



CONTRACT NO. DACW29-01-D-0017
DELIVERY ORDER 001

PHASE I CULTURAL RESOURCES SURVEY AND ARCHEOLOGICAL INVENTORY OF THE SEGURA STAGING AREA, IBERIA PARISH, LOUISIANA

**FINAL REPORT
APRIL 2003**

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REPORT DOCUMENTATION PAGE

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OMB No. 0704-0188

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1. AGENCY USE ONLY (Leave blank)

2. REPORT DATE

April 2003

3. REPORT TYPE AND DATES COVERED

Final Report - October 2001

4. TITLE AND SUBTITLE

Phase I Cultural Resources Survey and Archeological Inventory of the Segura Staging Area, Iberia Parish, Louisiana

5. FUNDING NUMBERS

Contract No. DACW29-01-D-0017
Delivery Order 001

6. AUTHORS

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8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

U.S. Army Corps of Engineers
New Orleans District
P.O. Box 60267
New Orleans, LA 70160-0267

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT

Unclassified/Unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

This document presents the results of Phase I cultural resources survey and archeological inventory of the Segura Staging Area. This proposed project item is approximately 0.81 ha (2 ac) in size, and is located on the right descending bank of Bayou Teche situated at approximate River Mile 61.0 in Iberia Parish, Louisiana. Current construction plans call for this portion of the bayou to be subjected to maintenance dredging by the U.S. Army Corps of Engineers, New Orleans District. The Segura Staging Area will be used as an equipment storage area, as well as for redeposition of sediment dredged from the bottom of Bayou Teche. This investigation was completed between October 1 and October 8, 2001 by R. Christopher Goodwin & Associates, Inc., on behalf of the U.S. Army Corps of Engineers, New Orleans District, pursuant to Contract DACW29-01-D-0017, Delivery Order 001.

Fieldwork conducted during the current investigation consisted of pedestrian survey, systematic shovel testing, soil probing with a blunt-tipped rod in selected portions of the proposed staging area, exploratory trench excavation, and unit excavation. During survey, 46 of 48 (96 percent) planned shovel tests were excavated throughout the Area of Potential Effect. This effort resulted in the identification of Site 16IB74. To further assess the significance of Site 16IB74 applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]), soil probing, a single unit measuring 1 x 1 m (3.3 x 3.3 ft) in size, and one narrow exploratory trench covering an area of 0.5 x 1 m (1.64 x 3.3 ft) were excavated in the vicinity of a historic cultural feature detected during the shovel testing portion of the fieldwork. The historic feature consisted of a mortared brick structural element measuring approximately 4 x 1.2 x 0.5 m (13.1 x 3.9 x 1.6 ft). The bricks and mortar appeared to represent a substantial, albeit narrow, structural element of a large building.

A total of 986 artifacts were recovered during shovel testing and unit excavation conducted within the confines of Site 16IB74. Of the recovered artifacts, 5 consisted of temporally non-diagnostic prehistoric lithic flakes, 22 were described as non-diagnostic faunal specimens, and the remainder (n=959 [97 percent]) included historic/modern artifacts, some of which were temporally diagnostic. Recovered historic/modern artifacts types include nails, brick, mortar, ceramics, container and bottle glass shards, and pieces of plastic.

The prehistoric component of Site 16IB74 consists of a subsurface scatter of five lithic artifacts; this component is mixed with historic/modern deposits noted throughout the site area. Due to an absence of depositional integrity and temporally diagnostic artifacts, the prehistoric component of Site 16IB74 lacks research potential. Thus, this component of the site does not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional work is recommended for the prehistoric component of Site 16IB74.

The historic/modern component of Site 16IB74 consists of a subsurface scatter of late nineteenth to mid twentieth century artifacts associated with a domestic occupation of the area. Investigation of this component resulted in the recovery of 959 historic/modern period artifacts from three strata, as well as the identification of two features, one of which was of non-cultural origin. The presence of twentieth century artifacts in all three strata demonstrates mixing of deposits and a lack of depositional integrity. Based on the composition of the artifact assemblage and the distribution of material over the staging area, it appears that the site area contained a late nineteenth century domestic structure that was occupied well into the twentieth century. A U.S. Army Corps of Engineers, New Orleans District 1938 aerial photograph depicts a large barn in the vicinity of the brick feature, with a house positioned to the north of this area and a second residence contained within or adjacent to northern boundary of the proposed staging area.

The archeological and stratigraphic records of the area suggest that these now-demolished structures were demolished with heavy equipment at the end of their useful life or to facilitate bridge construction. The resulting debris was spread across the proposed project area. Despite the presence of a partially intact brick feature, the use of heavy equipment to spread occupational debris has disturbed heavily the cultural deposits in the area, thereby leaving the site with little, if any, research potential. Thus, because of the lack of research potential, the historic/modern component no longer retains the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional work is recommended for this component of the site.

14. SUBJECT TERMS

Phase I
Bayou Teche

Segura Staging Area
Iberia Parish

15. NUMBER OF PAGES

179

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT

Unclassified

18. SECURITY CLASSIFICATION OF THIS PAGE

Unclassified

19. SECURITY CLASSIFICATION OF ABSTRACT

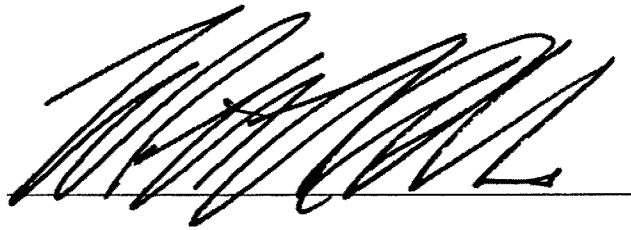
Unclassified

20. LIMITATION OF ABSTRACT

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**PHASE I CULTURAL RESOURCES SURVEY AND
ARCHEOLOGICAL INVENTORY OF THE SEGURA
STAGING AREA, IBERIA PARISH, LOUISIANA**

FINAL REPORT

A large, stylized handwritten signature in black ink, appearing to read 'W. P. Athens', is written over a horizontal line.

**William P. Athens, M.A., R.P.A.
Principal Investigator**

By

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April 2003

For

**U.S. Army Corps of Engineers
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TABLE OF CONTENTS

REPORT DOCUMENTATION PAGE.....	i
TITLE PAGE.....	ii
LIST OF FIGURES	vii
LIST OF TABLES.....	xi
 I. INTRODUCTION	 1
Project Description.....	1
Project Results.....	4
Recommendations.....	5
Project Personnel.....	5
Organization of the Report.....	5
 II. NATURAL SETTING	 6
Introduction.....	6
Regional Geomorphology	6
Undifferentiated Fluvial Deposits of the Prairie Complex (Ppu 1).....	7
Point Bar (Hpm ₃).....	7
Backswamp (Hb).....	8
Abandoned Course (Hcom).....	8
Abandoned Channel (Hchm).....	9
The Proposed Project Area in the Context of the Atchafalaya Basin.....	9
Mississippi River Delta Chronology and the Development of the Proposed Project Area.....	12
Pre-Holocene Delta Complexes	12
Holocene Age Delta Complexes	12
Outer Shoal Delta Complex.....	12
Maringouin Delta Complex	16
Teche Delta Complex	16
St. Bernard (Metairie-La Loutre) Delta Complex	16
Soils within the Vicinity of the Proposed Project Area.....	17
Historic Period Impacts to the Proposed Project Area	17
Residential and Industrial Development	18
Agricultural Disturbance	18
Dredging.....	18
Bankline Erosion	18
Flora and Fauna Located within the Vicinity of the Proposed Project Area.....	18

Saline Marsh.....	19
Brackish Marsh	19
Fresh Marsh.....	19
Natural Levees	24
Swamps	24
Project Area Specific Environment.....	26
Climate	27
III. PREHISTORIC CULTURAL SEQUENCE.....	28
Introduction	28
Paleo-Indian Stage (ca. 12,000 – 8000 B.P.)	28
Archaic Stage (ca. 8000 – 3500 B.P.)	29
Early Archaic Period	29
Middle Archaic Period	30
Late Archaic Period.....	31
Poverty Point Culture (ca. 4000 – 2500 B.P.).....	32
Woodland Stage (ca. 2450 - 750 B.P.).....	32
Tchefuncte Culture (ca. 2450 – 1950 B.P.).....	32
Marksville Culture (ca. 1950 – 1550 B.P.).....	33
Troyville-Coles Creek Period (ca. 1550 - 750 B.P.)	34
Mississippian Stage (ca. 750 - 300 B.P.).....	34
Emergent Mississippian Period (ca. 750 - 500 B.P.).....	34
Late Mississippian Period (ca. 500 - 250 B.P.).....	35
Protohistoric and Early Historic Period (ca. 400 - 220 B.P.).....	36
IV. HISTORIC OVERVIEW	38
Introduction	38
Historic Context of Bayou Teche Area	38
Colonial Era.....	38
French Colonial Period, 1699-1769	38
Spanish Colonial Period, 1769-1803	40
The Acadians	40
The Founding of New Iberia	50
Antebellum Era	50
Development of the Sugar Plantations	52
Riverine Transportation	56
Establishment of the Avery Island Salt Mine.....	57
The Civil War.....	57
The Battle of Bisland or Bethel's Place.....	58
Military Engagements Along the Bayou Teche During the Civil War	58
The Teche Campaign and the Federal Destruction of the Avery Salt Works.....	58

Commerce Along the Bayou Teche	62
Surveying the Bayou Teche	63
Postbellum Era	65
The 1890s and Beyond.....	67
The Twentieth Century.....	68
Historic Context of Segura Staging Area.....	72
Summary	76
V. PREVIOUS INVESTIGATIONS.....	78
Introduction	78
Previously Conducted Cultural Resources Surveys Located within 8 km (5 mi) of the Currently Proposed Segura Staging Area.....	78
Iberia Parish.....	78
Multiple Parishes	81
Previously Recorded Archeological Sites Located within 1.6 km (1 mi) of the Currently Proposed Segura Staging Area.....	82
Previously Recorded Standing Structures Located within 1.6 km (1 mi) of the Currently Proposed Segura Staging Area.....	82
VI. METHODS	84
Objective	84
Archival Research	84
Field Methods.....	84
Shovel Testing.....	84
Soil Probing.....	86
Unit Excavation	86
Application of the Criteria for Evaluation (36 CFR 60.4 [a-d]).....	86
Laboratory Analyses	86
Historic/Modern Cultural Material Analysis.....	87
Prehistoric Lithic Analysis	87
Faunal Analysis	87
Curation.....	88
VII. RESULTS OF INVESTIGATIONS	89
Introduction	89
Results of Shovel Testing.....	89
Results of the Excavation of Unit 1 and the Exploratory Trench	99
Summary	109
VIII. SUMMARY AND RECOMMENDATIONS.....	111
BIBLIOGRAPHY	113

ARTIFACTS RECOVERED DURING SURVEY APPENDIX I

STATE OF LOUISIANA SITE FORM FOR SITE 16IB74 APPENDIX II

SCOPE OF WORK..... APPENDIX III

LIST OF FIGURES

Figure 1.	Map of Iberia Parish, Louisiana depicting the location of the proposed Segura Staging Area	2
Figure 2.	Excerpt from the 1996 digital 7.5' series USGS, New Iberia South, Louisiana, topographic quadrangle depicting the location of the proposed staging area, as well as those previously identified archeological sites and historic standing structures located within the immediate vicinity of the Area of Potential Effect	3
Figure 3.	Overview photo of the proposed Segura Staging Area facing north	4
Figure 4.	Base map depicting the geomorphology within the vicinity of the proposed project area.....	10
Figure 5.	Major geomorphic subdivisions in southeastern Louisiana (modified from O'Neil 1949).....	11
Figure 6.	Paleogeography of the Mississippi River Delta. Modified from Heinrich et al., 1991	13
Figure 7.	Estimates of the ages of meander belts of the Mississippi River and delta complexes (ages in years B.P.).....	14
Figure 8.	Chronology of delta complexes and relative sea level (modified from Penland et al. 1988).....	15
Figure 9.	Adaptation of 1760 French Map, from Brasseaux, <i>The Founding of New Acadia</i>	39
Figure 10.	[1760] Excerpt from an untitled map of Louisiana, in reference to the project vicinity. Excerpt depicts the <i>Atacapas</i> [Attakapas] region and the <i>Vacherie de Masse</i> [Masse's cattle ranch].....	41
Figure 11.	Acadian Settlements, From Brasseaux, <i>The Founding of New Acadia</i>	41
Figure 12.	Adaptation of Spanish Land Grant Maps, Along Bayou Teche, ca. 1849. From the Louisiana Surveyor General's Map, 1849	43
Figure 13.	This Depiction of a Seventeenth-Century Indigotiere in the French West Indies Depicts the Process Used in Louisiana. From Hall, <i>Africans in Colonial Louisiana</i>	45
Figure 14.	The Major Spanish Land Grants in the New Iberia/Fausse Pointe Area of Bayou Teche, ca. 1849. From G. Taylor, 1980	46

Figure 15.	The Darby Plantation Area, 1849. From G. Taylor, 1980.....	48
Figure 16.	Adrian Persac's Famed Depiction of the Francois St. Marc Darby Plantation on the Eve of the Civil War. Adapted from Bergerie, <i>They All Tasted Bayou Water</i>	49
Figure 17.	Divisions of the Original Attakapas Country. Adapted from Bergerie, <i>They All Tasted Bayou Water</i>	51
Figure 18.	[1863] Adaptation from Abbot's Department of the Gulf, Map No. 8, Atchafalaya Basin, Prepared by Order of Maj. Gen. N. P. Banks. Excerpt Depicts Plantation Owners Downstream of New Iberia, as Well as Petite Anse Island and Camp Bisland	55
Figure 19.	Excerpt from Irwin's 1893 map <i>Irish Bend</i> , in Raphael's <i>The Battle in the Bayou Country</i>	59
Figure 20.	Modern Picture of the Episcopal Church of the Epiphany, Used by Union Troops as a Prison During the Federal Occupation of New Iberia. From the Louisiana National Register of Historic Places, www.crt.state.la.us	61
Figure 21.	Adaptation from Abbot's Department of the Gulf, Map No. 8, Atchafalaya Basin, Prepared by Order Of Maj. Gen. N. P. Banks. Excerpt Depicts Location of Petite Anse Island and Camp Bisland	62
Figure 22.	Map of Bayou Teche and Surrounding Localities, from Davis's <i>The Rivers and Bayous of Louisiana</i>	64
Figure 23.	Harper's Weekly Sketch of Sugar Houses Along the Teche, ca. 1866. From Bergerie, <i>They All Tasted Bayou Water</i>	69
Figure 24.	Main Street, New Iberia, 1910 and 1961, Adapted From Bergerie, <i>They All Tasted Bayou Water</i>	71
Figure 25.	Persac's painting of Olivier's Orange Grove Plantation, ca. 1861 (excerpted from Bacot, et al. 2000)	73
Figure 26.	This 1938 aerial photograph shows a large barn in the Segura Staging Area (courtesy of the New Orleans District, US Army Corps of Engineers).....	77
Figure 27.	Plan view of the proposed staging area depicting the locations of shovel tests, units, and the perceived boundaries of Site SSA-01	85
Figure 28.	Selected ceramic sherds recovered during shovel test excavation at Site 161B74: (a) spongeware decorated yellowware sherd (FS #13); (b) decal decorated whiteware sherd (FS #53); and (c) decal decorated whiteware sherd (FS #53).....	91

Figure 29.	Selected miscellaneous personal artifacts recovered during shovel test excavation at Site 16IB74: (a) hard paste porcelain doll arm (FS #6); and (b) modern plastic toy tire fragment (FS #34)	91
Figure 30.	Selected glass shards recovered during shovel test excavation at Site 16IB74: (a) Clorox bottle fragment (FS #29) embossed with an "X"; (b) Pepsi Cola bottle fragment (FS #62) embossed with "PEPSI" / "COLA"; and (c) bottle fragment (FS #30) embossed with Owens-Illinois maker's mark and "FL.OZ"	93
Figure 31.	Complete milk glass smudge pot (FS #50) with threaded lip and an Owens scar recovered during shovel test excavation at Site 16IB74	93
Figure 32.	Selected glass bottle fragments recovered during shovel test excavation at Site 16IB74: (a) unidentified patent bottle fragment (FS #14); (b) unidentified patent bottle fragment (FS #55); (c) unidentified bottle fragment with tooled lip (FS #77); and (d) unidentified amethyst-colored patent bottle fragment (FS #34)	94
Figure 33.	Complete patent glass bottle (FS #51) with Owens scar and embossed with Owens-Illinois maker's mark as well as "2" / "FL.OZ" / "3" on base recovered during shovel test excavation at Site 16IB74.....	94
Figure 34.	Complete threaded lip glass bottle (FS #5) with Owens scar and embossed with "12" / "3" on base recovered during shovel test excavation at Site 16IB74.....	95
Figure 35.	Unidentified milk glass base fragment (FS #51) embossed with "...OVEN" / "[FIRE]-KING" / "[FI]RE" ("Fire-King" by Anchor Hocking) recovered during shovel test excavation at Site 16IB74.....	95
Figure 36.	Complete glass thumbscrew (FS #15) embossed with "C&Co" recovered during shovel test excavation at Site 16IB74.....	95
Figure 37.	Glass condiment bottle fragment (FS #70) with threaded lip recovered during shovel test excavation at Site 16IB74	95
Figure 38.	Profile of a typical shovel test excavated within the confines of the proposed staging area	98
Figure 39.	Annular decorated yellowware sherd (FS #81) recovered from Unit 1 excavated at Site 16IB74	99
Figure 40.	Selected glass artifacts recovered from Unit 1 excavated at Site 16IB74: (a) swirled marble (FS #81); and (b) colorless bottle fragment with embossed pattern (FS #81)	100
Figure 41.	Selected miscellaneous historic artifacts recovered from Unit 1 excavated at Site 16IB74: (a) swirled blue glass marble (FS #80); (b) modern plastic button (FS #80); (c) metal zipper fragment (FS #80); (d) metal standard wood screw (FS #80); and (e) metal bolt (FS #80)	100

