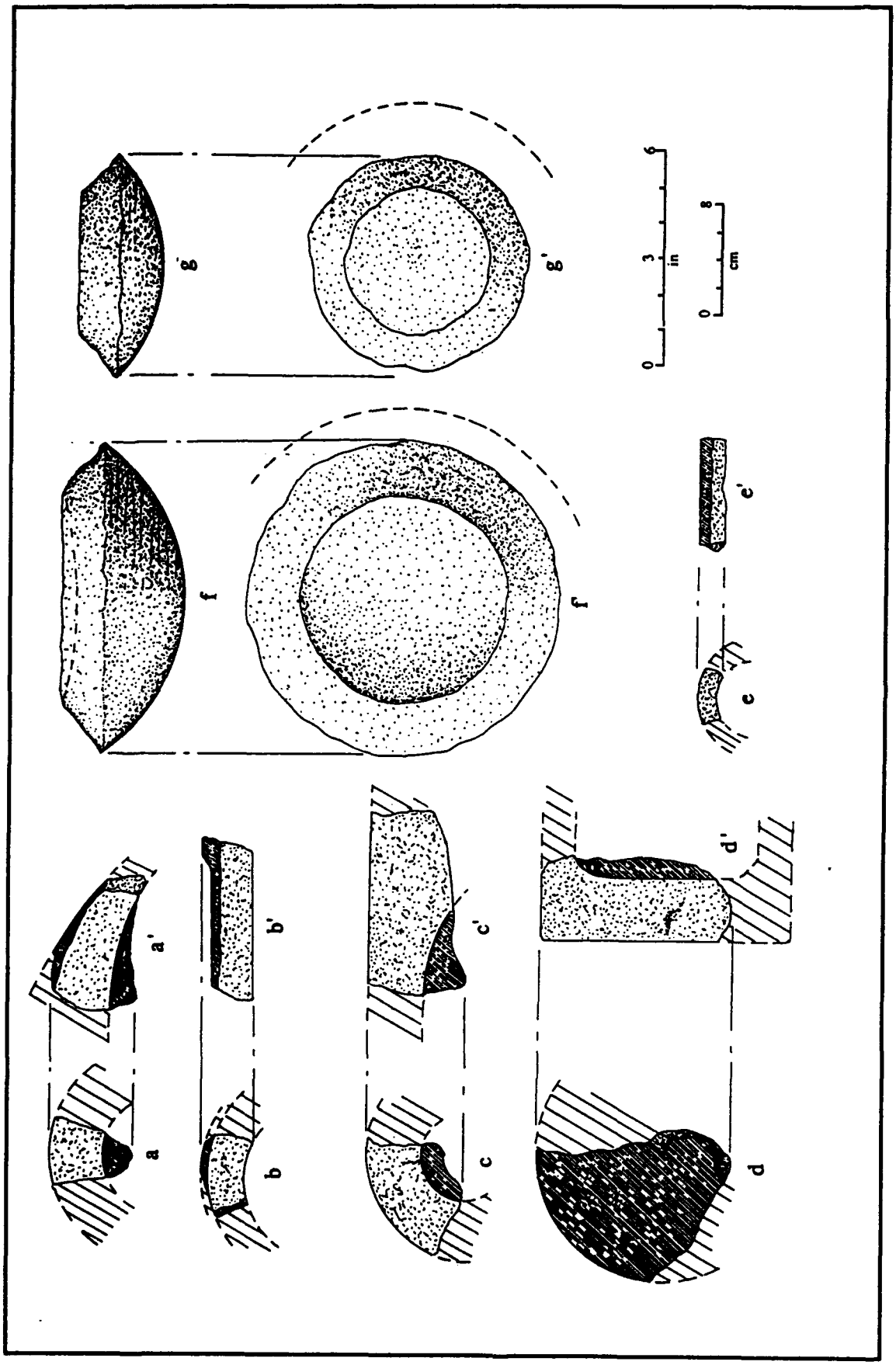

Figure 13. Drawings of selected artillery shell fragments recovered from Area B: (a-c') unidentified 6.2-in rifled shell fragments; (d-d') Confederate 7-in rifled shell fragment; (e-e') Union 20-pounder rifled shell fragment; (f-f') Union 11-in segmented spherical shell fragment; (g-g') Union 9-in segmented spherical shell fragment. Provenience: (a) E150 S210; (b) N015 E100; (c) S109 E450; (d) S042 E350; (f) N000 E078; (g) S236 E050.

possible to state that certain fragments were fired from Confederate batteries, while others were shot from the Federal fleet (see Table 1).

One might expect that 13-in fragments would be the most common type found in Area B, because the historical record makes no mention of extensive shelling by any other type of artillery. On the contrary, 11-in shell fragments were the most frequent type recovered during these investigations, indicating that shelling by boats other than the mortar flotilla was fairly common during the siege. Represented among the 11-in fragments were 13 spherical common shell, 5 spherical case, and an unusual segmented spherical shell fragment (Figure 13, f-f'). Thirteen-inch mortar shell fragments were the second most common Federal type present, with fifteen identified in the collections. Combined, 13-in and 11-in fragments accounted for approximately 64% of the Federal types found in Area B.

Seven fragments from Area B were identified as types fired from 9-in Federal smoothbores. These included five spherical common shell, two spherical case, and one unusual segmented shell (Figure 13, g-g'). It is argued that the vast majority of these fragments came from Northern guns, because the Federal fleet maintained 97 guns of this size, while the Confederates had only four. It is interesting to note the relative paucity of 9-in fragments compared to 11-in fragments in Area B, considering there were so many 9-in guns in the Northern fleet. Perhaps, the 9-in guns did not have sufficient range to be used during the bombardment of the forts when the Federal fleet was positioned nearly 2 mi downstream.

The two remaining shells that can be attributed to the Federal fleet are two rifled shell fragments. The diameter of one of these coincides with measurements for a 20-pounder shell (Figure 13, e-e'), while the other corresponds to that of a 30-pounder shell. Even though the types of these rifled fragments (i.e., Parrott, Schenkl, Hotchkiss, etc.) cannot be determined, only the Federal Navy had rifled guns of these sizes during the battle at Plaquemines Bend.

Because both the Federal fleet and the Confederate batteries maintained 8-in and 10-in guns, shell fragments of these calibers cannot be attributed to fire from a particular side during this Civil War battle. Ten 10-in shell, two 8-in shell, and one 8-in spherical case fragments were included in this group of artifacts.

As stated above, mortar shells can generally be differentiated from common shell fragments, the former having a relatively thinner wall thickness. Thus, with careful measurements and comparisons, mortar rounds can usually be differentiated from common shell fragments of the same caliber. The average wall thickness for 10-in shell is known to have been 2.0-in, while mortar shells of the same caliber have a wall thickness of 1.25-in (Mordecai 1886). Fragments of five 10-in mortar rounds were found in Area B. The historical record indicates that only Fort St. Philip and the water battery below Fort Jackson had guns of this type, and, therefore, these artifacts can be attributed to Confederate fire, probably from Fort Jackson's water battery.