Figure 42.	Profile of the south wall of Unit 1	102
Figure 43.	Overview photo of the south wall of Unit 1, facing south	102
Figure 44.	Plan view of Feature 1 depicting bricks and mortar	103
Figure 45.	Overview photo of the plan view of Feature 1, facing north	103
Figure 46.	Profile drawing of Feature 1 depicting brick and mortar structural element in profile.....	104
Figure 47.	Overview photo of the profile of Feature 1, facing south	104
Figure 48.	1938 U.S. Army Corps of Engineers aerial photograph depicting the Segura Staging Area	105
Figure 49.	Embossed milk glass lamp shade fragment (FS #89) recovered from Exploratory Trench excavated at Site 16IB74.....	106
Figure 50.	Overview photo depicting the location and configuration of Feature 2 relative to Feature 1, facing south.....	108
Figure 51.	Selected glass artifacts recovered from Feature 2 excavated at Site 16IB74: (a) bottle fragment (FS #92) embossed with “NO” / “DEP...”; and (b) drinking glass fragment (FS #92)	108

LIST OF TABLES

Table 1.	Plant taxa characteristic of marshes within the vicinity of the proposed project area	20
Table 2.	Crustaceans and shellfish present within the vicinity of the proposed project area	21
Table 3.	Fishes present within the vicinity of the proposed project area.....	21
Table 4.	Mammals present within the vicinity of the proposed project area.....	22
Table 5.	Birds present within the vicinity of the proposed project area	23
Table 6.	Reptiles and amphibians present within the vicinity of the proposed project area	23
Table 7.	Plant taxa of swamps and natural levees present within the vicinity of the proposed project area.....	25
Table 8.	Birds present in the vicinity of natural levees in the proposed project area	26
Table 9.	Previously completed cultural resources surveys conducted within 8 km (5 mi) of the currently proposed Segura Staging Area.....	79
Table 10.	Previously recorded standing structures located within 1.6 km (1 mi) of the currently proposed Segura Staging Area	83
Table 11.	Historic/modern period ceramics from shovel tests at Site 16IB74	90
Table 12.	Historic/modern period glass from shovel tests at Site 16IB74	92
Table 13.	Historic/modern period metal artifacts from shovel tests at Site 16IB74.....	96
Table 14.	Miscellaneous historic/modern period artifacts from shovel tests at Site 16IB74.....	97
Table 15.	Faunal specimens from shovel tests at Site 16IB74	97
Table 16.	Historic/modern period glass from Unit 1 at Site 16IB74.....	100
Table 17.	Historic/modern period metal artifacts from Unit 1 at Site 16IB74	101
Table 18.	Historic/modern period glass from the exploratory trench at Site 16IB74.....	106
Table 19.	Historic/modern period metal items from the exploratory trench at Site 16IB74.....	107

Table 20.	Historic/modern period glass artifacts from Feature 2 at Site 16IB74	109
Table 21.	Historic/modern period metal artifacts from Feature 2 at Site 16IB74	109
Table 22.	Miscellaneous historic/modern period artifacts from Feature 2 at Site 16IB74.....	109

CHAPTER I

INTRODUCTION

This document presents the results of a Phase I cultural resources survey and archeological inventory of the Segura Staging Area located on the right descending bank of Bayou Teche at approximate River Mile 61.0 in Iberia Parish, Louisiana (Figure 1). Current construction plans call for this portion of the bayou to be subjected to maintenance dredging by the U.S. Army Corps of Engineers, New Orleans District. The Segura Staging Area serves as an equipment storage area; in addition, it will be used for redeposition of sediments dredged from the bottom of Bayou Teche.

This investigation was completed by R. Christopher Goodwin & Associates, Inc., on behalf of the U.S. Army Corps of Engineers, New Orleans District, pursuant to Contract DACW29-01-D-0017, Delivery Order 001. All fieldwork was conducted in accordance with the National Historic Preservation Act of 1966, as amended; *Louisiana's Comprehensive Archaeological Plan* (Smith et al. 1983); the Scope of Work as drafted by the U.S. Army Corps of Engineers, New Orleans District; with 36 CFR 800, "Protection of Historic Properties" and with the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (Federal Register 48, No 190, 1983).

Project Description

This section provides a brief overview of the federal undertaking as outlined in the Scope of Work prepared by the U.S. Army Corps of Engineers, New Orleans District. The U.S. Army Corps of Engineers, New Orleans District proposes to dredge approximately 19.3 km (12 mi) of Bayou Teche in and around the commu-

nity of New Iberia, i.e., within Iberia Parish, Louisiana. The proposed staging area serves as a point of departure for implementing the planned dredging operations; it also will receive the spoil dredged from the bottom of the bayou. In order to determine the effects upon cultural resources located within the proposed project area, a Phase I cultural resources survey and archeological inventory was undertaken. A brief overview of the project area is described below.

The Segura Staging Area will be situated within the vicinity of River Mile 61.0 in Irregular Section 41 of Township 12S, Range 7E (Figure 2). The proposed staging area will measure approximately 0.81 ha (2 ac) in size and it will be rectangular in shape. The southern end of the proposed project area will be located approximately midway between State Route 182 to the south and Bayou Teche to the north (Figure 3). From that point, the Area of Potential Effect will extend up to and front along the bankline of Bayou Teche.

The Phase I cultural resources survey and archeological inventory of the proposed Segura Staging Area was completed using a three step approach. This included historic research and review of data pertinent to the proposed project item; the identification of all previously recorded archeological sites and/or historic standing structures situated within or immediately adjacent to the proposed project item; and the execution of a Phase I cultural resources survey and archeological inventory throughout the Area of Potential Effect. Field methods utilized as part of this investigation included intensive pedestrian survey augmented by systematic shovel testing, unit excavation, exploratory trench ex-

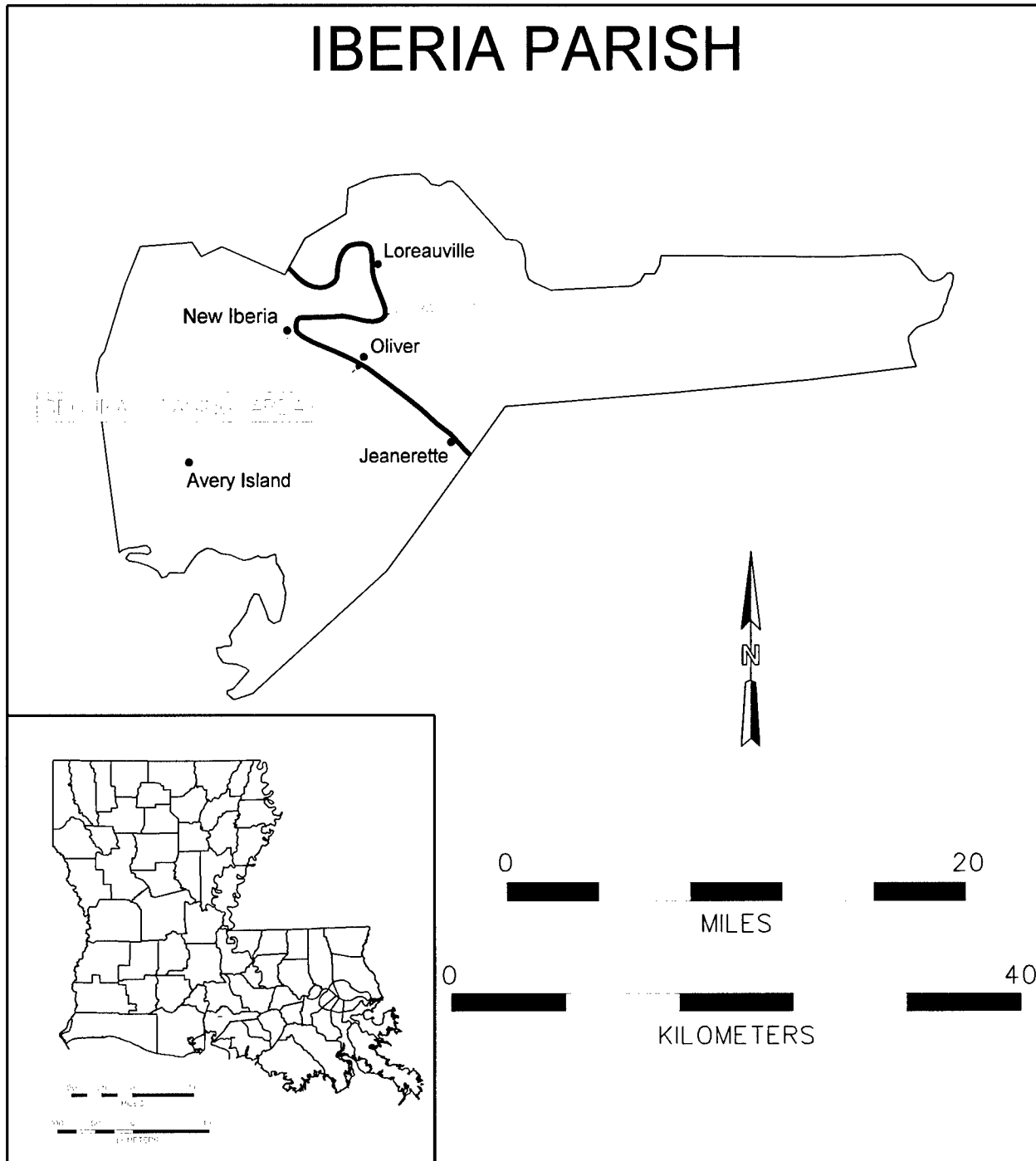


Figure 1. Map of Iberia Parish, Louisiana depicting the location of the proposed Segura Staging Area.

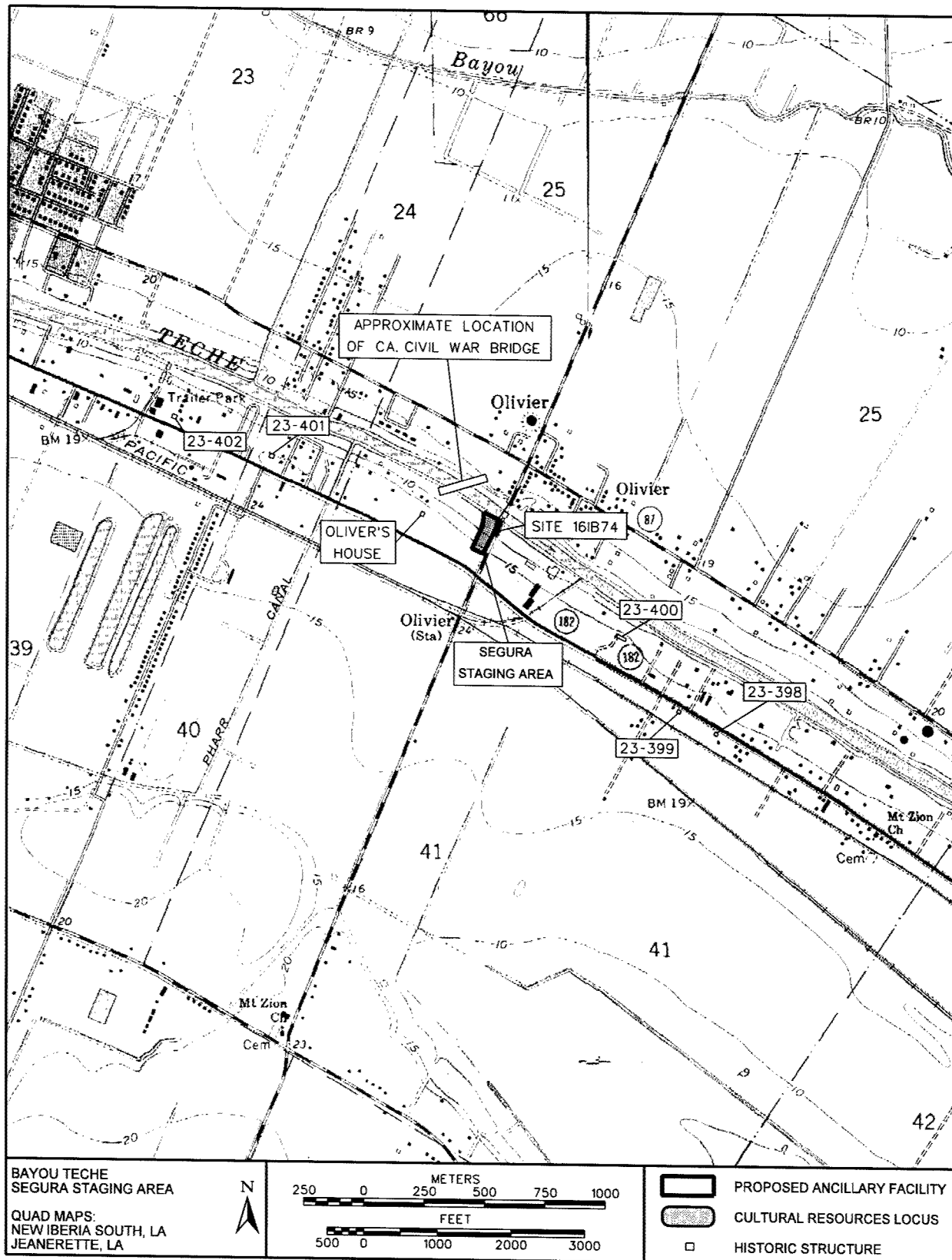


Figure 2. Excerpt from the 1996 digital 7.5' series USGS, New Iberia South, Louisiana, topographic quadrangle depicting the location of the proposed staging area, as well as those previously identified archeological sites and historic standing structures located within the immediate vicinity of the Area of Potential Effect.



Figure 3. Overview photo of the proposed Segura Staging Area facing north.

cavation, and soil probing with a blunt-tipped rod also was conducted throughout selected portions of the proposed staging area.

Project Results

The Phase I cultural resources survey and archeological inventory of the proposed Segura Staging Area resulted in the identification and recordation of Site 16IB74. Site 16IB74 was characterized in the field as a subsurface scatter of historic/modern and prehistoric artifacts that extended throughout, and probably beyond, the limits of the proposed staging area. A total of 986 artifacts were recovered as a result of shovel testing and unit excavation conducted within the perceived limits of Site 16IB74. This material included 5 temporally non-diagnostic prehistoric lithic flakes, 22 non-diagnostic faunal specimens, and a large quantity of (n=959 [97 percent]) historic/modern artifacts, some of which were tem-

porally diagnostic. Recovered historic/modern artifact types identified within the artifact assemblage included nails, brick, mortar, ceramics, container and bottle glass shards, and pieces of plastic.

The results of this investigation indicate that Site 16IB74 lacks depositional integrity. The site has been impacted by the construction/installation of a natural gas pipeline, a power line, and prior earthmoving activities. The prior earthmoving activity is related to the removal of domestic and agricultural structures that were located in and adjacent to the Area of Potential Effect prior to the construction of the current Olivier Bridge in 1962. Occupants of these structures in the late nineteenth and twentieth centuries created the historic/modern period assemblage of Site 16IB74. Use of heavy equipment to remove these structures destroyed the archeological context of this historic/modern period assemblage. Thus,

this site lacks depositional integrity, research potential, and it does not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing of Site 16IB74 is recommended.

Recommendations

The current investigation failed to identify any cultural resources that may possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing of the Segura Staging Area is recommended.

Project Personnel

Mr. William P. Athens, M.A., R.P.A., acted as Principal Investigator for this project. Mr. David R. George, M.A., R.P.A., served as Project Manager. Ms. Katy Coyle, M.A., A.B.D., supervised the historical research associated with this undertaking. Ms. Meg Thornton, M.A., directed the laboratory analysis; Mr. Sean Coughlin, M.A., supervised the field effort; he was assisted by Ms. Elizabeth Holt, B.A. David Stitcher, B.A. prepared the graphics that appear throughout this document. Finally, Ms. Heidi R. Post, B.A. produced this report.

Organization of the Report

The natural setting within the vicinity of the proposed project area is presented in Chapter II of this document; it includes a brief overview of the geomorphology, soils, flora, fauna, and climate of the region. The prehistory of the project area is outlined in Chapter III. The history of the proposed project area is chronicled in Chapter IV. A review of all previously recorded archeological sites, historic standing structures, National Register of Historic Places properties, and cultural resources surveys previously completed in the immediate vicinity of the proposed project area is contained in Chapter V. The field methods used to complete this investigation are discussed in Chapter VI. That chapter also includes a discussion of the laboratory methods and procedures used to process and analyze the cultural material recovered during survey. The results of this investigation, including a description of each identified cultural resource, are described in Chapter VII. A summary and management recommendations are presented in Chapter VIII. A list of artifacts recovered as a result of this investigation is included in Appendix I. Appendix II contains the state of Louisiana site form completed for Site 16IB74. Finally, the Scope of Work for the project appears in Appendix III.

CHAPTER II

NATURAL SETTING

Introduction

The distribution of human habitation across the landscape is influenced in large part by the environment and by the usable resources found within it. The portion of Louisiana encompassed by the proposed project area contains a number of exploitable ecosystems. This chapter identifies those processes that characterized the development of the area and it documents how they influenced the settlement and subsistence strategies characteristic of the prehistoric and historic period populations of the region. An overview of the natural setting of the proposed project area, therefore, serves as a useful aid in identifying those areas likely to contain archeological sites, as well as data regarding possible types, chronologies, and associations of the archeological deposits contained within them.

Southern Louisiana has one of the most dynamic and active coastlines in the United States. The surface water of more than half of the North American continent drains through the Mississippi River. The silts and clays suspended in the river eventually reach and are deposited either in the Gulf of Mexico or along the Louisiana coastline. Over time, the Mississippi River has abandoned repeatedly its channel to create new meander belts. Between meander belts, the vertical accretion of lacustrine, swamp, and crevasse sediments has created a thick sequence of fine-grained, often organically rich sediments (Fisk 1944; Saucier 1974).

The currently proposed Bayou Teche project area is located within Iberia Parish, Louisiana and approximately 32 km (20 mi) north of that portion of the Gulf of Mexico that contains West Cote Blanche Bay and Vermilion Bay.

Elevations throughout the Areas of Potential Effect range from only 3 to 6 m (10 to 20 ft) above sea level. Topography in this region can be characterized as flat.

The proposed project area is located within the Teche Delta Complex. The Teche Delta Complex served as the major distributary of the Mississippi River between approximately 5,800 to 3,900 years ago. The Red River subsequently occupied this course, keeping the Teche Delta Complex active until 1,800 to 1,900 years ago. With the abandonment of this delta, the region began to subside.

The clearing of large log jams within the nearby Atchafalaya River around the turn of the twentieth century made that river, with its steeper gradient and shorter distance to the Gulf of Mexico, a more attractive alternative to the current Mississippi River channel. The construction of the Old River Control Structure in 1963, located approximately 123.9 km (77 mi) north of the proposed project area, helps to maintain the present course of the Mississippi River and restrict the waterflow of the Atchafalaya River and surrounding drainages (including Bayou Teche) to approximately 30 percent of the Mississippi River's volume. The result has been renewed sedimentation throughout the Atchafalaya Basin, including areas contained within the vicinity of the proposed project area.

Regional Geomorphology

The sedimentology and geomorphology of the Mississippi Delta in particular and southern Louisiana in general has been studied and described in detail by a large number of investigators. Coleman and Gagliano (1964), Fisk (1955,

1960), Gould (1960), Penland (1990), and Penland et al. (1985) describe the sedimentology and geomorphology of the shoal-water deltas that comprise almost all of the Mississippi delta complexes. In addition, Kusters (1989) and Tye and Kusters (1986) describe the active processes, as well as the sediments that characterize the interdistributary bays of the delta plains. Finally, Coleman (1982), Frazier (1967), and Kolb and Van Lopik (1966) all summarize important aspects of the ecology, geomorphology, and sedimentology of the Mississippi River Delta.

A delta plain is the constructional surface of a delta complex, while a delta complex includes the principal distributaries that are fed from a common river course and the delta lobe that these distributaries have constructed. A delta lobe consists of a set of subdeltas and minor distributaries that develop from a principal distributary. The Mississippi Delta Plain represents a composite geomorphic surface that consists of a series of overlapping relict delta plains. The surface morphology of each delta plain is dominated by an extensive network of distributaries that radiate out either from an abandoned or active Mississippi River course into its delta plain. Each of these distributary networks is separated by a series of connecting interdistributary lakes and ponds. The lakes and ponds increase in size and coalesce towards the coast, forming larger, interdistributary bays that open to the Gulf of Mexico (Coleman 1982; Fisk 1960; Frazier 1967; Kolb and Van Lopik 1958). These formational processes chronicle the development of the proposed project area as it appears today.

The following sections describe the sub-components of the geomorphology contained within the vicinity of the proposed project (Figure 4). These consist of undifferentiated fluvial deposits of the Prairie Complex, point bar deposits, backswamp deposits, abandoned river courses, and abandoned channels.

Undifferentiated Fluvial Deposits of the Prairie Complex (Ppu 1)

The late Pleistocene coastal plain formation known as the Prairie complex represents several distinctive overlapping sedimentary cycles initiated by upstream diversions of river flow, each cycle being the correlative of a discrete delta

complex. Each cycle involves sediments laid down in multiple environments of deposition ranging from fresh water to saline in the dynamic zone of interaction where the river emptied into the Gulf. Geomorphologically, these undifferentiated fluvial deposits of the Prairie Complex developed natural levees and backswamps from the sedimentation of the Mississippi and Red Rivers.

Natural levees include the broad, low ridges which flank both sides of streams that periodically overflow their banks. The coarsest and greatest quantities of sediment, mostly silts and silty clays, are deposited closest to the stream channels; consequently, the natural levees are highest and thickest in these areas and gradually thin away from the channels. In general, the greater the distance from the stream, the greater the percentage of clays. Natural levee sediments are deposited mostly by sheetflow; however, occasionally the flow will be concentrated and crevasse channels will form. In a small number of cases, a small crevasse channel will persist through multiple flood cycles and become an alluvial valley distributary.

Backswamp environments typically have very low relief and a distinctive, anastomosing, and inefficient drainage system in which channels alternately serve as tributaries and distributaries at different times of the annual flood cycle. These broad, shallow basins beyond distal natural levees are the sites of the slow, incremental deposition (vertical accretion) of fine-grained sediments (mostly clays) during times of widespread overbank flooding. Sediment-carrying floodwater may be ponded between the natural levee ridges on separate meander belts, or between natural levee ridges and the uplands forming the valley walls.

Point Bar (Hpm₃)

Being by far the predominant environment in a meander belt in terms of both area and volume, the point bar environment includes materials laid down as lateral accretion on the insides of river bends as a result of meandering of a stream with a large sediment load. The deposits extend to a depth equal to the deepest portion or "thalweg" of the parent stream. Two types of deposits occur within the point bar topstratum: well-oxidized, brown and gray, silty and sandy

sediments in elongate point bars or "ridges" that are laid down during high stages on the stream; and mostly gray, slightly oxidized, silty and clayey deposits in arcuate depressions or "swales" that are laid down during falling river stages. The ridges and swales characteristically form an alternating series (point bar accretion topography), the configuration of which conforms to the curvature of the migrating river channel and indicates the direction and extent of meandering.

Zones of point bar accretion are most widespread and most evident because of their morphology and sediments in the alluvial valley area. Nearly continuous point bar tracts, sometimes largely uninterrupted for tens of kilometers, exhibit complex patterns of cross-cutting relationships due to the meandering of multiple river bends. The accretion topography often is subdued or even completely masked by natural levees near the active and abandoned river channels. Because the changing nature of the river's sediment load and bed and bank materials in a downstream direction, cause much slower rates of meandering, zones of point bar accretion flanking the river in the deltaic plain area are much narrower and more heavily veneered with natural levee deposits than in the alluvial valley.

Backswamp (Hb)

Broad, shallow basins beyond distal natural levees are the sites of the slow, incremental deposition (vertical accretion) of fine-grained sediments (mostly clays) during times of widespread overbank flooding. Sediment-carrying floodwater may be ponded between the natural levee ridges on separate meander belts, or between natural levee ridges and the uplands forming the valley walls. Backswamp areas typically have very low relief and a distinctive, anastomosing, and inefficient drainage system in which channels alternately serve as tributaries and distributaries at different times of the annual flood cycle.

During the early and mid Holocene, backswamp tracts were much more widespread than at present, having been truncated and eroded by the progressive development of meander belts. The surviving tracts increase progressively in extent and thickness in a downstream direction, in inverse relationship to the extent of point bar

areas. By far the largest contiguous tract in the Lower Mississippi Valley occurs in the Atchafalaya Basin of Louisiana in the northern part of the deltaic plain.

Backswamp deposits consist of mostly massive sequences of soft, gray to dark gray, poorly oxidized, organic rich, and very poorly drained clays and silty clays. They average well over 30 m (100 ft) thick in the southern part of the Atchafalaya Basin in Louisiana. In all cases, backswamp deposits overlie glacial outwash deposits (the substratum) or may be separated from them by backswamp-like deposits laid down by streams flowing in an anastomosing environment.

Abandoned Course (Hcom)

Abandoned courses are lengthy segments of rivers abandoned when streams divert to new courses across the floodplain. They generally occupy medial positions within meander belts and they vary in length from a few kilometers (but always more than one meander loop) up to hundreds of kilometers in length.

During the process of abandonment of a river course, which may take a few centuries, flow declines and the remaining channel becomes progressively more underfit. In some cases, the area between the original banklines and the surviving channel becomes filled with silty and sandy point bar-like deposits with a typical ridge and swale topography. When this occurs, the original banklines of the parent river channel may be difficult to identify. In other cases, the surviving channel continues to actively meander and it may migrate beyond the limits of the parent channel, thereby destroying segments of the abandoned course and its banklines. When a course is completely abandoned and all flow ceases, the surviving underfit stream typically functions only to accommodate local drainage and may only be a slackwater slough or bayou. Hence, the deposits of an abandoned channel may be highly analogous to point bar deposits in some reaches, but in others, they may more closely resemble those of an abandoned channel.

A total of five abandoned courses of the Mississippi River have been recognized and mapped in the Lower Mississippi Valley, and identifiable segments occur south of the latitude

of Dyersburg, Tennessee. Two of these abandoned courses (Nos. 3 and 4) extend into the deltaic plain of central coastal Louisiana and constitute what is referred to as the Teche system.

Abandoned Channel (Hchm)

Abandoned channels are partially or wholly filled segments of meandering streams formed by cutoffs when the stream shortens its course. Soon after formation, they are usually characterized by open water or "oxbow lakes." Later, they may become essentially filled and occasionally completely obscured by various meander belt deposits. The abandoned segment may represent an entire meander loop formed by a neck cutoff, or may represent only a portion of a loop formed by a chute cutoff when a stream diverts through a point bar swale during high water.

The upper portions of the arms of the loops of neck cutoffs normally are filled with a wedge of fine sand and silty sand that is deposited soon after cutoff. Later, soft, gray, high-water-content clays form a characteristic "clay plug" around the loop of the abandoned channel between the sand wedges as the oxbow lake fills with sediment. From time of cutoff to complete filling, an abandoned channel experiences a characteristic and predictable life cycle, the various stages of which produce different environmental conditions that were very important to humans in prehistoric times. Also, however, the life cycle of a cutoff is strongly influenced by the pattern of channel migration in the meander belt after cutoff takes place. If the active channel remains close to the cutoff, it may be rapidly filled and completely veneered and obscured by natural levee deposits. If the active channel rapidly moves away, the cutoff may remain indefinitely as an oxbow lake.

The frequency of cutoffs along meandering rivers is directly related to the rates and magnitudes of meandering. The frequency is also a function of the age (duration) of the meander belt – ones that have been occupied the longest generally have the greatest number of abandoned channels. Cutoff frequencies along the Mississippi River and its tributaries vary greatly from reach to reach because of various factors, and they decline significantly in a downstream direction.

The crests of natural levee ridges immediately flanking abandoned channels in an incompletely filled state were a highly favored setting for prehistoric settlement. In addition to the well-drained and arable soils of the levees, the lacustrine and wetland environments of the abandoned channel provided immediate access to potable water and abundant wildlife and fisheries resources.

The Proposed Project Area in the Context of the Atchafalaya Basin

The Atchafalaya Basin is a very large flood/intertributary basin that opens eventually to the Gulf of Mexico (Figure 5); the proposed project area is located within the western portion of this basin. The Atchafalaya Basin is bounded by the natural levees of the Mississippi River, Bayou Teche, and Bayou Lafourche (Figure 5). The Basin measures approximately 110 km (68 mi) in length and it ranges from 20 to 60 km (12 to 37 mi) in width. This basin encompasses approximately 2,830 km² (1,093 mi²) of natural levees, backswamps, and lakes.

Much of the basin consists of a complex network dividing, subdividing, and rejoining distributaries of the Grand and Atchafalaya Rivers, as well as smaller drainages such as Bayou Teche; however, the natural levees associated with these distributaries and the large distributary crevasses of the Mississippi River and Bayou Teche subdivide the Atchafalaya Basin into numerous sub-basins (Figure 5). Inflow from the distributaries of these rivers, bayous, and formerly active crevasses empties into large lakes, e.g., Lake Fausse Point, Grand Lake, and Lake Verret. Prior to the modern construction of the Wax Lake Outlet, the surface waters of the basin collected in these lakes and drained into the Atchafalaya Bay through the relatively short, deep, lower Atchafalaya River and associated Berwick Bay (Tye and Kusters 1986). Underlying the lake bottoms and backswamps of the Atchafalaya Basin is approximately 25 to 35 m (82 to 115 ft) of fine-grained flood basin deposits; these deposits overlie fluvial sands and gravel. The fluvial sands and gravels consist of Late Pleistocene braided stream deposits and, possibly, Early Holocene point bar sediments.

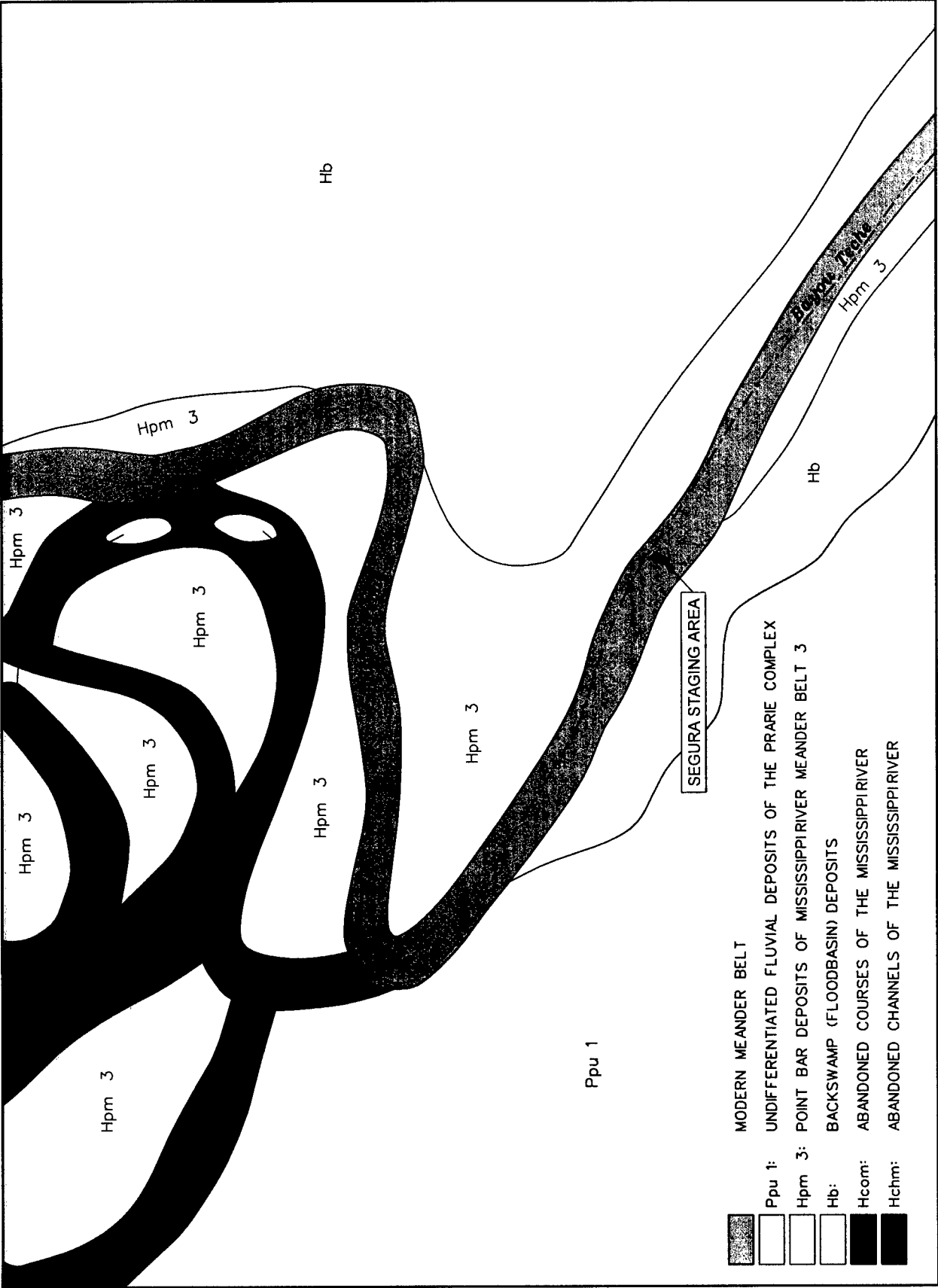


Figure 4. Base map depicting the geomorphology within the vicinity of the proposed project area.