Also, the three 7-in rifled shell fragments from Area B are undoubtedly from Confederate artillery (Figure 13, d). The Southerners had four guns of this caliber—two in the Confederate flotilla, one at St. Philip, and one in Fort Jackson's water battery. The Federal fleet lacked 7-in rifles; therefore, these fragments resulted from Confederate fire.

Notably absent from the collection are grape and canister shot. However, these were relatively short-range weapons and not the types normally associated with long-range bombardment. Also, smoothbore shot was not recovered, but this is not surprising considering that shot did not fragment and that no whole artillery rounds were found during the survey. Possibly shot, another long-range projectile type, were removed by collectors in their

quest for whole or unique artifacts. Additionally, it should be pointed out that shell fragments from guns ranging in caliber from 12 to 42-pounder were not recovered, although these types were used by the opposing forces at Plaquemines Bend. These guns were relatively small, compared to some of the other types employed during the battle, and they may not have been used during the actual bombardment to any great extent because of their comparatively shorter ranges. The absence of all these types seems to support the concept of a situation where long-range bombardment was the essence of the engagement.

It is usually necessary in the course of significance evaluation to determine whether an archaeological site and its artifacts have the potential to answer questions important in our history (National Park Service 1982:29). Two research questions were formulated by Hunter and Reeves (1990:128) to aid in the assessment of cultural resources expected in Area B:

> **[Q.] Do the artifacts (projectiles and fragments) and their distribution in Area B confirm the historical record concerning the siege of Forts Jackson and St. Philip?** Also, **[Q.] do the artifacts in Area B add significant information to what is already known about this Civil War engagement?**

Generally, it can be answered that the artifacts within Area B confirm the historical record concerning the bombardment of these two lower river forts. As was illustrated above, only artillery projectiles known to have been used during the engagement were found during the survey. Also, the projectiles are characteristic of a long-range bombardment, such as the type described in numerous documents of the period. Additionally, no artifacts were encountered that would evidence some undescribed land-based assault or engagement.

Of prime importance in establishing the significance of a site is its ability to yield information that is not readily available from other sources—in this case, the historical record. There is an extensive amount of documentary information on this battle. If it could be determined that extensive archaeological investigations in Area B were able to provide important insights into the battle that are not available in the written record, the potential significance of the site would be increased. If the opposite proved correct, or the site had no further potential to answer research questions, then its potential significance thereby would be decreased.

In an effort to assess site significance and determine whether the artillery fragments in Area B had the potential to provide additional insights to the Civil War battle, the analysis was structured toward addressing the research questions cited earlier in this chapter. Some of the questions concerning rifled shell orientation and shell declination could not be investigated, simply because no whole artillery rounds were found in that particular survey area. Other questions concerning detonation failure rate (DFR) could not be examined for the same reason. It was hoped, however, that distributional analysis could lend insights to the nature of the bombardment and the return fire from the Confederate batteries, primarily that from Fort Jackson's water battery. These interpretations assume that collecting activities have not significantly altered the horizontal distribution of these fragments and that the relative frequencies of fragments are representative of the types of artillery rounds that fell into that locale.

The distribution of the artillery rounds recovered from Area B is illustrated in Figure 14. The fragments are differentiated by Confederate, Northern, and undetermined types. Generally, the frequencies of shell fragments are higher in the western part of the survey area. This would be expected, because that portion of the survey area was closer to the target (i.e., Fort Jackson). However, both Confederate and Northern types are shown in Figure 14, and to clearly illustrate any distributional differences it was necessary to plot each according to its probable origin.

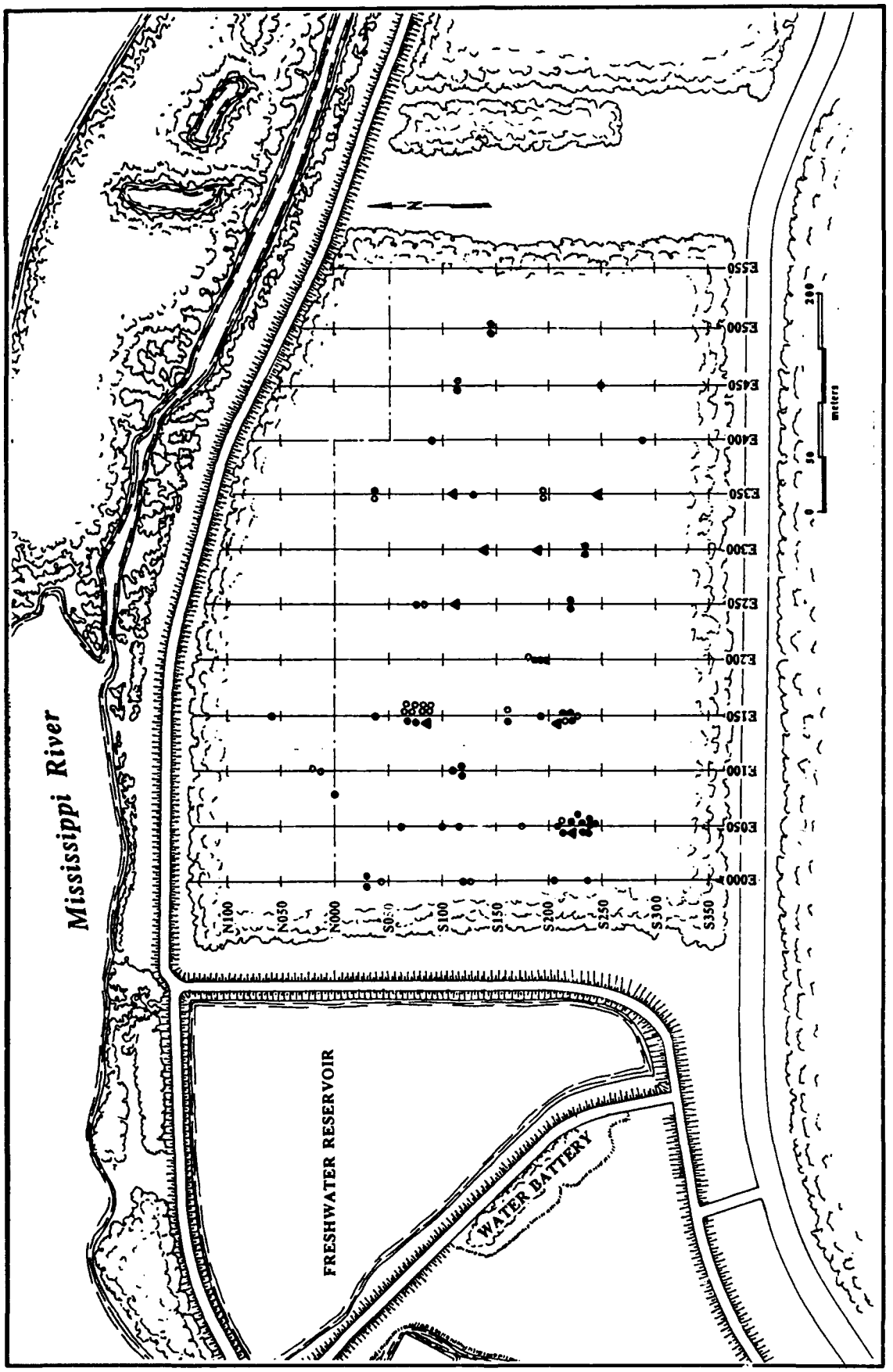

Figure 14. Distribution of artillery shell fragments recovered from Area B. Solid circles are Union types. Solid triangles are Confederate types. Hollow circles are undetermined types.

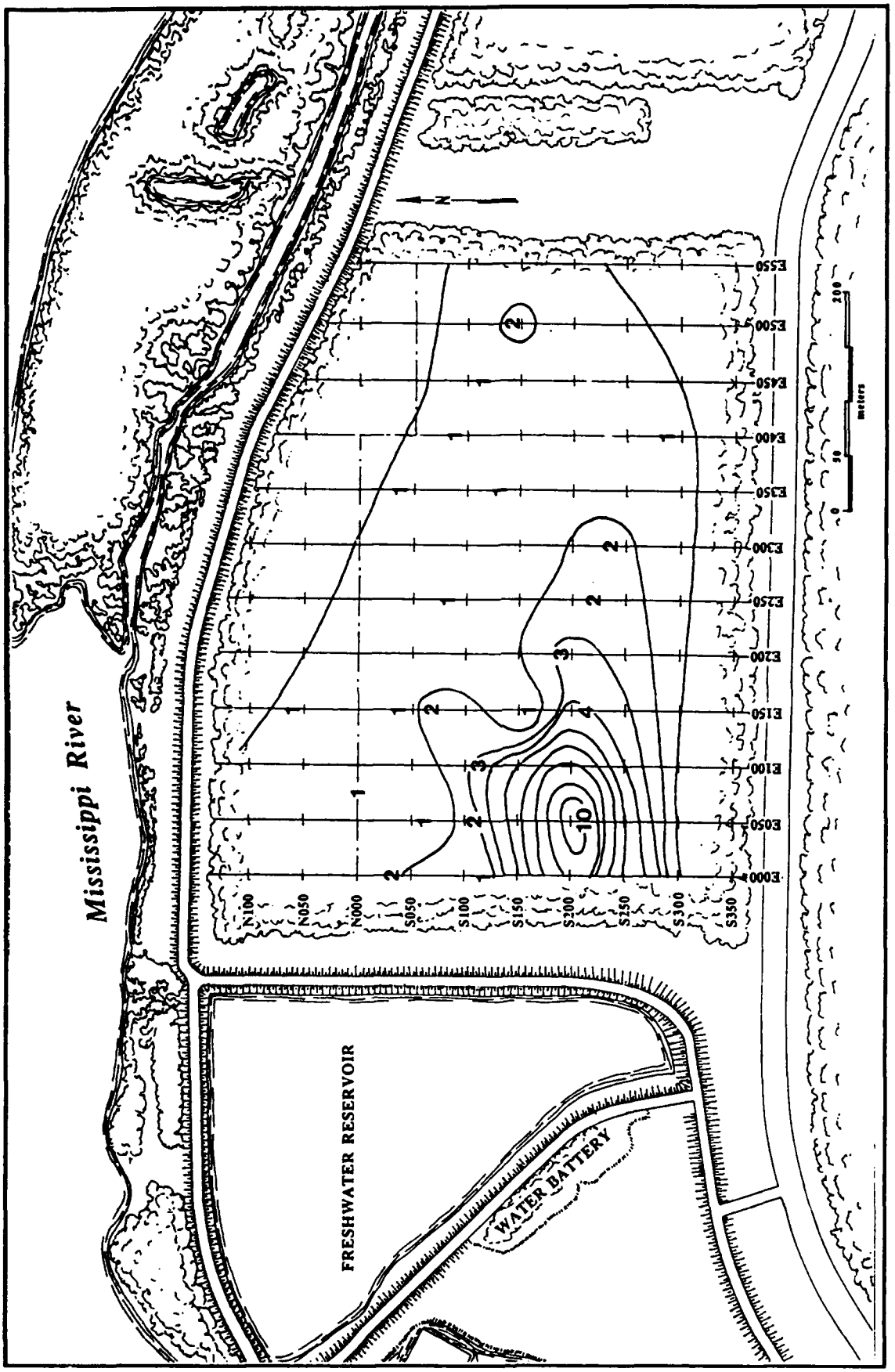

Figure 15. Distribution of Union artillery round fragments recovered from Area B.

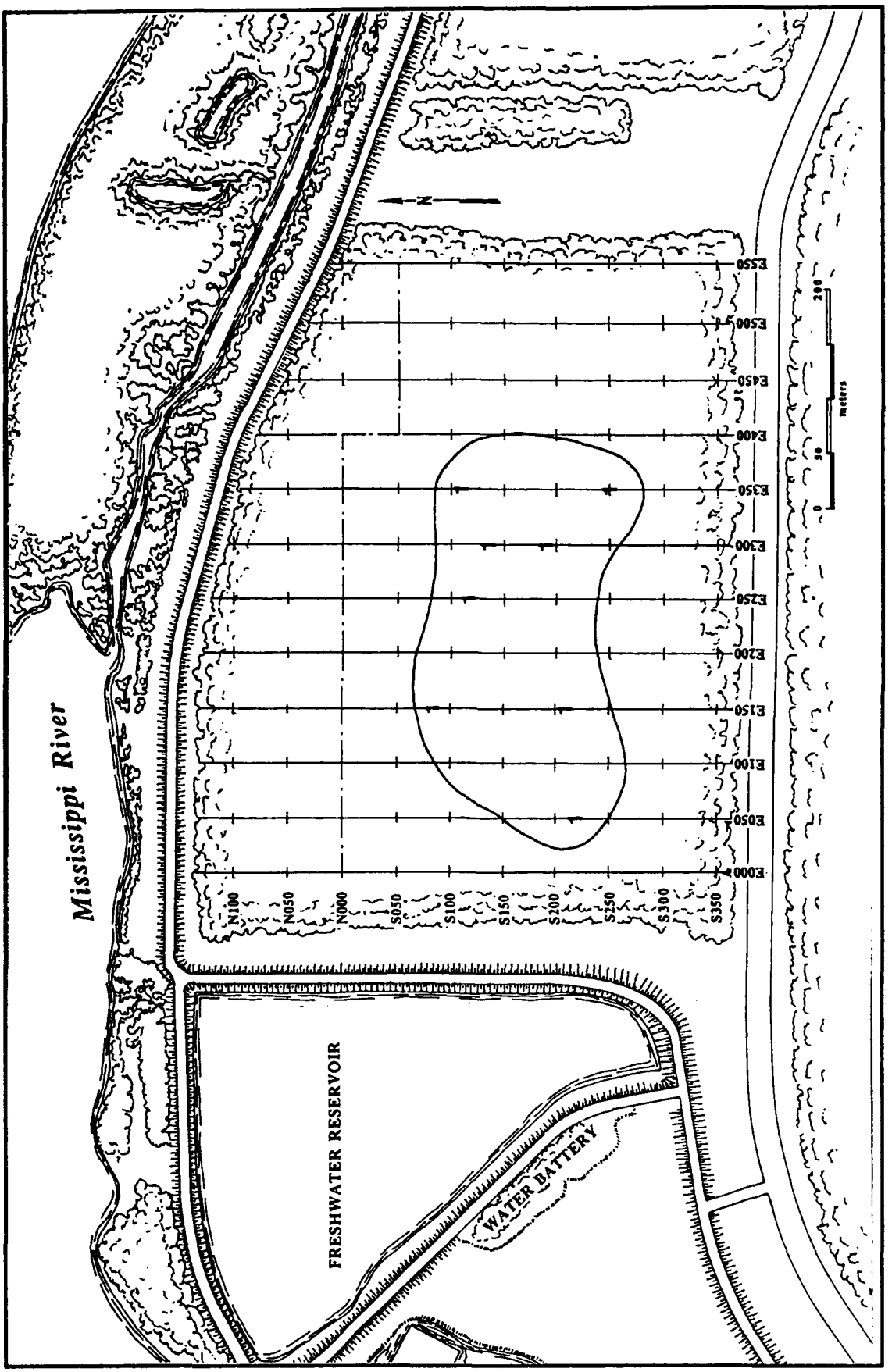

Figure 16. Distribution of Confederate artillery round fragments recovered from Area B.