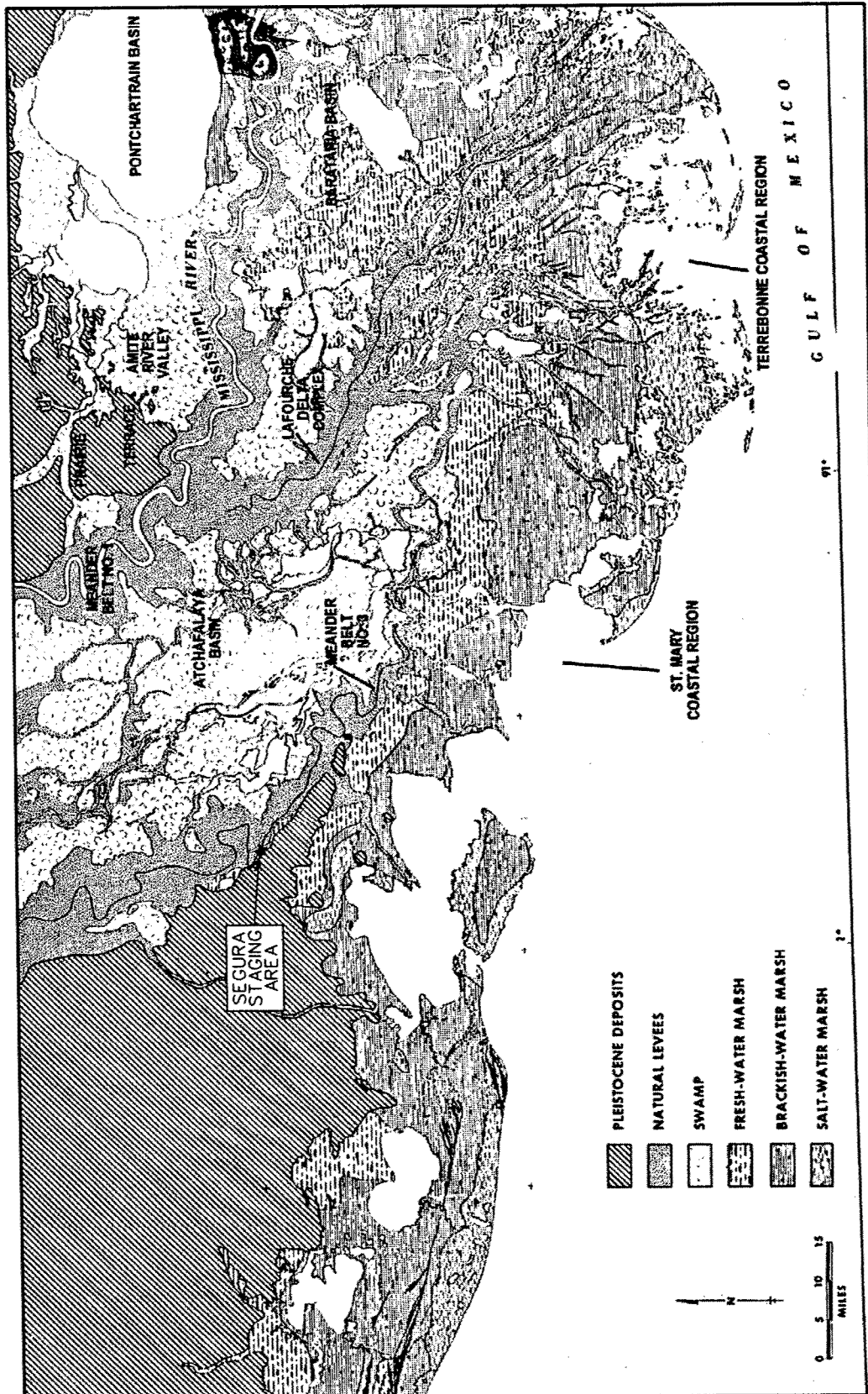


Figure 5. Major geomorphic subdivisions in southeastern Louisiana (modified from O'Neil 1949).

Mississippi River Delta Chronology and the Development of the Proposed Project Area

The Mississippi River Delta is one of the most intensively studied delta systems in the world. A voluminous quantity of data pertaining to its stratigraphy, sedimentology, and history have been published in innumerable publications of various types. The synthesis of these data, most notably by Frazier (1967, 1974), with revisions by Autin et al. (1991) and Weinstein and Gagliano (1985), has resulted in the development of three widely accepted chronologies for mid- to late-Holocene age delta lobe deposition throughout the region (Figures 6 and 7). All three chronologies subdivide the Mississippi River Delta into six major delta complexes: the Maringouin, Teche, St. Bernard (or Metairie and La Loutre), Lafourche, Plaquemines (or Modern), and Atchafalaya delta complexes; however, some delta chronologies do not illustrate the Atchafalaya Delta Complex since it is difficult to portray graphically the boundaries of this short-lived delta complex.

Each of the delta complexes is discussed below. Since the proposed project area is situated within the boundaries of the Teche Delta Complex, this complex is discussed in greater detail.

Pre-Holocene Delta Complexes

A cross-section presented by Boyd et al. (1988) shows additional delta complexes underlying the Outer Shoal Delta Complex. Unfortunately, all that presently is known about these pre-Holocene complexes is that they underlie the Outer Shoal Delta Complex and that they overlie the presumably Sangamonian surface and sediments of the Prairie Complex. Contrary to the interpretations of Boyd et al. (1988), correlation of their cross-sections with data presented by Coleman and Roberts (1988) indicates that these complexes probably are Middle Wisconsinian in age. Therefore, these delta complexes predate human occupation of the area.

Holocene Age Delta Complexes

The Pleistocene Epoch, which began approximately 2 mya (million years ago), encompasses a number of stages defined by their correlation with glacial events. During a glacial retreat, huge amounts of unconsolidated sediments

were subject to erosion, and a great deal of the sediments in North America generated as a result of these glacial events were transported through the Mississippi River drainage system, and deposited in Louisiana and in the Gulf of Mexico. The oldest sedimentary depositions occur during the Sangamonian stage, approximately 75,000 - 125,000 B.P., with further deposition occurring during the glacial retreat of the Middle Wisconsin stage, approximately 65,000 - 30,000 B.P. The Holocene Epoch (ca. 10,000 years ago - present) also experienced periods of sediment deposition (Saucier 1994).

Outer Shoal Delta Complex

Penland et al. (1985) noted that the deposition of deltaic sediments by the Mississippi River began approximately 12,000 years ago. Due to the rapidly rising sea level during the early Holocene, only thin shoal-water deltas could have accumulated, except during a sea level stillstand at approximately 15,000 - 12,000 years ago (Frazier 1967). In addition, the transgressing shoreface associated with rising sea level probably eroded these thin shoal-water deltas, and subsequent marine processes redistributed them into broad sand sheets and marine shoals such as the Sabine Bank on the western Continental Shelf (Suter et al. 1987). As a result, it is highly unlikely that the deposition of the Maringouin Delta Complex encompassed the entire period stated by Weinstein and Gagliano (1985:122) or by Frazier (1967:269) (Figures 7 and 8).

Penland et al. (1987) and Boyd et al. (1988) document another Late Pleistocene delta complex lying underneath the Maringouin Delta Complex as defined by Frazier (1967:269, 300). Boyd et al. (1988) call this delta complex the "Outer Shoal Delta Complex." It forms the "Earlier Holocene Delta Plain" discussed by Penland et al. (1987), on which the Maringouin Delta Complex lies. The occurrence of this delta plain at depths of 15 to 25 m (49 to 82 ft) below surface suggests that it may represent the results of deltaic deposition from approximately 9,200 - 8,200 years ago. (Frazier 1974). Because very little has been determined or published regarding this delta complex, its actual age and its relationship to sea level fluctuations are unclear.

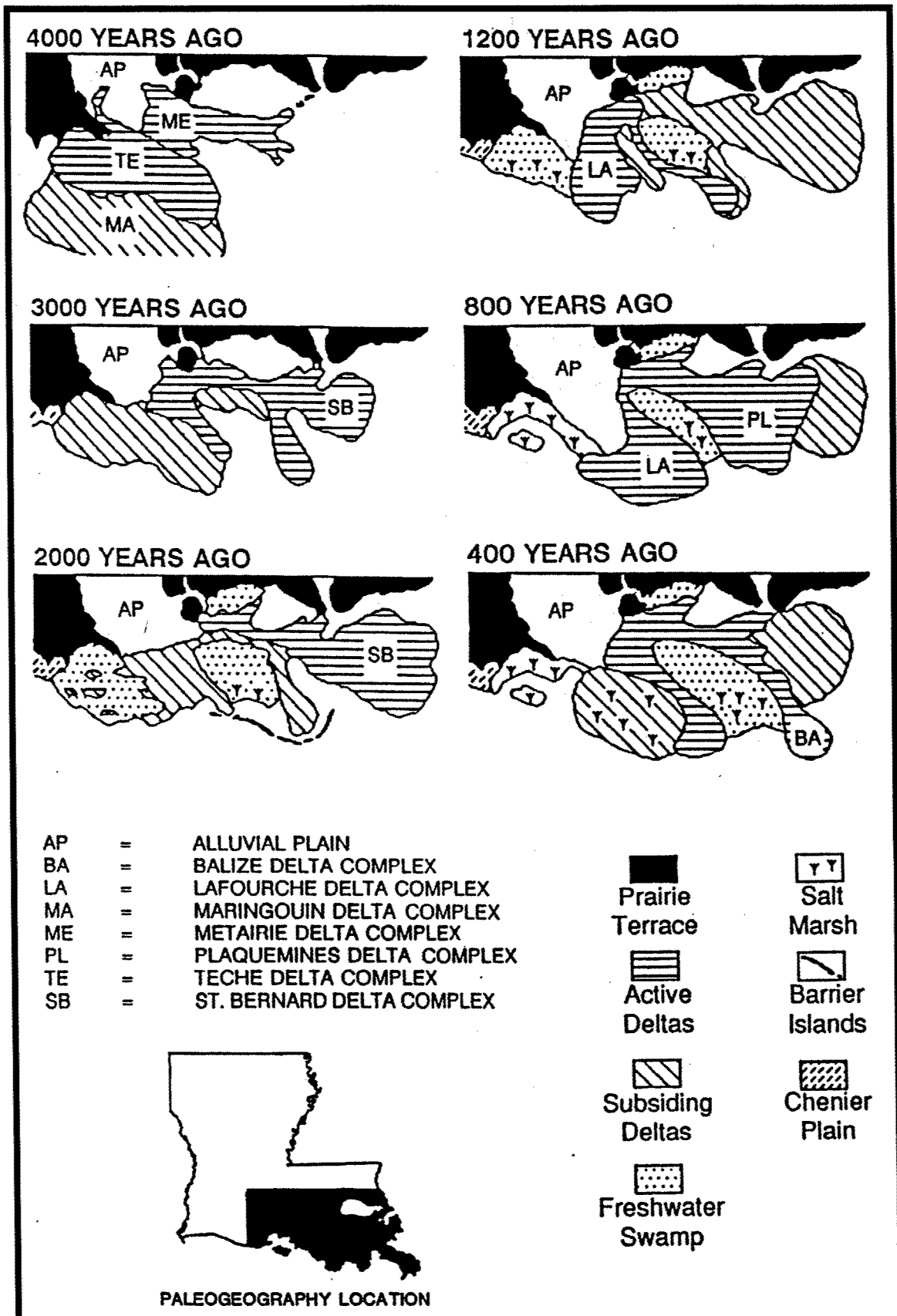


Figure 6. Paleogeography of the Mississippi River Delta. Modified from Heinrich et al. 1991.

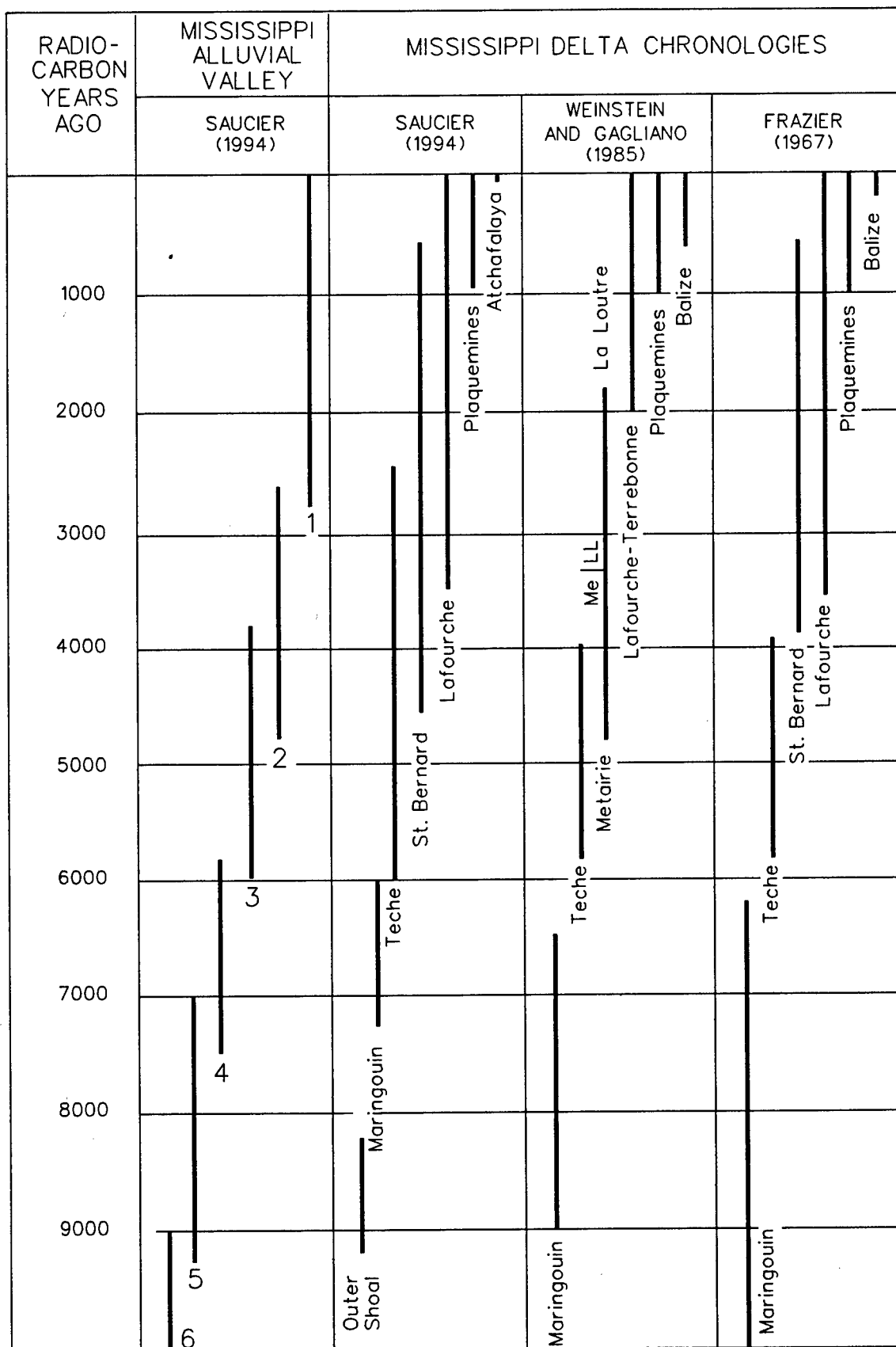


Figure 7. Estimates of the ages of meander belts of the Mississippi River and delta complexes (ages in years B.P.).

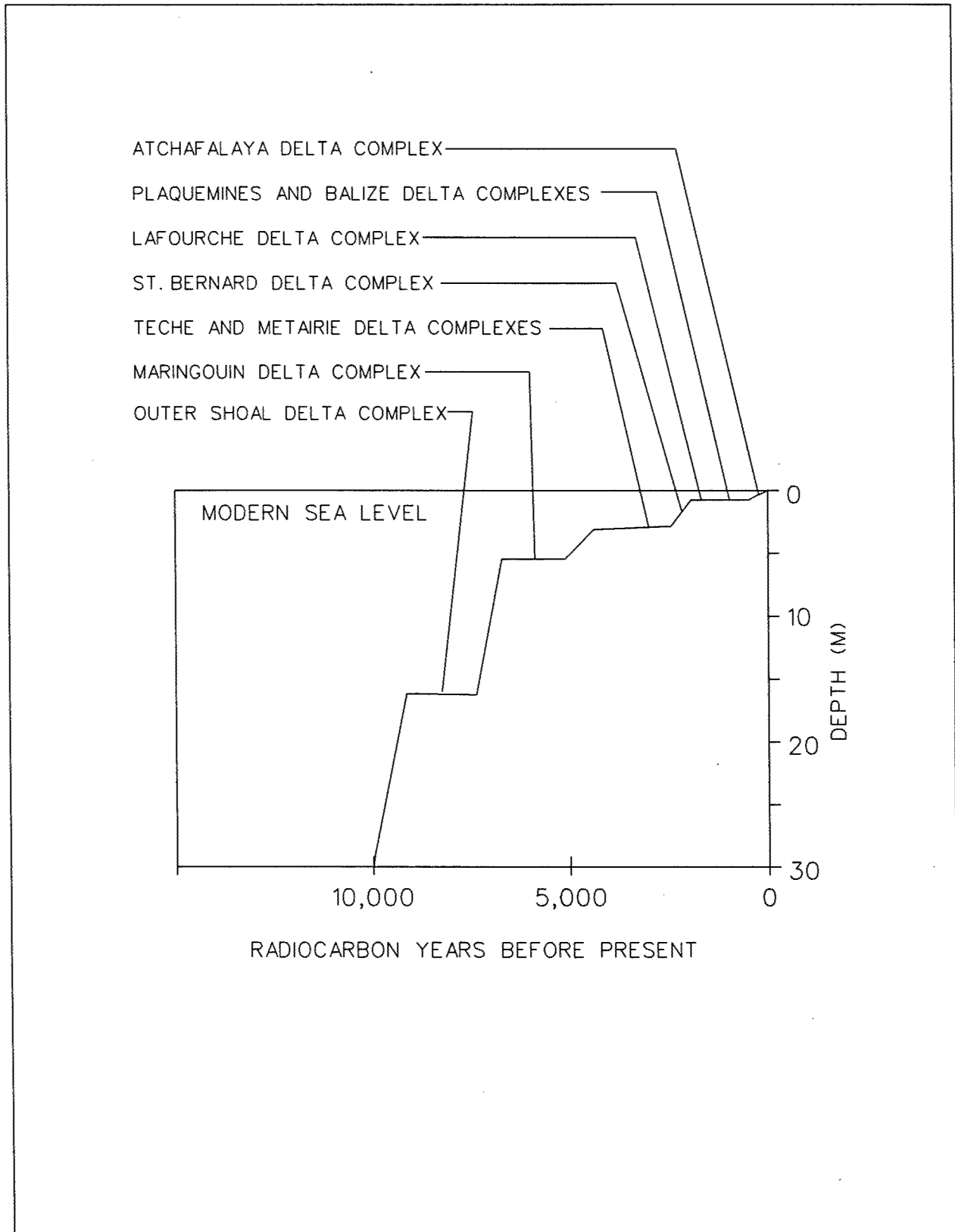


Figure 8. Chronology of delta complexes and relative sea level (modified from Penland et al. 1988).

Maringouin Delta Complex

From about 7,500 - 5,500 years ago, a second stillstand occurred during the otherwise rapid rise in sea level, at a depth of 5 to 6 m (16 to 20 ft) below surface (Figure 8). During this time, i.e., approximately 7,300 - 6,200 years ago, the Mississippi River built the Maringouin Delta Complex (Figures 7 and 8) (Autin et al. 1991). Frazier (1967:269) noted the presence of two stacked, depositional sequences within this delta complex.

By 5,000 years ago, the continued rise of sea level had submerged most of the surface of the Maringouin Delta Complex, i.e., the "Late Holocene Delta Plain" (Penland et al. 1987). The transgression of the shoreface across this delta plain formed a well-defined ravinement surface that later was buried by the Teche Delta Complex. Marine processes reworked the exposed portion of this delta complex into the Tiger, Ship, and Trinity shoals (Autin et al. 1991; Frazier 1967; Smith et al. 1986:68).

At the same time, rising sea level flooded the eastern portion of the Mississippi River Alluvial Valley. This resulted in the movement of the shoreline up the Mississippi River Alluvial Valley to the latitude of Baton Rouge. As a result, a brackish water embayment occupied this part of the Mississippi River Valley approximately 6,000 - 5,000 years ago (Saucier 1963:44-46).

Teche Delta Complex

Approximately 5,800 years ago, the development of the Teche Delta Complex began; this occurred after the rising sea level had submerged most of the Maringouin Delta Complex. Between 5,800 - 3,900 years ago, the Mississippi River formed the Teche Delta Complex by building over the Maringouin Delta Complex (Figures 7 and 8). The Teche Delta Complex buried the intact delta plain of the Maringouin Delta Complex within the vicinity of the proposed project area, while east of the Penchant Shoreline in Terrebonne Parish, the Teche Delta Complex prograded into open water over what had formerly been the Maringouin Delta Complex. The specific sequence in which the delta lobes developed, however, remains controversial (Smith et al. 1986:61-64; Weinstein and Gagliano 1985:123; Weinstein and Kelley 1989:33-34).

The eastern limit of progradation for the Teche Delta Complex also is subject to debate. Smith et al. (1986:61-62) placed the easternmost limit of this delta complex near the city of Houma. In contrast, Weinstein and Gagliano (1985:123) argue that the eastern margin of the Teche Delta Complex lies 48.3 km (30 mi) east of Houma. They claim that southwest trending distributaries in the Terrebonne Delta Plain, such as Bayou Du Large and Mauvais Bois, represent Teche distributaries that were reoccupied by the Lafourche Delta Complex (Weinstein and Kelley 1989:33).

During its existence, drastic changes occurred within the river courses that fed the Teche Delta Complex. First, the Mississippi River switched from Meander Belt No. 4 to Meander Belt No. 3 as defined by Saucier (1981:16). For the first thousand years or so, Meander Belt No. 4 supplied sediment to the Teche Delta, until it was abandoned for Meander Belt No. 3 (Autin et al. 1991). Second, an abrupt aggradation of Meander Belt No. 3 caused it to abandon and bury an older meander belt, and to form the relict river course currently occupied by Bayous Teche and Black. Finally, the Red River occupied this river course as the flow of the Mississippi River shifted gradually to the east into Meander Belt No. 2 approximately 3,900 years ago. As a result, the Teche Delta Complex remained active as the Red River discharged partially its flow directly into the Gulf of Mexico (Figure 8) (Goodwin et al. 1990).

The time at which the Red River abandoned both its Bayou Teche course and the Teche Delta Complex has yet to be determined satisfactorily. Autin et al. (1991) suggest that it occurred by approximately 2,500 years ago. Pearson (1986) and Weinstein and Kelley (1989:33-34) argue on the basis of archeological data, that it occurred approximately 1,800 - 1,900 years ago.

St. Bernard (Metairie-La Loutre) Delta Complex

By approximately 4,800 years ago, the Mississippi River began to shift its course from Meander Belt No. 3 to Meander Belt No. 2 at Marksville, Louisiana, which diverted much of its flow down the eastern and central part of the Mississippi Alluvial Valley (Saucier 1981:16). As a result, a new delta complex called the "early St. Bernard Delta Complex" by Frazier

(1967) and the "Metairie Delta Complex" by Weinstein and Gagliano (1985:122-123) prograded into and through the New Orleans area, leaving much of the region containing the proposed project area to be claimed by backswamps and natural levees that were created by the development of smaller drainages such as Bayou Teche (Figures 7 and 8). The main delta of this complex prograded about 70 km (43.5 mi) southeast of New Orleans into the Gulf of Mexico. Another small delta of this complex prograded northeast to connect with a chain of southwest-trending barrier islands, the New Orleans Barrier Island Trend. When this delta joined with the New Orleans Barrier Island Trend, which is attached to the mouth of the Pearl River, it created a brackish water bay ancestral to Lake Pontchartrain (Otvos 1973; Saucier 1963:56-59).

From approximately 3,400 - 1,600 years ago, the Metairie Delta Complex developed into the La Loutre Delta Complex described by Weinstein and Gagliano (1985:123) or the St. Bernard Delta Complex characterized by Frazier (1967). This delta complex formed two major delta lobes that prograded from the New Orleans area. The larger delta, La Loutre Delta, prograded eastward to form most of St. Bernard Parish. By 3,000 years ago, this delta lobe buried the New Orleans Barrier Island Trend, creating Lake Pontchartrain. A smaller delta, the Des Familles Delta, prograded southward from the New Orleans region.

Between 1,800 - 600 years ago, only the Bayou Sauvage delta of the St. Bernard Delta Complex remained active (Frazier 1967:12). Weinstein and Gagliano (1985) considered this activity to be insufficient to characterize the La Loutre (St. Bernard) Delta Complex an active delta complex for their chronology; therefore, they classified this delta complex as inactive after 1,800 years ago. In contrast, Autin et al. (1991) interpret the activity of the Bayou Sauvage delta to be that associated with the waning phase of an active delta complex. As a result, they considered the St. Bernard Delta (La Loutre) Complex active until 600 years ago. This difference, as with many differences among the delta chronologies illustrated in Figure 7, results from different interpretations of what

actually constitutes an active delta complex, rather than from true differences in observed delta activity.

Soils within the Vicinity of the Proposed Project Area

A majority of the proposed project area can be described as alluvial plain (Clark and White 1978). In general, the alluvial plain represents a level and moderately to poorly drained area located north of the many coastal marshes that fringe the Gulf of Mexico; elevations in this area range from approximately 3 to 6 m (10 to 20 ft) NGVD (Clark and White 1978). The following is a review of the general soil areas and associated soil series groups that occur throughout the proposed project area.

Soils found within the portion of the alluvial plain that contains Bayou Teche and the proposed project area belong to the Gallion - Galvez - Baldwin soil association. Clark and White (1978) describe the Gallion soil series as dark brown to dark reddish brown silty loams and silty clay loams that range from 0 to 167 cmbs (0 to 66 inbs) in depth. Soils of the Galvez series are characterized as grayish brown silty loams and silty clay loams that extend from the surface to a depth of 152 cmbs (60 inbs) (Clark and White 1978). Finally, soils of the Baldwin series vary from very dark grayish brown to gray in color and they range in depth from 0 to 182 cmbs (0 to 72 inbs) (Clark and White 1978). These soil series typically are located on level to nearly level slopes and they range from well-drained to very poorly drained. These soil series are suited to cultivation, and both rice and sugarcane are grown regularly on them. In general, however, surface drainage and commercial fertilization are needed to produce crops on a large scale.

Historic Period Impacts to the Proposed Project Area

Within southern Louisiana, historic period utilization of the Mississippi River meander belts, which contain numerous smaller drainages such as Bayou Teche, have impacted severely the archeological deposits that lie within them. Agricultural, urban, and industrial development has disturbed extensive portions of the natural levees and point bars found throughout the re-

gion. Each of these disturbance agents is discussed briefly below.

Residential and Industrial Development

Because the natural levees of the modern and ancient courses of the numerous drainages within the vicinity of the proposed project area, including Bayou Teche, are still the only dry land within an otherwise flooded or poorly-drained alluvial plain, they have been the focus of urban and industrial development. Obviously, the construction of housing, commercial buildings, and industrial plants has impacted directly the surface and subsurface of large portions of both modern and relict natural levees in the region. In addition, the excavation of numerous sewage disposal ponds within the immediate vicinity of the proposed project area to support continued commercial and residential development has had negative impacts on the preservation of prehistoric and historic period archeological sites in the area.

Agricultural Disturbance

The natural levees of both active and abandoned river and bayou courses within the vicinity of the proposed project corridor are sufficiently fertile and well drained for agricultural use. As a result, they have been extensively developed for the production of both sugar cane and rice. In fact, several large sugarcane refinery operations and fields are located within the vicinity of the proposed project area, e.g., the Iberia Sugar Company and the Cajun Sugar Company. Both rice and sugar farming have disturbed significant portions of the natural levees through plowing and inundation (Goodwin et al. 1990).

Dredging

During canal and pipeline construction, dredging operations often affect archeological deposits. Dredging impacts the integrity and visibility of the archeological deposits and the dumping of spoil buries and conceals archeological deposits once exposed along the banks of the rivers and bayous of the area. The partial burial of sites by spoil often makes it difficult to determine the original characteristics of sites, especially their integrity, size, and artifact content.

Bankline Erosion

The abandoned course and the present course of Bayou Teche have carried and the present course continues to carry substantial recreational and/or commercial boat traffic. The frequent use of the waterway creates substantial wave action from riverborne traffic. The wave action generated from river traffic, as well as wind and current action, can cause extensive bankline erosion and slumping. A brief examination of the Louisiana Division of Archaeology files demonstrates that bank erosion is an extremely serious threat to archeological deposits situated along the banks of many of the waterways scattered throughout the area.

Flora and Fauna Located within the Vicinity of the Proposed Project Area

While the proposed project corridor consists entirely of natural levee and riverine habitats, the larger region encompasses a variety of ecozones, including salt marshes, freshwater marshes, backswamps, and alluvial plains. These habitats support very rich floral and faunal communities. Tables 1 - 8 contain the common and scientific names of the species common to the proposed project area (Beavers et al. 1984; Brown 1965, 1972; Chabreck and Condrey 1979; Gosselink 1984; Harrar and Harrar 1946; Lowery 1974; McClane 1974; Reese 1992).

The marshlands and swamps located within the vicinity of the proposed project area are highly productive natural environments and they represent important stopping and overwintering points for migratory birds from the Mississippi Flyway. The semi-aquatic areas are used by over five million birds every winter (Chabreck and Condrey 1979:4). Permanent residents of this habitat include muskrats, raccoons, otters, mink, alligators, rabbits, and a wide array of water birds, turtles, frogs, and fishes.

The composition of the habitats found within the general vicinity of the proposed project area has been influenced strongly by both natural and man-made forces. Through time, the changing course of the Mississippi River has controlled the amount of fresh water flowing down the Atchafalaya River and its related tributaries (e.g., Bayou Teche). Currently, almost one-third of the Mississippi River discharge flows through the Atchafalaya River and into the

Atchafalaya Bay. This enormous discharge of fresh water into the Atchafalaya Bay causes the salinity of the bay to be lower than the surrounding waters of the Gulf of Mexico. In turn, the extent of brackish marsh on the shores of the Atchafalaya Bay is limited by the low salinity. Therefore, the extent of brackish and saline marshes may have been greater in this area when the discharge of the Mississippi River was directed elsewhere.

In addition, historic period and modern modifications in the larger region have greatly modified the habitats currently found there. Brackish and saline marsh has replaced some of the original freshwater marsh. Much of the recent loss of freshwater marsh is due to the dredging and straightening of canals; these methods allow for saltwater intrusion from the Gulf of Mexico, which kills the sensitive vegetation of the freshwater marshes. If saltwater-tolerant species do not colonize the area, the marsh reverts to open water (Chabreck and Condrey 1979).

Saline Marsh

Small areas of saline marsh are found directly south of the proposed project area and adjacent to the Gulf of Mexico. These marshes are inundated regularly with saltwater. The dominant plants in this habitat include salt grass, rushes, sea blite, and gulf croton (Table 1). The growth of plants within the saline marsh is influenced by a long growing season, high rainfall, rich soils, low tide differential, and the width of the marsh (Chabreck and Condrey 1979:4).

A variety of crustaceans, shellfish, and fishes are residents of the saline marsh (Tables 2 and 3). Small fishes such as silversides, minnows, killifish, and mullet are important sources of food for predatory marine and estuary fish such as flounders, stingrays, tarpon, and drums. Many other predatory fish feed on the small and immature crustaceans and shellfish in, or from, the saline marsh. Muskrats, otters, raccoons, and geese also exploit the floral and faunal resources of the area (Table 4).

Brackish Marsh

Brackish marsh habitats, with their slightly saline waters, can be found just south of the proposed project area. The salinity level in the brackish marshes range from four to eight millimhos per centimeter (Craft 1984:39). A wider variety of plant species can tolerate the slightly saline conditions of the brackish marsh when compared to species common in the saline marsh environment. The majority of the local plants are marsh-grasses (e.g., *Spartina patens*), bulrushes, panicoid grasses (e.g., *Panicum virgatum*), arrowheads, and other monocotyledonous genera that are well-adapted to this (semi-) aquatic habitat (Table 1). The lack of arboreal plants results in a very open and ecologically productive environment.

The brackish marsh is inhabited by semi-aquatic mammals, birds, reptiles, and amphibians (Tables 4 – 6). Geese often winter in the brackish marshes where the sedges and grasses provide an important source of forage. Muskrats, mink, otter, raccoons, rabbits, nutria, and alligators also populate the brackish marshes, while white-tailed deer sometimes venture into the brackish marshes to graze.

The brackish marsh also is part of the estuary system that provides a nursery for saltwater fishes, shrimp, and crabs (Tables 2 and 3). The seasonal abundance of these species is important for the faunal as well as the human populations of the area. The prehistoric *Rangia* shell middens attest to the importance of brackish water shellfish to the ancient residents of southern Louisiana.

Fresh Marsh

Fresh water marshes also are located in close proximity to the proposed project corridor. These marshes are characterized by a very low salinity level of zero to four millimhos per centimeter (Craft 1984:40). Common reed, panicoid grasses (e.g., *Panicum hermitomar*), cattail, bulrush, and giant cutgrass are the dominant native plants (Table 1). Although monocotyledonous species still dominate this habitat, there are a few arboreal species such as black willow and wax myrtle.

Table 1. Plant taxa characteristic of marshes within the vicinity of the proposed project area.

COMMON NAME	LATIN NAME	SALINE	BRACKISH	FRESH
Coast milkweed	<i>Asclepias lanceolata</i>		x	
Aster	<i>Aster</i> spp.			x
Backbrush	<i>Baccharis halimifolia</i>		x	
Water hyssop	<i>Bacopa monnieri</i>		x	x
Carex	<i>Carex</i> sp.		x	
Centella	<i>Centella asiatica</i>		x	
Coontail	<i>Ceratophyllum demersum</i>			x
Saw-grass	<i>Cladium jamaicense</i>			x
Gulf croton	<i>Croton punctatus</i>	x		
Umbrella-sedges	<i>Cyperus</i> spp.		x	x
Salt grass	<i>Distichlis spicata</i>	x	x	
Walter's millet	<i>Echinochloa walteri</i>		x	x
Spikerush	<i>Eleocharis</i> spp.		x	x
Sand rush	<i>Fimbristylis castanea</i>		x	
Marsh mallow	<i>Hibiscus moscheutos</i>		x	
Whorled pennywort	<i>Hydrocotyle verticillata</i>			x
Spider lily	<i>Hymenocallis caroliniana</i>		x	x
Morning glories	<i>Ipomoea</i> spp.		x	x
Marsh elder	<i>Iva frutescens</i>		x	x
Rushes	<i>Juncus</i> spp.	x	x	x
Virginia saltmarsh mallow	<i>Kosteletzkya virginica</i>		x	x
Cutgrass	<i>Leersia</i> sp.		x	
Sprangle top	<i>Leptochloa fascicularis</i>		x	x
False loosestrife	<i>Ludwigia leptocarpa</i>			x
Loosestrife	<i>Lythrum lineare</i>		x	
Wax myrtle	<i>Myrica cerifera</i>			x
White waterlily	<i>Nymphaea odorata</i>			x
Maidencane	<i>Panicum hemitomon</i>			x
Panicoid grasses	<i>Panicum</i> spp.		x	x
Paspalum	<i>Paspalum</i> spp.			x
Canary grass	<i>Phalaris</i> sp.		x	
Common reed	<i>Phragmites communis</i>		x	x
Camphorweed	<i>Pluchea camphorata</i>		x	x
Smartweed	<i>Polygonum</i> spp.			x
Sago pondweed	<i>Potamogeton pectinatus</i>		x	
Arrowhead	<i>Sagittaria</i> spp.			x
Creeping glasswort	<i>Salicornia virginica</i>	x		
Black willow	<i>Salix nigra</i>			x
Common elderberry	<i>Sambucus canadensis</i>		x	x
Bulrush	<i>Scirpus</i> spp.	x	x	x
Rattlebox	<i>Sesbania</i> spp.			x
Yellow foxtail	<i>Setaria glauca</i>		x	x
Marsh-grass	<i>Spartina</i> spp.	x	x	x
Coast dropseed	<i>Sporobolus virginicus</i>		x	
Sea blite	<i>Sueda tineaans</i>	x		
Gramagrass	<i>Tripsacum dactyloides</i>		x	
Cattail	<i>Typha</i> spp.			x
Deerpea	<i>Vigna luteola</i>		x	x
Giant cutgrass	<i>Zizaniopsis miliacea</i>			x

Table 2. Crustaceans and shellfish present within the vicinity of the proposed project area.