The distribution of Federal fragments is shown in Figure 15. Contouring these frequencies illustrates a high concentration in the southwestern corner of Area B, centered around S200 E50, or approximately 300 m east of the water battery. This seems to suggest that the water battery, not the fort proper, was the primary target during the bombardment. Because most of the Federal fleet could not see Fort Jackson during the siege and because most of the Confederate return fire was from the water battery, it may be logical to expect that the Union gunners were training their cannons on the main source of the hostile fire. This would account for the concentration falling on a line well south of the Fort. However, this distribution maybe somewhat skewed considering the number of unidentified fragments found near S075 E150 (see Figure 14). If these unidentified fragments were actually fired from Union guns, then a somewhat more even distribution centering on both the water battery and the fort itself may be visualized. If this is a correct interpretation, a general distributional trend toward increasingly higher frequencies of Northern fragments in the western half of the survey area can be seen. This would imply that the Union fire on Fort Jackson was relatively accurate, a fact which is supported by the historical record.

The distribution of identified Confederate fragments is shown in Figure 16. It should be noted that these include five 10-in mortar shell fragments and three rifled shell fragments, indicating that they were fired from the water battery of Fort Jackson. These artifacts are distributed somewhat evenly over the central portion of Area B. It is interesting to note that they fall within the line of fire between the water battery and the position of the mortar flotilla during most of the bombardment. The distribution of Confederate shell fragments can be explained by poorly timed or improperly fused shells that exploded well before reaching their target. Again, the historical record notes that the Southern gunners had trouble timing their rounds because of comparatively inferior quality ordnance. This interpretation merely confirms the historical accounts and adds no insight to the battle itself.

Recommendations

Considering the above information, it appears that nothing further can be determined about the battle by the recovered shell fragments and their distributions in Area B. That locale seems to have been extensively collected over the past decades, and the present survey located no intact (in-the-ground) remains. Therefore, it appears that further investigation of that area would not produce information that could be used to address research questions concerning this important Civil War battle. Also, as noted previously, whole artifacts—representing the range of types encountered during the survey—are readily available to the public at the Fort Jackson Museum to serve as a tangible link to this historical event. Therefore, it is believed that the remaining artifacts in Area B do not constitute a significant cultural resource. Consequently, no further work is recommended from the cultural resources point-of-view.

Area C

Research Potential

The historical and cartographic investigations conducted by Hunter and Reeves (1990:132) concluded that there should be few potentially significant cultural resources within the limits of Area C (see Figure 1). Again, Area C is located at some distance from the fort proper and its nineteenth-century protection levee. Because of this and the fact that until relatively recent times this locale had been marsh, few features associated with the fort or other activities were expected. However, interviews with local collectors revealed the possibility that at least four reported artifact concentrations might exist in certain portions of that construction locale (Figure 17). The reported concentrations consisted of small arms projectiles, artillery round fragments, and brass artillery fuse plugs (Hunter and Reeves 1990:76-81).

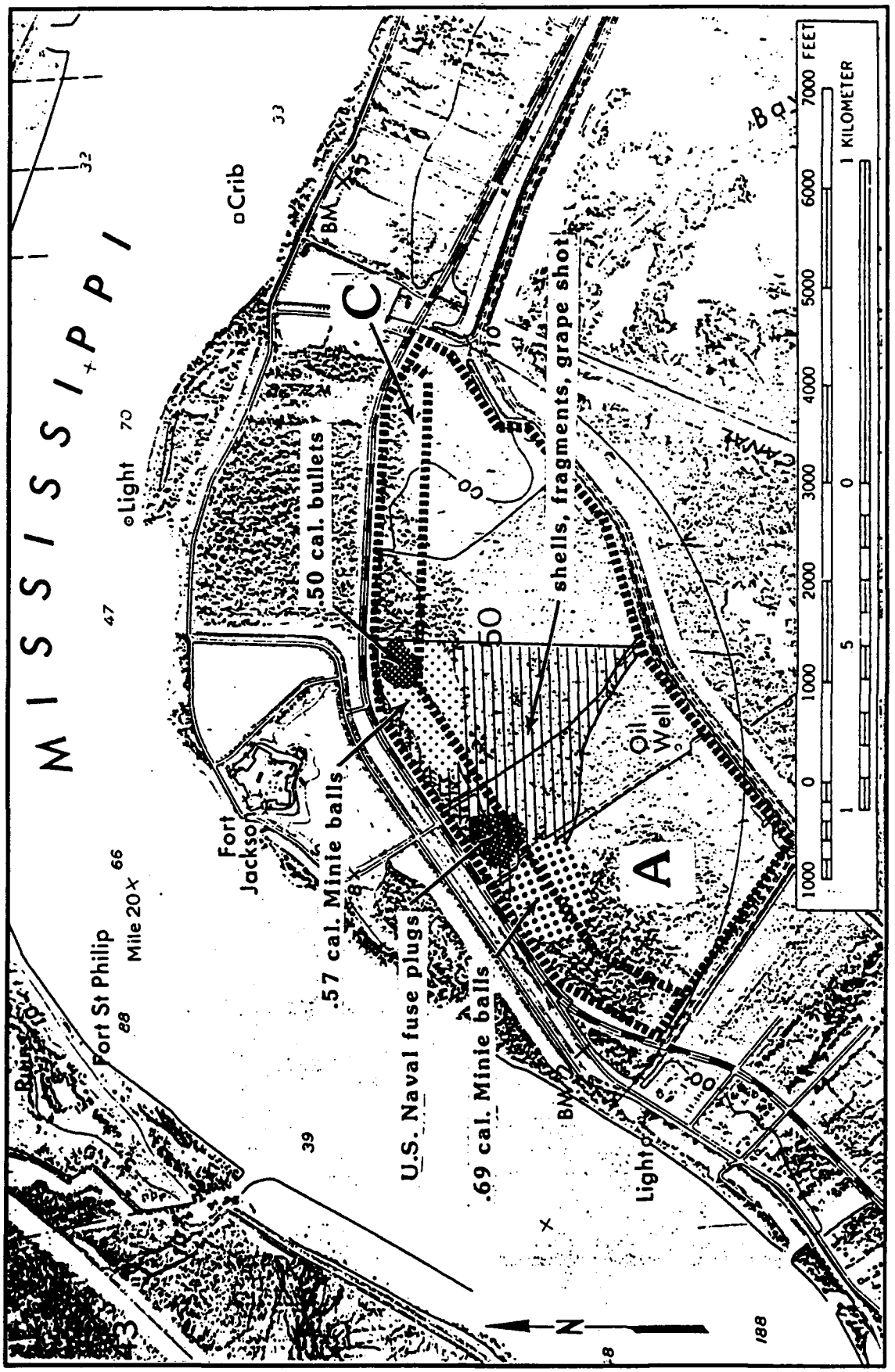

Figure 17. A portion of the 1971 U.S. Geological Survey "Triumph, La." quadrangle, 7.5' series, showing the reported distribution of artifacts in Areas A and C.