COMMON NAME	LATIN NAME	FRESH	ESTUARY
Freshwater clam	<i>Anodonta</i> sp.	x	
Hooked mussel	<i>Brachidontes recurvus</i>		x
Blue crab	<i>Callinectes sapidus</i>		x
Oyster	<i>Crassostrea virginica</i>		x
Freshwater clam	<i>Elliptio</i> sp.	x	
Marsh periwinkle	<i>Littorinia irrorata</i>		x
River shrimp	<i>Macrobrachium ohione</i>	x	
Ribbed mussel	<i>Modiolus demissus</i>		x
Freshwater mussel	<i>Mytilopsis leucopuaeta</i>	x	
Eastern nassa	<i>Nassarius vibex</i>		x
Grass shrimp	<i>Palaemonetes paludosus</i>		x
Brown shrimp	<i>Penaeus aztecus</i>		x
White shrimp	<i>Penaeus setiferus</i>		x
Freshwater snail	<i>Physa</i> sp.	x	
River crawfish	<i>Procambarus blandingii</i>	x	
Red swamp crawfish	<i>Procambarus clarkii</i>	x	
Brackish water clam	<i>Rangia cuneata</i>		x
Mud crab	<i>Rithropenopeus harrisii</i>		x

Table 3. Fishes present within the vicinity of the proposed project area.

COMMON NAME	LATIN NAME	FRESH	ESTUARY	SEASONAL ESTUARY
Bowfin	<i>Amia calva</i>	x		
Bay anchovy	<i>Anchoa mitchilli</i>			x
American eel	<i>Anguilla rostrata</i>	x		
Pirate perch	<i>Aphredoderus sayanus</i>	x		
Freshwater drum	<i>Aplodinotus grunniens</i>	x		
Sheephead	<i>Archosargus probatocephalus</i>			x
Sea catfish	<i>Arius felis</i>			x
Silversides	Atherinidae family	x	x	
Gafftop catfish	<i>Bagre marinus</i>			x
Atlantic threadfin	<i>Bolydactylus octonemus</i>			x
Gulf menhaden	<i>Brevoortia patronus</i>			x
River carpsuckers	<i>Carpoides carpio</i>	x		
Atlantic spadefish	<i>Chaetodipterus faber</i>			x
Seatrout	<i>Cynoscion</i> sp.			x
Sheepshead minnow	<i>Cyprinodon variegatus</i>		x	
Killifish	Cyprinodontidae family		x	
Carp	<i>Cyprinus carpio</i>	x		
Southern stingray	<i>Dasyatis americana</i>			x
Bluntnose stingray	<i>Dasyatis sayi</i>			x
Shad	<i>Dorosoma</i> spp.	x		
Banded pygmy sunfish	<i>Elassoma zonatum</i>	x		
Ladyfish	<i>Elops saurus</i>			x
Fringed flounder	<i>Etropus crossotus</i>			x
Lyre goby	<i>Evorthodus syriacus</i>		x	
Gulf killifish	<i>Fundulus grandis</i>		x	
Topminnows	<i>Fundulus</i> spp.	x		
Mosquitofish	<i>Gambusia affinis</i>	x		
Goby	Gobiidae family			x
Naked goby	<i>Gobiosoma boscii</i>		x	
Least killifish	<i>Heterandria formosa</i>	x		
Freshwater catfish	Ictaluridae family	x		
Brook silverside	<i>Labidesthes sicculus</i>	x		

Table 3, continued

COMMON NAME	LATIN NAME	FRESH	ESTUARY	SEASONAL ESTUARY
Pinfish	<i>Lagodon rhomboides</i>		x	
Gars	<i>Lepisosteus spp.</i>	x		
Sunfishes	<i>Lepomis spp.</i>	x		
Atlantic croaker	<i>Mecropogon undulatus</i>			x
Tarpon	<i>Megalops atlantica</i>			x
Tidewater silverside	<i>Menidia beryllina</i>			x
Southern kingfish	<i>Menticirrhus americanus</i>			x
Atlantic croaker	<i>Micropogonais undulatus</i>			x
Largemouth bass	<i>Micropterus salmoides</i>	x		
Basses	<i>Morone spp.</i>	x		
Striped mullet	<i>Mugil cephalus</i>			x
Golden shiner	<i>Notemigonus crysoleucas</i>	x		
Shiners	<i>Notropis spp.</i>	x		
Southern flounder	<i>Paralichthys lethnostigma</i>			x
Bullhead shiner	<i>Pimephales vigilax</i>	x		
Sailfin molly	<i>Poecilia latipinna</i>	x		
Black drum	<i>Pogonias cromius</i>			x
Paddle fish	<i>Polydon spathula</i>	x		
Crappie	<i>Promoxis sp.</i>	x		
Red drum	<i>Sciaenops ocellata</i>			x
Hogchoker	<i>Trinectes maculatus</i>			x

Table 4. Mammals present within the vicinity of the proposed project area.

COMMON NAME	LATIN NAME
Fin whale family	Balaenopteridae family
Red wolf	<i>Canis rufus</i>
Least shrew	<i>Cryptotis parva</i>
Porpoise and dolphin family	Delphinidae family
Southern flying squirrel	<i>Glaucomys volans</i>
Red bat	<i>Lasiurus borealis</i>
Northern yellow bat	<i>Lasiurus intermedius</i>
Seminole bat	<i>Lasiurus seminolus</i>
River otter	<i>Lutra canadensis</i>
Bobcat	<i>Lynx rufus</i>
Long-tailed weasel	<i>Mustela frenata</i>
North American mink	<i>Mustela vison</i>
Southeastern myotis	<i>Myotis austroriparius</i>
Eastern wood rat	<i>Neotoma floridana</i>
Evening bat	<i>Nycticeius humeralis</i>
White-tailed deer	<i>Odocoileus virginianus</i>
Common muskrat	<i>Ondatra zibethicus</i>

Table 4, continued

COMMON NAME	LATIN NAME
Marsh rice rat	<i>Oryzomys palustris</i>
Cotton mouse	<i>Peromyscus gossypinus</i>
White-footed mouse	<i>Peromyscus leucopus</i>
Sperm whale family	Physeteridae family
Rafinesque's big-eared bat	<i>Plecotus rafinesquii</i>
Northern raccoon	<i>Procyon lotor</i>
Fulvous harvest mouse	<i>Reithrodontomys fulvescens</i>
Gray squirrel	<i>Sciurus carolinensis</i>
Fox squirrel	<i>Sciurus niger</i>
Hispid cotton rat	<i>Sigmodon hispidus</i>
Swamp rabbit	<i>Sylvilagus aquaticus</i>
Eastern cottontail rabbit	<i>Sylvilagus floridanus</i>
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>
Gray fox	<i>Urocyon cinereoargenteus</i>
Black bear	<i>Ursus americanus</i>
Beaked whale family	Ziphiidae family

Note: Nutria (*Myocaster coypus*) is an introduced species

Table 5. Birds present within the vicinity of the proposed project area.

COMMON NAME	LATIN NAME
Spotted sandpiper	<i>Actitis macularia</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Seaside sparrow	<i>Ammodramus maritimus</i>
Pond ducks	<i>Anas</i> spp.
Greater white-fronted goose	<i>Anser albifrons</i>
Great blue heron	<i>Ardea herodias</i>
Short-eared owl	<i>Asio flammeus</i>
Diving ducks	<i>Aythya</i> spp.
Solidary sandpiper	<i>Bartamia longicauda</i>
American bittern	<i>Botaurus lentiginosus</i>
Green-backed heron	<i>Butorides striatus</i>
Sandpiper	<i>Calidris</i> spp.
Snipe	<i>Capilla gallinago</i>
Great egret	<i>Casmerodius albus</i>
Boat-tailed grackle	<i>Cassidix major</i>
Belted kingfisher	<i>Ceryle alcyon</i>
Killdeer	<i>Charadrius vociferus</i>
Snow goose	<i>Chen caerulescens</i>
Black tern	<i>Chiononias niger</i>
Common nighthawk	<i>Chordeiles minor</i>
Northern harrier	<i>Circus cyaneus</i>
Wrens	<i>Cistothorus</i> spp.
Fish crow	<i>Corvus ossifragus</i>
Yellow rail	<i>Coturnicops noveboracensis</i>
Heron/egret	<i>Egretta</i> spp.
White ibis	<i>Eudocimus albus</i>
Merlin	<i>Falco columbarius</i>
Artic peregrine falcon	<i>Falco peregrinus tundrius</i>
American kestrel	<i>Falco sparverius</i>
Magnificent frigate bird	<i>Fregata magnificens</i>
Common snipe	<i>Gallinago gallinago</i>
Common moorehen	<i>Gallinula chloropus</i>
Common yellowthroat	<i>Geothlypis trichas</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Black-necked stilt	<i>Himantopus mexicanus</i>
Swallows	<i>Hirundinidae</i> family
Louisiana heron	<i>Hydranassa tricolor</i>
Least bittern	<i>Ixobrychus exilis</i>
Gulls	<i>Larus</i> sp.
Black rail	<i>Laterallus jamaicensis</i>
Hooded merganser	<i>Lophodytes cucullatus</i>
Belted sandpiper	<i>Meaceryle alcyon</i>
Swamp sparrow	<i>Melospiza georgiana</i>
Red-breasted merganser	<i>Mergus serrator</i>
Barn swallow	<i>Mirundo rustica</i>
Wood stork	<i>Mycteria americana</i>
Night-heron	<i>Nycticorax</i> spp.
Savannah sparrow	<i>Passerculus samwicensis</i>
American white pelican	<i>Pelecanus erythrorhynchus</i>
Brown pelican	<i>Pelecanus occidentalis</i>

Table 5, continued

COMMON NAME	LATIN NAME
Double crested cormorant	<i>Pharacrocorax auritus</i>
Glossy ibis	<i>Plegadis falcinellus</i>
Black-bellied plover	<i>Pluvialis squatarola</i>
Eared grebe	<i>Podiceps nigricollis</i>
Purple gallinule	<i>Porphycula martinica</i>
Boat-tailed grackle	<i>Quiscalus major</i>
Rails	<i>Rallus</i> spp.
Bank swallow	<i>Riparia riparia</i>
Terns	<i>Sterna</i> sp.
Tree swallow	<i>Tachycineta bicolor</i>
Royal tern	<i>Thalasseus maximus</i>
Sandpiper/yellow-legs	<i>Tringa</i> spp.

Note: Some of these species are only seasonal residents.

Table 6. Reptiles and amphibians present within the vicinity of the proposed project area.

COMMON NAME	LATIN NAME
Northern cricket frog	<i>Acris crepitans</i>
Copperhead	<i>Agkistrodon contrortix</i>
Cottonmouth	<i>Agkistrodon piscivorus</i>
American alligator	<i>Alligator mississippiensis</i>
Three-toed amphiuma	<i>Amphiuma tridactylum</i>
Green anole	<i>Anolis carolinensis</i>
True toads	<i>Bufonidae</i> family
Snapping turtle	<i>Chelydra serpentina</i>
River cooter	<i>Chrysemys concinna</i>
Painted turtle	<i>Chrysemys picta</i>
Pond slider	<i>Chrysemys scripta</i>
Racer	<i>Coluber constrictor</i>
Newts	<i>Diemictylus</i> spp.
Chicken turtle	<i>Dierochelys reticularia</i>
Ratsnakes and cornsnakes	<i>Elaphe</i> spp.
Mud snake	<i>Farancia abacura</i>
Eastern narrowmouth toad	<i>Gastrophryne carolinensis</i>
Mississippi mud turtle	<i>Graptemys komni</i>
Treefrogs	<i>Hylidae</i> family
Mud turtle	<i>Kinosternon subrubrum</i>
Speckled king snake	<i>Lampropeltis getulus</i>
Green water snake	<i>Natrix cyclopion</i>
Plain-bellied water snake	<i>Natrix erythrogaster</i>
Banded water snake	<i>Natrix fasciata</i>
Diamond-backed water snake	<i>Natrix rhombifera</i>
Water snakes	<i>Nerodia</i> spp.
True frogs	<i>Ranidae</i> family
Crayfish snake	<i>Regina</i> spp.
Lesser siren	<i>Siren intermedia</i>
Stinkpot	<i>Sternotherus odoratus</i>
Brown snake	<i>Storeria dekayi</i>
Box turtles	<i>Terrapene</i> spp.
Garter snakes	<i>Thamnophis</i> spp.
Spiny softshell	<i>Trionyx spiniferus</i>

A wider and more permanent variety of mammals, reptiles, and fishes inhabit the freshwater marsh rather than the more saline marshes (Tables 3, 4, and 6). The freshwater marshes share many of the same inhabitants as those found in the brackish marshes (e.g., raccoons, rabbits, otters, and alligators). Crawfish and greater concentrations of white-tailed deer also can be found in the freshwater swamps. Lesser numbers of geese and ducks, however, can be found in the freshwater marsh (Table 5). A very different array of fish live in the freshwater marshes, ponds, and lakes. Fish species common to the marsh include bowfins, freshwater drum, freshwater catfish, shad, sunfishes, gars, and basses.

Natural Levees

The natural levees along Bayou Teche and its numerous tributaries comprise the majority of the habitat types found within the proposed project reach (Figure 4). Prehistoric and historic period human habitation of the proposed project area probably focused on these levees. The natural levees afford ready access to the rich aquatic environments while protecting the residents from frequent flooding. Natural levee soils also were the most productive for modern and possibly prehistoric agriculture.

The natural levees support an array of arboreal and understory species (Table 7). Fruit (e.g., sugarberry, persimmon, hawthorn, and red mulberry) and nut (e.g., oak, hickory, and pecan) trees, for example, can be found concentrated on the levees. The understory contains a variety of important subsistence plants (wild onion, pigweed, hog peanut, maypops, knotweed, palmetto, cat/green briar, brambles, elderberry, and grapes) and medicinal (horserweed, marshmallow, yaupon, touch-me-not, mayapple, Spanish moss, and stinging nettle).

Terrestrial mammals such as red wolves, bobcats, white-tailed deer, squirrels, cottontail rabbits, and black bears that may forage in the marshes once were concentrated on the levees (Table 4). Most of the non-aquatic reptiles and amphibians such as snakes, toads, green anole, treefrogs, and box turtles needed the dry levees to survive in an otherwise semi-aquatic region (Table 6). The wading and aquatic birds of the marshes and swamps were common visitors to the levees, but there was an additional group of terrestrial birds limited to the levees (Table 8). Among the more significant birds were the raptors, including owls and hawks, woodpeckers, turkeys, and mourning doves.

Swamps

Backwater swamps occupy the area between the freshwater marsh and the natural levee. These swamps are dominated by woody plants (Table 7) and they generally remain flooded throughout the growing season. Typical swamp trees include bald cypress, Drummond red maple, swamp bay, sugarberry, and gum species. Many of the swamp trees, however, have developed physiological adaptations (e.g., buttressed trunks of bald cypress).

The swamps represent an important refuge for populations of mink, raccoon, duck, alligator, and otter (Table 4). In addition, ducks, wading birds, and various song birds use the swamps during certain seasons. White-tailed deer, rabbits, and turkeys use the swamps during the dry seasons. Fishes such as freshwater catfish, gars, and drums, that can tolerate the low oxygen conditions often encountered in the swamps, are common residents (Table 3). The swamps also are populated with an array of semi-aquatic turtles, snakes, and amphibians (Table 6).

Table 7. Plant taxa of swamps and natural levees present within the vicinity of the proposed project area.