In response to the authors' research and the possibility that concentrations of small arms and artillery projectiles existed in Area C, Hunter and Reeves (1990:132-138) generated the following research questions and hypotheses:

> [Q.] **What cultural materials or deposits can be expected in Area C?** The available historical and cartographic information indicates that within Area C no significant cultural resources exist. Since this locale is situated outside the nineteenth-century levee system surrounding Fort Jackson, there would be little reason to suggest that features associated with the fort exist in this area. However...the work of Steve and Earl Coludrovich has delineated four concentrations of materials in Area C...that may evidence other activities taking place outside the fort proper.
>
> Three of these four locales consist of concentrations of small arms (rifle) projectiles....Since no historical information has been found, which would indicate that any sort of land engagement ever took place at Fort Jackson, the Coludroviches have suggested that these clusters are the result of hunting and target practice by the troops stationed at Fort Jackson. These interpretations seem logical, as these collectors state that nothing else (buttons, buckles, etc.), which would indicate that any sort of fighting ever transpired in Area C, has been found in this locale. **[H. If the historical and cartographic information is correct and the record of amateur collectors is accurate, the only cultural materials in Area C will be three concentrations of spent small arms projectiles (.57 and .69 caliber muzzle-loading and .50 caliber breech-loading rifle bullets) and one concentration of brass U.S. Naval fuse plugs situated within a general scatter of artillery rounds and fragments** [see Hunter and Reeves 1990:Figures 31 and 46].
>
> Two of the three reported small arms projectile concentrations consist of muzzle loading types that were frequently used during the Civil War—.69 and .57 caliber Minie balls. All that were found by the Coludroviches were spent; that is, they were fired into area C and were not merely dropped or otherwise discarded.
>
> Certain research questions concerning the occurrence of these articles in Area C...can be formulated. For example, **[Q.] Are the .57 and .69 caliber Minie balls in Area C the result of an undocumented Civil War land engagement fought during the siege of Fort Jackson? [H.] If these small arms projectiles in Area C indicate that there was an undocumented land-based engagement fought at Fort Jackson, then their distribution should coincide with other discarded or lost military items, such as buttons, buckles, and other paraphernalia.** Conversely, **[H.] if the concentrations of .57 and .69 caliber Minie balls in Area C are not the result of an undocumented Civil War land engagement fought during the siege of Fort Jackson, no other lost or discarded military items, such as buttons, buckles, and other paraphernalia, should be found within their total distribution.** Should the latter scenario be the case, then an alternative explanation, such as target practice, would be logical.
>
> Certain other questions may be addressed by these small arms projectiles in Area C. **[Q.] Does the orientation of small arms projectiles in Area C indicate the general direction from which they were fired? [H.] If the orientation of small arms projectiles in Area C indicates the general direction from which they were fired, there should be a pattern to their**

orientation. [H.] If the orientation of small arms projectiles in Area C does not indicate the general direction from which they were fired, their horizontal orientation will be random. [H.] If the orientation of small arms projectiles in Area C indicates the general direction from which they were fired, those having their distal ends positioned toward the south were shot from the vicinity of the fort. Conversely, **[H.] if the orientation of small arms projectiles in area C indicates the general direction from which they were fired, those having their distal ends positioned to the north were fired toward the fort.**

Also, **[Q.] does the declination of these bullets indicate the trajectory and relative distance from which they were fired? [H.] If the declination of small arms projectiles found in Area C indicates that the bullet was fired with a relatively steep trajectory, then it was fired from a relatively great distance.** On the other hand, **[H.] if the declination of small arms projectiles found in area C indicates that the bullet was fired with a relatively flat trajectory, then it was fired from a relatively short distance.**

[Q.] Are these bullets related to Confederate or Union activities at the fort? It would generally be presumed that members of a company of Union troops would be supplied largely with the same types and calibers of weapons. Confederate forces, on the other hand, would be expected to use a wide variety of small arms of various calibers. If these presumptions are valid, it can be stated that **[H.] if the concentrations of Civil War period bullets in Area C are related to Union activities at Fort Jackson, then these concentrations will contain bullets of a limited number of types and calibers.** However, **[H.] if the concentrations of Civil War period bullets in Area C are related to Confederate activities at Fort Jackson, then these concentrations will contain a wide variety of bullets of numerous calibers.**

Additional questions can also be addressed. **[Q.] Can arms identification analyses indicate the number of weapons that were used to fire the small arms projectiles in Area C?** Also, **[Q.] do arms identification analyses indicate the various types of guns used to fire these projectiles? [Q.] Do patterns of bullet deformation indicate the types of targets which the bullets struck?**

The third reported group of small arms projectiles in Area C consists of a concentration of spent .50 caliber bullets...situated within the larger confines of the distribution of .57 caliber Minie balls. Fifty-caliber ammunition was standard service issue for United States troops between 1865 and 1873 (Lewis 1972:40-41). The projectiles, therefore, relate to the postwar occupation of Fort Jackson prior to its abandonment in 1871 and not to any Civil War period engagement. **[Q.] What do the .50 caliber bullets and their distribution in Area C designate about post-war military activities in [the] vicinity of the fort proper?** Questions concerning the locations from where these bullets were fired, the relative firing distances, and the number of individual weapons used can be addressed by the same techniques stated above for the .57 and .69 caliber Minie balls.

The fourth artifact concentration noted by the Coludroviches in Area C is that of brass U.S. Naval fuse plugs. This reported cluster seems to indicate an extended fire taking place from artillery positioned in a single location and directed at a single target. This explanation assumes that projectiles of similar caliber, directed at a single target, and fused to detonate at similar lengths of

time, would distribute particular fragments (i.e., fuse plugs) in the same general location.

If the distribution of brass naval fuse plugs in Area C is reflective of this situation, certain research questions can be formulated in an attempt to examine their occurrence in this locale. For example, **[Q.] is the concentration of brass U.S. naval fuse plugs in Area C the result of Confederate fire using captured Federal ammunition?** As discussed previously...**[H.] if the concentration of brass fuse plugs in Area C consists of 42-pounder, 8-in or 10-in shells and fragments, it is the result of Confederate fire** [8-in fragments should be excluded from this hypothesis, because both sides were armed with this particular caliber weapon]. Conversely, **[H.] if the concentration of fuse plugs in Area C consists of 9-in, 11-in, or 13-in shells and fragments, it is the result of Union fire.**

[Q.] If the distribution of brass naval fuse plugs in area C is the result of Confederate fire, what were the possible targets? [H.] If the concentration of brass U.S. naval fuse plugs in Area C is the result of Confederate fire from Fort Jackson directed toward an undocumented land assault, then their distribution should coincide with that of lost or discarded Union military items, such as buckles, buttons, and other like paraphernalia. [H.] If, however, **the concentration of brass U.S. naval fuse plugs in area C is the result of Confederate fire from Fort Jackson associated with drill activities, such as target practice, then no discarded Union military items, such as buckles, button, and other like paraphernalia, should be found within their total distribution.**

[Q.] If the relative concentration of brass fuse plugs is the result of Northern fire maintained at a single target from a single location, what were the possible targets and sources of such fire? The historical record notes that on the morning of 24 April 1862 four Federal gunboats were anchored below Fort Jackson's water battery to provide cover fire for the Federal fleet attempting to run the forts during the pre-dawn hours. Since the water battery is in a direct line between this [reported] artifact concentration and the presumed location of these four Union gunboats, the concentration of fuse plugs in Area C may represent rounds fired from these vessels that continually overshot their target. **[H. If the concentration of brass naval fuse plugs is the result of Northern fire maintained at a single target from a single location, they are probably the result of fire from the four Federal gunboats anchored below Fort Jackson's water battery to provide cover for the Union fleet attempting to run the forts during the pre-dawn hours of 24 April 1862.]**

Significance of Expected Resources

Hunter and Reeves (1990:138-139) maintained that the reported concentrations of artillery round fragments and small arms projectiles in Area C might constitute significant cultural resources "if they provide information that is not available from extant historical sources." They suggested that some of these concentrations might evidence an undocumented land-based engagement fought during the Civil War, or they might reflect activities "conducted in marginal areas surrounding the fort during the routine of daily training, drill, or other assignments" (Hunter and Reeves 1990:138-139). Indications of a land assault on Fort Jackson would be an important discovery. No less important would be the identification and study of clusters of artifacts associated with daily activities conducted in marginal areas surrounding the fort, because such activities are not well documented in the historical record. Information gained

from the study of artifacts and their distribution could provide insights into the daily life of the garrisons.

Previous Impacts

Area C, unlike some of the locales surrounding Fort Jackson, seems to have undergone few previous adverse impacts from construction or development. Previous research has indicated the probability of some disturbance along the northern limits of Area C by highway construction, but the most significant impacts have probably been those caused by extensive collecting over the past several decades. Hunter and Reeves (1990:139) noted, "This activity may have removed many of the artifacts and distributed their original contexts to such a degree that it may be impossible to use either to address research questions."

Archaeological Survey

Methods

The archaeological survey of Area C employed the general recommendations for site survey outlined in the research design (Hunter and Reeves 1990:110-112). The southern right-of-way of Louisiana Highway 23 served as the primary baseline during the survey of Area C. Transects were established perpendicular to the baseline and spaced at 20-m intervals. Shovel tests were excavated at 50-m intervals along each transect to affect an off-set pattern (see Hunter and Reeves 1990:Figure 42 for an example of the typical lay-out.). Additionally, metal detector scans were run along each transect All procedures utilized the techniques established in the research design.

Results of the Survey

The archaeological survey of Area C was initiated in October 1989. At that time, most of Area C was densely overgrown with understory vegetation, which included dense briars and saw grass. The survey was attempted at that time; however, the use of metal detectors was precluded by the chest-high vegetation. The survey crew then abandoned the investigations until the area could be bushhogged, which would allow the use of this important survey tool. Arrangements to have the area cut were made; however, soon afterwards lower Plaquemines Parish received more than its share of autumn rains. The unusually heavy rainfall lasted through the winter and well into the spring. Only by April 1990 had this low-lying area dryed enough to allow it being cut. That month the survey of Area C was initiated and completed.

The survey uncovered a relatively large amount of recent trash—aluminum beer cans, potted meat cans, wire nails, and farm equipment parts—but no materials associated with Fort Jackson or the reported artifact concentrations. When the transect spacing recommended in the research design (i.e., 20-m) failed to locate the artifact concentrations, the spacings were reduced to 10 m in those locales. This was supplemented by intensive random coverage between transects in suspect areas. Even with the increased intensity of survey, no artifacts that could be associated with Fort Jackson or the battle were recovered during these investigations with the exception of a single amorphous shell fragment. This fragment, however, was found on the surface near a hole recently dug by a collector who had visited the area only a short time before the survey was initiated. This in itself illustrates how extensively much of the area around the fort has been collected during past decades. We have no reason to doubt the reports given us by other collectors concerning the nature of their findings, but those were made almost 20 years ago during the 1970s. Collecting since that time could have removed any remaining materials.

Recommendations

Because the archaeological survey of Area C did not locate any of the anticipated cultural remains, none of the research questions generated for this locale can be addressed. Additionally, no other potentially significant features were found. Therefore, from the cultural resources standpoint, there is no reason why construction should not proceed as scheduled.

Area D

Research Potential

In their review of cartographic and historical sources, Hunter and Reeves (1990:140-142) concluded that there was a low probability of cultural features associated with Fort Jackson within Area D (see Figure 1). This statement was made, because most of that construction locale was situated outside the fort proper and its nineteenth-century protection levee. Also their investigations indicated that there was little other development within Area D except levee construction and ditch excavation (Hunter and Reeves 1990:140; Figure 46):

> The present investigations indicate that Area D has a very low potential for containing significant cultural resources. Since Area D is located outside the levee system that surrounded Fort Jackson, structures or features associated with the fort would not be expected in an area that was frequently inundated. **[H. If the historical and cartographic information is correct, there should be few, if any, cultural materials or deposits within Area D.]**

The previous authors, however, recognized some probability that artifacts or concentrations of cultural materials might exist in various locales in that particular survey corridor. In response to this, Hunter and Reeves (1990:140-142) generated several research questions and hypotheses:

> **[Q.] Were there any activities associated with Fort Jackson that occurred in the peripheral areas south of the nineteenth-century levee?** Historical and cartographic investigations provide little information concerning activities that occurred in areas peripheral to the fort-site proper. However, the collecting activities of the Coludroviches had demonstrated that activity areas, suggested by concentrations of small arms projectiles, may exist south of the fort. Therefore, Area D, which is situated higher on the natural levee of the river than are Areas A or C, may also contain artifacts or features that relate to uses of the marginal ground surrounding Fort Jackson. General research questions...can be asked concerning this. For example, **[Q.] were segments of Area D the location of activities, such as drill or target practice, that were associated with the daily activities of soldiers stationed at the fort?** If so, **[Q.] what types of activities took place within Area D?**
>
> The lack of cartographic, historical, or archeological data make it impossible to model the specific types of cultural features that may exist in the outlying areas south of the fort. It would be expected that some of the artifact types reported in Area C would also exist in Area D...and would possibly reflect similar distributional patterns. **[Q. Do the reported artifact scatters and concentrations in Area C extend into area D?]** If this is the case, the research questions concerning the distribution of these artifacts in adjoining portions of Area D may also be applicable to this area of proposed levee expansion. Similarly, research questions concerning the types and distribution of artifacts

in Area B can be used to investigate the portions of Area D that are situated east of Fort Jackson near the western boundary of Area B.