COMMON NAME	LATIN NAME	SWAMPS	LEVEES
Drummond red maple	<i>Acer drummondii</i>	x	x
Box elder	<i>Acer negundo</i>	x	x
Wild onion	<i>Allium canadense</i>		x
Pigweed	<i>Amaranthus</i> spp.		x
Common ragweed	<i>Ambrosia artemisiifolia</i>		x
Peppervine	<i>Ampeopsis arborea</i>	x	x
Hog peanut	<i>Apios americana</i>	x	x
Green dragon	<i>Arisaema dracontium</i>	x	
Jack-in-the-pulpit	<i>Arisaema triphyllum</i>	x	
Cane	<i>Arundinaria</i> spp.	x	x
Rattan vine	<i>Berchemia scandens</i>		x
False nettle	<i>Boehmeria cylindrica</i>		x
Trumpet creeper	<i>Campsis radicans</i>	x	x
Sedges	<i>Carex</i> spp.		x
Water hickory	<i>Carya aquatica</i>	x	x
Bitternut hickory	<i>Carya cordiformis</i>	x	x
Pecan	<i>Carya illinoensis</i>		x
Sugarberry	<i>Celtis laevigata</i>	x	x
Buttonbush	<i>Cephalanthus occidentalis</i>	x	
Spiny thistle	<i>Cirsium horridulum</i>		x
Virginia dayflower	<i>Commelina virginiana</i>		x
Dogwood	<i>Cornus</i> spp.		x
Swamp dogwood	<i>Cornus stricta</i>	x	
Hawthorn	<i>Crataegus</i> spp.	x	x
Swamp lily	<i>Crinum americanum</i>	x	
Titi	<i>Cyrilla racemiflora</i>	x	
Rattlebox	<i>Daubentonia texana</i>		x
Persimmon	<i>Diospyros virginiana</i>		x
Horseweed	<i>Erigeron canadensis</i>		x
Mistflower	<i>Eupatorium coelestinum</i>		x
Swamp privet	<i>Forestiera acuminata</i>	x	x
Pumpkin ash	<i>Fraxinus profunda</i>	x	
Ashes	<i>Fraxinus</i> spp.		x
Bedstraw	<i>Galium aparine</i>		x
Water locust	<i>Gleditsia aquatica</i>	x	x
Honey locust	<i>Gleditsia triacanthos</i>		x
Marshmallow	<i>Hibiscus</i> spp.		x
Pennywort	<i>Hydrocotyle</i> spp.		x
Possum haw	<i>Ilex decidua</i>	x	x
Yaupon	<i>Ilex vomitoria</i>		x
Touch-me-not	<i>Impatiens capensis</i>		x
Marsh elder	<i>Iva frutescens</i>	x	
Wild lettuce	<i>Lactuca canadensis</i>		x
Sweetgum	<i>Liquidambar styraciflua</i>	x	x
Magnolias	<i>Magnolia</i> spp.	x	x
Sensitive plant	<i>Mimosa strigillosa</i>		x
Red mulberry	<i>Morus rubra</i>		x
Wax myrtle	<i>Myrica cerifera</i>		x
Tupelogum	<i>Nyssa aquatica</i>	x	
Black gum	<i>Nyssa biflora</i>	x	x
Virginia creeper	<i>Parthenocissus quiquefolia</i>	x	
Maypops	<i>Passiflora</i> spp.	x	x
Swamp bay	<i>Persea palustris</i>	x	x
Water elm	<i>Planera aquatica</i>	x	x
Sycamore	<i>Platanus occidentalis</i>	x	x
Mayapple	<i>Podophyllum peltatum</i>		x
Knotweeds	<i>Polygonum</i> spp.		x
Resurrection fern	<i>Polypodium polypodioides</i>	x	x
Water oak	<i>Quercus nigra</i>	x	
Willow oak	<i>Quercus phellos</i>	x	
Oaks	<i>Quercus</i> spp.		x

Table 7, continued

COMMON NAME	LATIN NAME	SWAMPS	LEVEES
Swamp honeysuckle	<i>Rhododendron viscosa</i>	x	x
Poison ivy	<i>Rhus radicans</i>	x	x
Snout bean	<i>Rhynchosia minima</i>		x
Brambles	<i>Rubus</i> spp.		x
Palmetto	<i>Sabal minor</i>	x	x
Black willow	<i>Salix nigra</i>	x	
Elderberry	<i>Sambucus canadensis</i>	x	
Sassafras	<i>Sassafras albidum</i>	x	
Skullcap	<i>Scutellaria ovata</i>		x
Cat/green briar	<i>Smilax</i> spp.	x	x
Wild bean	<i>Strophostyles helvola</i>		x
Baldcypress	<i>Taxodium distichum</i>	x	
Shield fern	<i>Thelypteris normalis</i>		x
Spanish moss	<i>Tillandsia usneoides</i>	x	x
American elm	<i>Ulmus americana</i>		x
Stinging nettle	<i>Urtica chamaedryoides</i>		x
Ironweed	<i>Veronia altissima</i>		x
Grapes	<i>Vitis</i> spp.	x	x

Table 8. Birds present in the vicinity of natural levees in the proposed project area.

COMMON NAME	LATIN NAME
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Cedar waxwing	<i>Bombicilla cedrorum</i>
Great horned owl	<i>Bubo virginianus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Broad-winged hawk	<i>Buteo platypterus</i>
Willet	<i>Catoptrophorus semipalmatus</i>
Common nighthawk	<i>Chordeiles minor</i>
Yellow-billed cuckoo	<i>Coccyzus americanus</i>
Common flicker	<i>Colaptes auratus</i>
Black vulture	<i>Coragyps atratus</i>
Common crow	<i>Corvus brachyrhynchos</i>
Yellow rail	<i>Coturnicops noveboracensis</i>
Downy woodpecker	<i>Dendrocopos pubescens</i>
Acadian flycatcher	<i>Empidonax varescens</i>
American kestrel	<i>Falco sparverius</i>
Wood thrush	<i>Hylocichla mustelina</i>
Wild turkey	<i>Meleagris gallopavo</i>
Mockingbird	<i>Mimus polyglottos</i>
Common screech owl	<i>Otus asio</i>
American woodcock	<i>Philohela minor</i>
Barred owl	<i>Strix varia</i>
Brown thrasher	<i>Toxostoma rufum</i>
Robin	<i>Turdus migratorius</i>
Mourning doves	<i>Zenaidura macroura</i>

Project Area Specific Environment

The proposed Segura staging area is located in the meander belt of Bayou Teche on a natural levee; it is located at an approximate elevation of 3 m (9.84 ft) NGVD. Soils in the project item are classified as belonging to the Gallion-Perry series. Gallion-Perry series soils are characterized by a combination of well drained and poorly drained silt loams and clays. Gallion soils are well drained silt loams and they are found on raised ridges (i.e. the levee), while Perry soils, which are poorly drained and clayey, are found in low-lying swales (Clark and White 1978).

Gallion series soils consist of an A, B, and C horizon. The A horizon of the Gallion soils series consists of a layer of dark brown (7.5YR 4/4) silt loam that extends from 0 to 22.9 cm (0 to 9 in) below ground surface. The A horizon is underlain by the B horizon; a deposit of reddish brown (5YR 4/4) silt loam with occasional lenses of a dark reddish brown (2.5YR 3/4) silty clay. The B horizon ranges from 22.9 to 137.2 cm (9 to 54 in) below ground surface. The C horizon consists of a yellowish red (5YR 4/6) silt loam that extends from 137.2 to 167.6 cm (54 to 66 in) below ground surface (Clark and White 1978).

Perry soils consist of an A, B, and C horizon. The Perry series soil A horizon extends from 0 to 25.4cm (0 to 10 in) below ground surface and consists of a layer of dark grayish brown (10YR 4/2) silty clay loam. The A horizon is underlain by the B horizon; a layer of gray (5Y 5/1) clay mottled with strong brown (7.5YR 5/6) and dark gray (10YR 4/1) clay. The B horizon extends from 25.4 to 129.5 cm (10 to 51 in) below ground surface. The C horizon extends from 129.5 to 218.4 cm (51 to 86 in) below ground surface; it consists of a deposit of dark red (2.5YR 3/6) clay with grayish brown (10YR 5/2) clay mottles (Clark and White 1978).

Because of project items location and soil types within the meander belt, the project area is susceptible to seasonally flooding. At the time of survey, the proposed project item was characterized by a grassy pasture with widely spaced oak and pecan trees. The area is visited by fauna typical of the region, including squirrels, white-tail deer, raccoon, herons, owls, hawks, and passerine birds.

Climate

The proposed project area lies in a region characterized by a humid subtropical climate; long, hot, rainy summers and short, mild winters are common. The average growing season for the Iberia Parish vicinity is 278 days. The average daily maximum summer temperature for the area is 32.2° C (90° F); however, temperatures can reach as high as 38.3° C (101° F). The oppressive summers, however, are sometimes relieved by cool sea breezes along the coast. The winter months are relatively mild; average daily temperatures throughout the area can drop to approximately 18.3° C (65° F) during December, January, and February (Clark and White 1978).

On average, precipitation measures 141.5 cm (55.7 in) annually. July ranks as the wettest month of the year; it receives an average of 19.05 cm (7.5 in) of rainfall. November, the driest month, averages only 7.62 cm (3.0 in) of precipitation. Thunderstorms are common during the summer months, while snowfall occurs only rarely during the winter. Hurricanes and tropical storms represent the most dangerous weather threat to the area; they occur every few years during both the summer and fall months.

CHAPTER III

PREHISTORIC CULTURAL SEQUENCE

Introduction

The proposed project area lies entirely within the Coastal Plain and within a portion of Iberia Parish, Louisiana. Iberia Parish is one of the 13 southwest Louisiana parishes that make up Management Unit III as defined by *Louisiana's Comprehensive Archaeological Plan* (Smith et al. 1983). Bordered to the west by the Sabine River and to the east by the Atchafalaya River, this management unit includes the sparsely settled prairies and coastal marshes of southern and southwestern Louisiana. The proposed project item also lies within the Southeastern Cultural Area of the United States (Muller 1983). As a result, cultural characteristics found within the vicinity of the proposed project corridor resemble those manifested in the Lower Mississippi valley and along the northern coast of the Gulf of Mexico, as well as other parts of the surrounding region.

The prehistory of Management Unit III extends from ca. 12,000 - 250 B.P. and it can be divided into four general stages. These four stages (Paleo-Indian, Archaic, Woodland, and Mississippian) represent developmental segments characterized by dominant patterns of subsistence and technology (Willey and Phillips 1958). Each archeological stage consists of a sequence of chronologically defined periods that can be subdivided into phases based on sets of artifacts and other cultural traits characteristic of a particular geographic region (e.g., Jenkins 1979; Walthall 1980). This chapter presents a brief discussion of each of the cultural units and it provides an overview of the prehistoric sequence associated with the Area of Potential Effect.

Paleo-Indian Stage (ca. 12,000 - 8000 B.P.)

Initial human occupation of the southeastern United States generally occurred sometime between 12,000 - 10,000 B.P. Sites dating from this period tend to be represented by small clusters of artifacts that include a distinctive assemblage of lithic tools. Common Paleo-Indian tool types include fluted and unfluted lanceolate projectile points/knives, unifacial end- and side-scrapers, graters, and spokeshaves.

The earliest Paleo-Indian culture identified in North America has been termed "Clovis," named after the type-site identified in Clovis, New Mexico in the 1920s. In the western United States, Clovis sites date from a relatively narrow time range (ca. 11,500 - 10,900 B.P.) (Haynes 1991; Story et al. 1990:178). The smaller, related fluted Folsom and unfluted Midland projectile points/knives once were thought to post-date Clovis culture. Radiocarbon dating of numerous Folsom components in Texas, however, has produced dates ranging from ca. 11,000 - 10,000 B.P. (Largent et al. 1991:323-332; Story et al. 1990:189). This suggests that Folsom culture may be partially contemporaneous with Clovis culture and it may simply represent a variation in tool morphology required by different subsistence adaptations.

Paleo-Indian peoples were mobile hunter-gatherers, organized into small bands or extended family groups. The formerly prevalent notion that these populations specialized in big game hunting seems less tenable as additional information becomes available from a more inclusive set of Paleo-Indian sites. A possible exception to a generalized subsistence system could be the Folsom culture. Folsom artifacts

have been associated consistently with bison kill sites on the Great Plains. This culture may represent an adaptation to a specialized hunting strategy associated with the cyclical migration of large herds of bison (Story et al. 1990:189).

Very few archeological sites with good associations of megafauna and Paleo-Indian cultural material have been recorded in the eastern woodlands. One such site is the Kimmswick Site (23JE334) in southeastern Missouri. Excavations at the Kimmswick Site produced Clovis projectile points in direct association with disarticulated mastodon bones (Graham et al. 1981). Paleo-Indian tools also have been recovered in direct association with mastodon bones near Nashville, Tennessee. At the Coats-Hines Site (40WM31), 34 chert artifacts were recovered within the thoracic cavity of a mastodon (Breitburg et al. 1996). These artifacts consisted of 10 formal tools and tool fragments (one bifacial knife, two graters, one prismatic blade, two unifacial side scrapers, and two scrapers/cores) and 24 resharpening flakes. The presence of artifacts such as these in association with Pleistocene megafauna indicates that large animals did comprise at least a portion of the Paleo-Indian subsistence regime (Graham et al. 1981). In contrast, two locations in south central Louisiana, Avery Island (Salt Mine Valley; Site 16IB23) and the Trappey Mastodon Site (16LY63) in Lafayette yielded the remains of Pleistocene fauna; however, neither site yielded a clear Paleo-Indian/megafauna relationship (Gagliano 1964; Gibson and Miller 1973; Neuman 1984).

Louisiana's Comprehensive Archaeological Plan (Smith et al. 1983) documents only four Paleo-Indian sites within Management Unit III (Smith et al. 1983) and three of these sites are located a substantial distance away from the proposed project area. The fourth site, on Avery Island (Site 16IB23), documents the presence of Late Paleo-Indian period sites within the Coastal Zone. It is likely that Paleo-Indian Stage sites occur across the other salt domes located near the proposed project reach. It also is possible that many other Paleo-Indian sites were located in the Coastal Zone; however, they either have been destroyed or buried by the continued introduction of large amounts of sediment throughout the Holocene period.

Archaic Stage (ca. 8000 – 3500 B.P.)

The term "Archaic" first was used during the second quarter of the twentieth century as a descriptor for the pre-ceramic cultures that followed the Paleo-Indian stage. The Archaic stage can be divided into three subdivisions or periods: Early Archaic, Middle Archaic, and Late Archaic. A warming trend and a drier climate at the end of the Pleistocene, accompanied by a rise in sea level, may have spurred a combination of technological and social developments that now are associated with the initiation of the Archaic stage (Willey and Phillips 1958). Archaic populations exploited a greater variety of terrestrial and marine species when compared to their Paleo-Indian predecessors.

Early Archaic Period

In the southeastern United States, the Early Archaic period extended from ca. 10,000 to 8000 B.P. Because of the regional variation and the temporal overlapping of stages, however, the assignment of Late Paleo-Indian and Early Archaic period artifacts to correct temporal stages can be complex. Like the preceding Paleo-Indian stage, Early Archaic period sites are scarce in Louisiana; nevertheless, some broad patterns in settlement location and subsistence patterning are apparent.

Throughout the Early Archaic, the subsistence pattern probably resembled that of the preceding Paleo-Indian stage. Early Archaic peoples most likely traveled seasonally in small groups between a series of base camps and extractive sites, hunting and collecting edible plants and exploiting the available natural resources (Chapman and Shea 1981; Lentz 1986; Parmalee 1962; Parmalee et al. 1976). The majority of the recorded sites have been identified throughout the uplands and Gulf Coastal Plain, but the extent to which the many microenvironments of the broad Coastal Zone were utilized remains unknown.

It is during the Early Archaic period that pecked and groundstone tools associated with food processing, including manos, milling stones, and nutting stones, are recovered. Commonly utilized plant foods, such as walnuts and hickory nuts, could have been hulled and eaten without cooking or additional processing (Larson 1980). Much of our knowledge regarding

Paleo-Indian and Early Archaic lifeways, however, is limited by problems associated with preservation. Lithic tools often are the only artifacts to survive, but they provide only limited information concerning a narrow range of activities (i.e., tool manufacture and maintenance, meat and hide processing, and wood and bone working).

Middle Archaic Period

During the Middle Archaic period, three interrelated events occurred that helped shape subsequent prehistoric cultural traditions. First, the effects of continental glaciation subsided, resulting in a warmer and drier climate in which modern climatic and environmental conditions prevailed. Second, technological improvements were made, particularly with respect to ground-stone, bone, and antler tool production. Finally, sociopolitical organization changed in some areas; an increased number of ranked societies and related social developments appeared.

The Middle Archaic period throughout the southeastern United States is marked by several technological advances and by changes in subsistence patterns. Middle Archaic projectile points tend to be stemmed rather than notched types, e.g., Eva, Morrow Mountain, Sykes, Benton, and Newnan types. In addition, the Middle Archaic is represented by projectile points/knives that include Evans, Morrow Mountain, Johnson, Edgewood, and possibly Calcasieu types (Campbell et al. 1990:96; Green 1991; Perino 1985:195). Excavations at Site 16VN791, located in Vernon Parish, Louisiana (i.e., Management Unit I) produced evidence of a long tradition of corner notched projectile points/knives dating from the late Middle Archaic. It has been suggested that these points, and others in the region, were derived from types incipient to central Louisiana (Campbell et al. 1990).

Other technological innovations include the appearance of ground, pecked, and polished stone tools and the use of celts and grooved axes for heavy woodworking, possibly including the manufacture of dugout canoes. The *atlatl*, or spear thrower, first appeared during the Middle Archaic, as indicated by bone *atlatl* hooks and the appearance of ground stone bannerstones

that apparently were attached to the spear thrower and may have served as *atlatl* counterweights or as fetishes.