Previous Impacts

Hunter and Reeves (1990:142) were quick to point out that Area D had been the scene of numerous potentially adverse impacts over the past half century. These were mostly construction-related and included borrowing, ditch excavation, levee construction, utility installation, and the development of a recreational complex. They suggested that the only portion of Area D that might remain relatively unaltered was "a narrow strip measuring approximately 100 ft wide between the toe of the levee and an exterior drainage ditch," but even that area was questionable. Also, they noted that possible collecting activities in that locale may have removed many of the artifacts that possibly once existed in Area D.

Archaeological Survey

Methods

The general recommendations for site survey outlined in the research design (Hunter and Reeves 1990:110-112) were employed in Area D. Only that narrow area between the toe of the levee and the exterior drainage ditch were investigated because of obvious impacts to other portions of that locale by previous construction. The exterior toe of the existing levee served as the primary baseline, and parallel transects were placed 20 m apart. Shovel tests were excavated as previously described, and metal detector scans were employed along each transect.

Results

No artifacts were recovered during the extensive shovel testing of Area D. Metal detecting, was the most productive survey technique, as it had proven in the other survey areas. Artifacts located through this procedure were exposed, and their locations were mapped in relation to known survey points with a theodolite using stadia readings to record distance. The locations of the potentially important artifacts recovered in Area D are shown in Figure 18.

All of the artifacts were artillery rounds or fragments. Four of the six recovered were found in a 75-m stretch in the northeastern portion of the survey area, along the western margins of Area B (see Figure 18). These included three 11-in common shell fragments—obviously the result of Northern fire—and one 2.8-in diameter iron grape shot. The size of the latter artifact indicates that it was fired from a 32-pounder gun (Ripley 1984:Figure XII-22), which was a common type used by both opposing forces during the siege. Because the water battery did not have guns of this caliber and the fact that the smaller guns of Fort Jackson were mainly silent during the bombardment, this grape shot was apparently fired from Union guns, possibly from one of the gunboats that anchored below the water battery to provide protective fire during Farragut's passage of the forts. The other three 11-in fragments seem merely an extension of the distribution of fragments found in Area B and offer little in the way of interpretation.

Immediately south of Fort Jackson, two whole artillery rounds were found. One is a 32-pounder solid shot. Again, because both sides had cannon of this caliber, it is impossible to determine whether it was fired from a Confederate battery or a Union vessel. That this artifact was found south of the fort would suggest the latter scenario, and this particular round apparently overshot its target during the passage of the forts. Additionally, because this shot was found within 300 m of the fort—a relatively short distance for a 32-pounder—it was probably not fired by Fort Jackson's batteries during target practice.

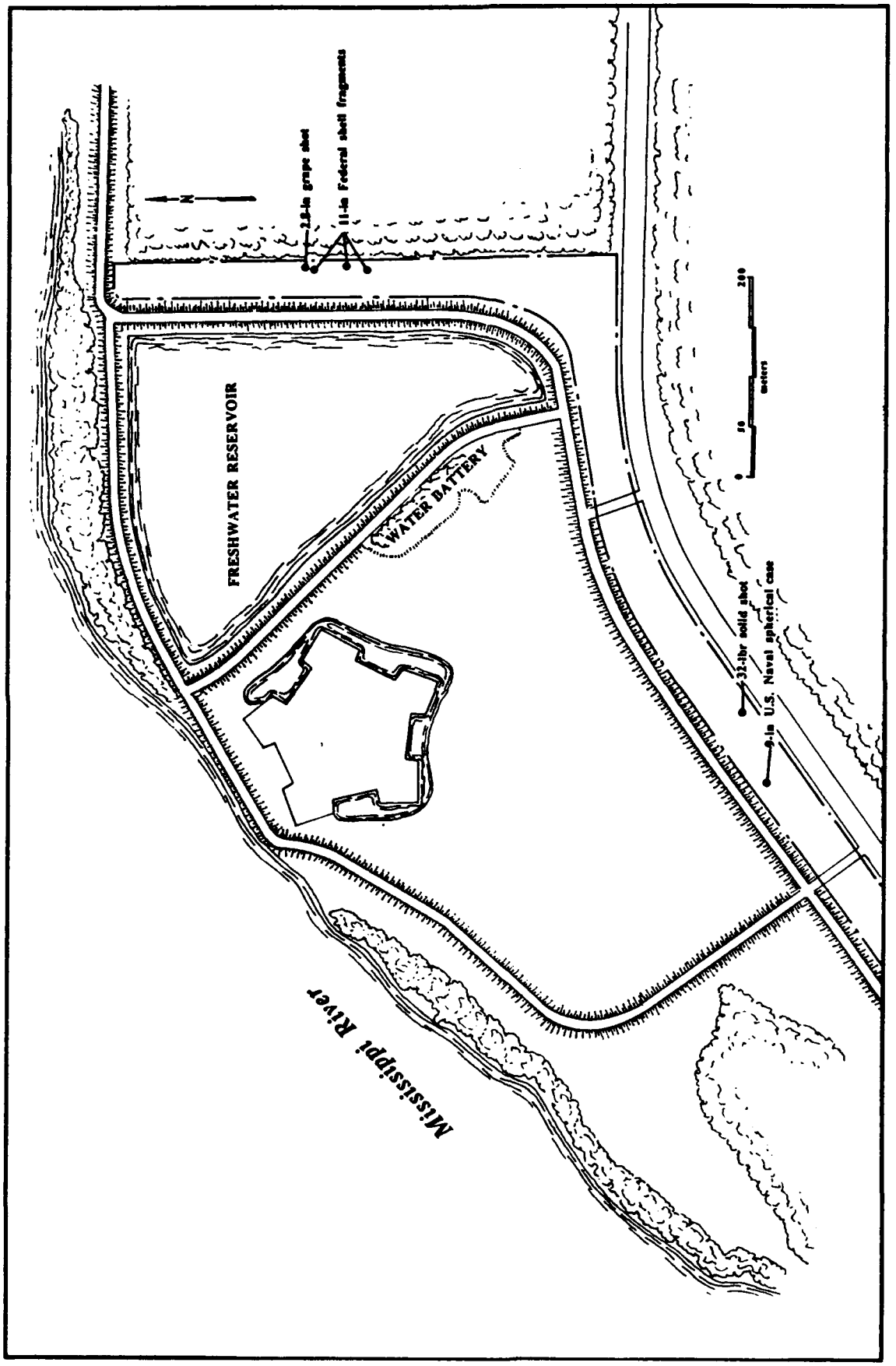

Figure 18. Distribution of artillery rounds and fragments recovered from Area D.

Approximately 80 m west-southwest of the 32-pounder shot, a whole 9-in U.S. Naval spherical case shell was found. The shell has a brass fuse plug featuring a water cap adapter identical to the one depicted in Figure 19. The design of this fuse plug facilitated use of this type of ordnance in wet or marine environments:

> It is a water tight adapter designed to hold the standard paper time fuze. Upon firing, the propellant gasses ignite powder in the channels of the water cap. Flame from the burning powder is transmitted to the internal time fuze; the burning in turn, sets off the main bursting charge. Should the projectile enter the water prior to bursting, water entry into the fuze will be hindered both by the angled channels and also by the gasses escaping [U.S. Navy n.d.:144].

The inscription on the face of the fuse plug, which features the letters "ORD," an anchor, and date, identify it as U.S. Naval ordnance manufactured in 1861. Undoubtedly, this artifact relates to the Civil War bombardment by the Union fleet. The shell obviously overshot its mark during the passage of the fort, and, for some reason, did not explode.

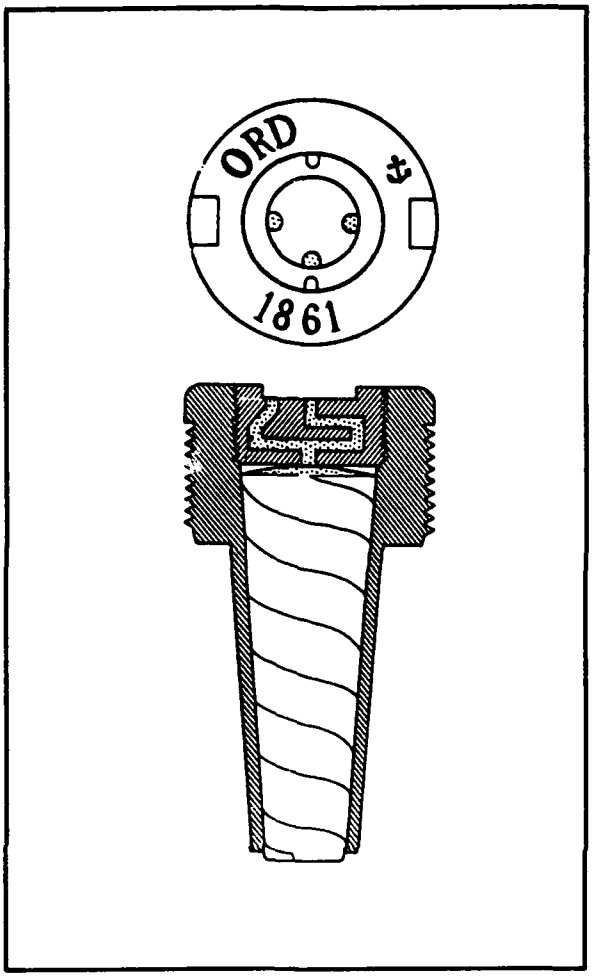

Figure 19. A drawing of a U.S. Naval brass fuse plug with a water cap adapter. Shown actual size (after U.S. Navy n.d.: Figure 144).

Recommendations

These were the only artifacts found in Area D, with the exception of the usual range of aluminum cans, electrical insulators, and occasional tractor parts. There were no concentrations of small arms projectiles that were expected to possibly extend from Area C into this construction locale. Because the artillery rounds and fragments were so few, their distributions do not lead to any sort of interpretations other that the general statements made above; therefore, they cannot be used for addressing any of the research questions established by Hunter and Reeves (1990). Because of this, Area D appears not to contain significant cultural resources, and no further research is warranted.

Area E

Research Potential

Hunter and Reeves (1990:142-153) concluded that the only potentially significant cultural resources that may exist in Area E were those associated with the late-eighteenth- to early-nineteenth-century Spanish redoubt, Fort Bourbon, and possibly those associated with an Ohio Infantry troop that was stationed above Fort Jackson in 1863. These authors established lengthy sets of questions and hypotheses concerning Fort Bourbon and what the associated in-ground archaeological features should look like, if they were extant. They also stressed the importance of these possible remains in addressing broad research goals and topics established by *Louisiana's Comprehensive Archaeological Plan* (Smith et al. 1983). Because of the length of Hunter and Reeves' (1990:142-153) discourse and, as will be noted below, because no features associated with Fort Bourbon or the Ohio troop encampment were located during the survey, the questions and hypotheses will not be included herein. Interested readers should refer to the original research design.

Previous Impacts

Area E has been the scene of extensive adverse impacts for the past century. Two basic elements have been active in changing the landscape of this segment of the river's natural levee, these being the southern migration of the river and construction activities. Throughout recent history, the Mississippi has continued to migrate in a southern direction in this particular reach of the river. Early-nineteenth-century accounts presented in a previous chapter have indicated that during the early part of that century, bank caving had destroyed any visible signs of Fort Bourbon that may have once existed, and the southerly movement of the river continued until recent years until slowed by Corps of Engineers' revetment work.

Levee construction began along the northern limits of Area E during the late nineteenth century. Subsequent bankline migration has taken portions of the original levee, and later levee set-backs were constructed to prevent flooding. During these construction episodes, adjacent areas were borrowed to provide fill for the new levees. The remainder of Area E was extensively borrowed during the early 1940s, and additional impacts may have occurred by dredging of a boat slip running along the southern limits of Area E (Hunter and Reeves 1990:153).

Archaeological Survey

Methods

Hunter and Reeves (1990:154) recognized that Area E had been extensively impacted by previous construction and the river's southerly migration. They were fairly certain that these activities had probably destroyed or disturbed any potentially significant deposits that may have once existed. Acknowledging this, they recommended that no intensive archaeological survey be performed in that locale. Rather, they suggested that the investigations be confined to bankline and spoil pile inspection. They noted, however, that there had been reports of cypress timbers being dredged from the boat slip in previous years. They recommended that if there were surface indications of such features, mechanical trenching be used to expose and assess the remains.

Results

In accordance with these recommendations, CEI's fieldcrews conducted intensive bankline and spoil pile inspections. Evidence of past borrowing activities was obvious, because of the low, swampy terrain encountered on what should have been a relatively elevated portion of the natural levee. These investigations located no remains that could be associated with Fort Bourbon or the Ohio troop encampment. Only recent trash that had either floated into the survey area or which had been dumped near the marina were observed.

Recommendations

Because no potentially significant cultural remains, including those associated with Fort Bourbon or the Ohio troop encampment, were found and because the area has undergone extensive adverse impacts in previous years, no further research is recommended. From the cultural resources perspective, there is no reason why construction should not proceed as planned.

CHAPTER 7: SUMMARY AND CONCLUSIONS

The archaeological surveys and evaluations of the four proposed construction areas revealed no significant cultural resources. Although artifacts relating to the important Civil War battle fought at Plaquemines Bend were found, the locales in which they were recovered appear to have little further potential to address research questions of important historical or scientific interest. Two prominent factors can be attributed to the lack of significant resources in these four areas. First is that many of these areas were never extensively developed, and all were situated outside the limits of the fort and its nineteenth-century protection levee. Secondly, those locales, which had the potential of having significant resources, have been extensively impacted by man-made and natural agents. The Mississippi's southerly migration—the most dynamic natural element—has resulted in extensive land loss on the west bank of the river, which, in turn, has eliminated cultural deposits associated with important developments, such as Fort Bourbon and structures once located on the natural levee north of Fort Jackson. Man-induced impacts have resulted from borrowing, levee and road construction, ditch excavation, and indiscriminate collecting activities by Civil War enthusiasts. Because these areas appear to have little further research potential, no further work is recommended, and the planned construction should proceed.

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