The widespread occurrence of plant processing tools such as milling slabs, manos, and nutting stones suggests an increase in the utilization of plant foods. However, comparisons of floral and faunal assemblages from the Early Archaic show little change in the diversity or relative importance of plant species utilized. The Middle Archaic rough milling tools used in plant processing all have Early Archaic antecedents (Smith 1987:21).

Acorns and hickory nuts continued to be the most heavily utilized plant foods. Remains of squash (*Curcubita pepo*) and bottle gourds (*Lagenaria siceraria*) appear for the first time during the Middle Archaic. The earliest occurrence of the bottle gourd dates from 5340 ± 120 radiocarbon years B.C. at the Windover Site (8BR246) in Florida (Doran et al. 1990). "Squash" rind dating from 5050 B.C. from the Napoleon Hollow (11PK500) and Koster (11GE4) sites in west-central Illinois initially identified as the cultivar *C. pepo*, now is thought to be representative of the Texas wild gourd (*C. texana*), rather than cultivated squash. Although the seeds of these plants are edible, it appears that their rinds were thin, woody, and inedible. These gourds probably were collected primarily for use as containers rather than as sources of food. Stronger evidence for the domestication of squash gourds occurs after 2350 B.C., i.e., during the Late Archaic (Smith 1987).

In many areas, a major exception to this apparent continuity in earlier subsistence practices was a significant increase in the utilization of fish and shellfish. The rising importance of aquatic resources can be seen in the development of the extensive shell middens found along many of the southeastern rivers. Shell middens first appear between 4550 and 4050 B.C. during the Hypsithermal (Altithermal) climatic episode, when rivers entered a phase of aggradation and low flow. These climatic changes promoted the development of oxbow lakes and shallow water shoal habitats favorable for mollusk growth and shellfish collection (Stein 1982). Although the food value of mollusks is low, these shellfish can be collected efficiently in bulk and appear to

represent the economic focus for semi-sedentary Archaic Stage occupations for many parts of the southeastern United States (Russo et al. 1992).

Extensive, deep shell midden sites presumably represent seasonal reoccupation of favored locations by small social groups with band-type socio-political organization. Large cemeteries at some Middle Archaic sites, such as Carlestown-Annis (15BT5) in Kentucky and Little Salt Spring (8SO18) in Florida, represent interments made over long periods of time by groups who seasonally returned to these specific locations (Clausen et al. 1979). Increasing population during the Middle Archaic also may have led to more circumscribed territories, which is evidenced by the repeated occupation of favored locations and increased emphasis on locally available raw materials utilized in stone tool manufacture.

Recent research has demonstrated that earthwork and mound construction occurred at least in isolated instances during the Middle Archaic period (Saunders 1994, 1996, 1997; Saunders et al. 1992, 1997). At present, a total of four possible Middle Archaic mound sites are known in northeast Louisiana, and these include Hedgepeth Mounds (Site 16LI7), Watson Brake Mounds (Site 16OU175), Frenchman's Bend Mounds (Site 16OU259), and Hillman's Mound (Site 16MA201). Of the four, the Watson Brake mound group (Site 16OU175) is the largest and the most securely dated at 5400 B.P. (Saunders et al. 1997:1797). The site consists of 11 mounds and connecting ridges constructed on a terrace above the Ouachita River flood plain. The civic structures at Watson Brake (Site 16OU175), and several other Middle Archaic sites, suggest that hunter-gatherer groups were capable of tasks that required relatively complex social organization and semi-sedentary living. For example, Griffin wrote:

From our knowledge of the general cultural stage of these early Archaic people we may assume that they lived in groups or bands of closely related people who probably reckoned descent through the father and were probably patrilineal... They probably lived in bands of twenty or thirty or perhaps a few more, ranging over a fairly specific hunting territory (1952:354).

Southern Louisiana reflects a paucity of permanent habitation floodplain sites dating from the Middle Archaic period. Only one Middle Archaic period cultural phase is currently recognized in coastal Louisiana. The Banana Bayou phase, identified in the Petite Anse region along the central part of the Gulf coast, is represented by the artifact assemblage observed by Gagliano (1964) at Avery Island, near Banana Bayou (Neuman 1984).

Late Archaic Period

The Late Archaic period represents a time of population growth, as demonstrated by an increasing number of archeological sites identified throughout the United States. Stone vessels made from steatite, the occasional recovery of fiber-tempered pottery, and a variety of ground-stone artifacts characterize the Late Archaic tool assemblage. Late Archaic projectile point/knife types found throughout Louisiana include a variety of corner-notched and stemmed varieties such as the Benton, Gary, and Pontchartrain types.

In the eastern United States, the Late Archaic period riverine economy was focused on a number of different wild resources, including deer, mussels, fish, and nuts. During the spring, macrobands coalesced to exploit forested riverine areas, while during late fall and winter, these Late Archaic groups fissioned into microbands that subsisted on harvested and stored nut foods, as well as on the faunal species commonly found throughout the upland areas. This pattern of microband/macroband settlement patterning and subsistence likely began to appear during the Middle Archaic period and perhaps even as early as the end of the Early Archaic period.

Archaic period sites typically are located along the boundary of Quaternary and Tertiary areas with relatively flat or undulating bluff tops that overlook the floodplains. Gibson (1976a:11) notes that most of the Archaic stage sites in south-central Louisiana were situated on the old, elevated landforms of the Lafayette-Mississippi River system and near the lowlands. The Banana Bayou Site (16IB104), for example, produced a radiocarbon date calibrated to ca. 5850 – 4805 B.P. (Gibson and Shenkel 1988). This suggests that the land forms associated with the Teche

delta complex may be old enough to contain Archaic period deposits. According to the *Louisiana Comprehensive Archaeological Plan*, 40 Archaic sites had been documented in Management Unit III (Smith et al. 1983); four of these are located within Iberia Parish, the location of the proposed project area.

Poverty Point Culture (ca. 4000 – 2500 B.P.)

The Poverty Point culture represents a transitional culture that originated ca. 4000 B.P., but it did not realize its apex until much later. As a result, the Poverty Point sphere of influence may not have arrived in the coastal region of south-central Louisiana until ca. 3450 B.P. (Gibson 1979, 1994; Neuman 1984). This culture is best represented by the Poverty Point type site (16WC5) in northeast Louisiana. The Poverty Point Site is best known for exhibiting several fundamental and distinguishing characteristics of a complex society, e.g., the presence of massive public architecture and extensive long-distance trade networks, while maintaining only a hunting and foraging based economy (Jackson 1991).

The material culture of Poverty Point society is distinctive. Artifacts associated with this culture include *all* *all* weights, plummets, beads and pendants, thin micro flint blades, clay cooking balls, clay figurines, fetishes, and food storage and preparation containers. Container types include steatite vessels, basketry, and untempered ceramic materials. Most ceramic vessels are sand-tempered, although a minority of grit-tempered, clay-tempered, fiber-tempered ceramics, and untempered ceramic sherds and vessels have been recovered from Poverty Point sites. In addition, Webb (1982) reports the recovery of seed processing implements, stone hoe blades, nutting stones, and milling stones; earthen ovens also have been identified.

Possible Poverty Point sites identified within the Coastal Zone of south-central Louisiana consist of camp locations on Avery Island and Belle Isle (Gagliano 1967:98; Gibson et al. 1978:33-34). Both of these islands are located to the south of the proposed project area. While the presence of Poverty Point shell midden sites in southeastern Louisiana suggest seasonal and specialized adaptations to marsh environments, the dearth of similar sites in south-central Lou-

isiana may represent a period in prehistory when the LaFourche deltaic complex was subsiding (Gibson et al. 1978).

Louisiana's Comprehensive Archaeological Plan lists only 15 Poverty Point sites in Management Unit III (Smith et al. 1983). Nearly half of these sites (n=7) are located within Iberia Parish, i.e., the location of the variously proposed project items.

Woodland Stage (ca. 2450 - 750 B.P.)

The Woodland stage often is characterized by the introduction of horticulture, the bow and arrow, and the widespread use of ceramic containers. This cultural stage can be subdivided further into three periods: Early, Middle, and Late. In south-central Louisiana, the Early Woodland period (ca. 2450 – 1949 B.P.) is represented by Tchefuncte culture, the Middle Woodland period (ca. 1949 – 1550 B.P.) is associated with Marksville culture and to a lesser extent Troyville culture. Finally, the Late Woodland period (ca. 1550 - 750 B.P.) originated with Troyville culture, but it later was dominated by Coles Creek culture.

Tchefuncte Culture (ca. 2450 – 1950 B.P.)

The Tchefuncte culture is characterized by the first widespread use of pottery, although within the context of a Late Archaic-like hunting and gathering tradition that maintained a Late Archaic-like tool inventory (Byrd 1994; Neuman 1984; Shenkel 1981:23). Tchefuncte ceramics usually are characterized by a soft, chalky paste, and a laminated cross-section (Phillips 1970). Vessel forms consist of bowls, cylindrical and shouldered jars, and globular pots that sometimes contain podal supports. Many vessels are plain; however, some are decorated with punctations, incisions, simple stamping, drag and jab, and rocker stamping. During the later portion of the Tchefuncte period, red filming also appears on some vessels (Perrault and Weinstein 1994:46-47; Phillips 1970; Speaker et al. 1986:38).

For the most part, the stone and bone tool subassemblages remained nearly unchanged from the preceding Poverty Point culture. Stone tools typical of the culture include boat stones, grooved plummets, chipped celts, and sandstone saws; bone tools included awls, fish hooks, socketed

antler points, and ornaments. In addition, some tools such as chisels, containers, punches, and ornamental artifacts were manufactured from shell. Bone and antler artifacts, such as points, hooks, awls, and handles, also became increasingly common during this period.

Tchefuncte sites generally are classified either as coastal middens, or as inland villages or hamlets. Settlements usually occurred along the slack water environments of the slow, secondary streams that drained the bottomlands, floodplain lakes, and littoral zones of the region (Neuman 1984; Toth 1988:21-23). Shell midden sites also are common and they document the exploitation of a wide variety of food resources during this period. Tchefuncte burials and artifacts recovered from southwest and south-central Louisiana suggest an egalitarian type of social organization. The population probably remained focused within macrobands, and hunting, gathering, and fishing remained integral to the Tchefuncte lifestyle.

According to *Louisiana's Comprehensive Archaeological Plan* (Smith et al. 1983), 37 Tchefuncte period sites or components had been documented within Management Unit III; however, only four these sites were identified within Iberia Parish, the location of the proposed project area.

Marksville Culture (ca. 1950 – 1550 B.P.)

Marksville culture often is viewed as a localized version of the elaborate Midwestern Hopewell culture that filtered down the Mississippi River from Illinois (Toth 1988:29-73). A more complexly organized social structure than their Tchefuncte predecessors is implied by the elaborate geometric earthworks, conical burial mounds constructed for the elite, and the unique mortuary ritual systems that characterize Marksville culture. Some items, such as elaborately decorated ceramics, were manufactured primarily for inclusion in burials. Other burial items include pearl beads, carved stone effigy pipes, copper earpools, copper tubes, galena beads, and carved coal objects. Toward the end of the Marksville period, Hopewellian influences declined, and mortuary practices became less complex (Smith et al. 1983; Speaker et al. 1986).

The presence of ceramic decorative motifs such as cross-hatching, U-shaped incised lines, zoned dentate rocker stamping, cord-wrapped stick impressions, stylized birds, and bisected circles suggest interaction between the Marksville and Hopewell cultures (Toth 1988:45-50). Additional Marksville culture traits include a chipped stone assemblage that includes knives, scrapers, celts, drills, ground stone *atl atl* weights and plummets; bone awls and fish-hooks; and baked clay balls. Projectile points recovered from Marksville culture sites are dominated by the Gary type.

In addition, a variety of artifacts made from exotic materials are commonly found at Marksville sites and their presence suggests the existence of and participation in a variety of extensive trade networks, as well as the emergence of a possibly ranked, non-egalitarian society whereby elites received goods of a higher quality. Some exotic items commonly recovered from Marksville culture sites include imported copper earpools, panpipes, platform pipes, figurines, and beads (Neuman 1984; Toth 1988:50-73). Despite the infusion of exotic materials into the Marksville economy, the utilitarian material culture remained essentially unchanged. This seems to reflect an overall continuity in subsistence systems (Toth 1988:211). Marksville peoples probably employed a hunting, fishing, and gathering subsistence strategy much like those associated with earlier periods. Gagliano (1979) suggests that food procurement activities were a cyclical, seasonal (transhumance) activity that revolved around the utilization of two or more shifting camps.

Recent investigations in nearby Terrebonne and St. Mary parishes have identified additional Marksville period sites, including mound sites, hamlets, and shell middens (Weinstein and Kelley 1989). The authors, after a review of a number of Marksville period ceramics recovered from sites identified throughout the region, concluded that the entire sequence of early through late Marksville period sites can be found within the region. According to *Louisiana's Comprehensive Archaeological Plan* (Smith et al. 1983), 38 Marksville sites have been documented within Management Unit III (Smith et al. 1983);

only six of these sites were situated within Iberia Parish, the location of the proposed project area.

Troyville-Coles Creek Period (ca. 1550 - 750 B.P.)

Troyville culture, also referred to as Baytown elsewhere in the region, represents a transition from the Middle to Late Woodland period that culminated in the emergence of Coles Creek culture (Gibson 1984). Though distinct, these two cultures are sufficiently similar that many researchers combine them into a single prehistoric cultural unit. The continuing developments of agriculture and the refinement of the bow and arrow during this time radically altered subsequent prehistoric lifeways. During the Troyville cultural period, bean and squash agriculture may have become widespread based on the appearance of large ceramic vessels. This shift in subsistence practices probably fostered the development of more complex settlement patterns and social organizations.

The Late Woodland Coles Creek culture emerged from the Troyville culture by approximately 1200 B.P. and it represented an era of considerable economic and social change throughout the Lower Mississippi Valley. By the end of the Coles Creek period, communities had become larger and more socially and politically complex. In addition, there is a great deal of evidence that large-scale mound construction occurred, and that long-distance trade resumed on a scale not seen since Poverty Point times (Muller 1983). These changes probably initiated the transformation of Coles Creek cultural traits into what is now recognized as the Plaquemine culture sometime before 750 years ago (A.D. 1200) (Jeter et al. 1989; Williams and Brain 1983).

Ceramics of this period are distinguished by their grog or grog and sand tempers, as opposed to the chalky, sand-tempered paste associated with the previous ceramic series. Sites dating from the Coles Creek cultural period primarily were situated along stream systems where soil composition and fertility were favorable for agricultural production. Natural levees, particularly those situated along old cutoffs and inactive channels, appear to have been desirable settlement locations (Neuman 1984). Most large Coles Creek period sites, usually are located

inland, and they often contain one or more mounds.

Within the Louisiana Coastal Zone, agriculture probably represented only a minor portion of the subsistence pattern in operation during Troyville-Coles Creek times. Gibson et al. (1978:41) note that the tidal fluctuations, saline conditions, and the restricted amount of elevated ground on which to grow crops precluded large scale cultivation within the Coastal Zone. *Louisiana's Comprehensive Archaeological Plan* documents 196 sites with Troyville-Coles Creek components within Management Unit III (Smith et al. 1983). Of the 196 sites recorded, 27 were located within Iberia Parish.

Mississippian Stage (ca. 750 - 300 B.P.)

The Mississippian stage represents a cultural climax in population growth and social and political organization for those cultures that occupied the southeastern United States (Phillips 1970; Williams and Brain 1983). Formalized site plans consisting of large sub-structure "temple mounds" and plazas have been noted throughout the Southeast (Hudson 1978; Knight 1984; Walthall 1980; Williams and Brain 1983). In the Lower Mississippi Valley, the Mississippian stage is characterized by the Plaquemine culture or Emergent Mississippian period (750 - 500 B.P.) and by the Late Mississippian period (500 - 250 B.P.). Evidence of late historic period Mississippian culture is found only in limited parts of the coastal zone of south-central Louisiana and it may never have reached the southwest portions of the state (Brown 1981; Brown and Brown 1978; Jeter et al. 1989). Within the vicinity of the proposed project corridor, the Plaquemine culture may have flourished until after the period of European contact (200 B.P.) (Gibson 1976a, 1976b; Jeter et al. 1989).

Emergent Mississippian Period (ca. 750 - 500 B.P.)

The Emergent Mississippian period - Plaquemine culture represents a transitional phase representing evolution of the Coles Creek culture into a pure Mississippian culture (Kidder 1988). Plaquemine peoples continued the settlement patterns, economic organization, and religious practices established during the Coles

Creek period; however, sociopolitical structure, and religious ceremonialism intensified, suggesting a more complex social hierarchy. Large sites often are characterized as ceremonial sites, and these sites typically contain multiple mounds constructed around a central plaza. Smaller dispersed villages and hamlets also formed part of the settlement hierarchy (Neuman 1984).

Although it is clear that Plaquemine ceramics are derived from the Coles Creek tradition, they display distinctive features that mark the emergence of a new cultural tradition. In addition to incising and punctating pottery, Plaquemine artisans also decorated their vessels with brushed and engraved designs (Phillips 1970). By ca. 500 B.P., Plaquemine culture throughout much of the Lower Mississippi Valley apparently had evolved into a true Mississippian culture (Kidder 1988:75).

Plaquemine sites have been recorded only rarely in south-central Louisiana. Those identified along Bayou Teche, the Vermilion River, and the Lower Atchafalaya Basin do not exhibit the cultural traits found in the nearby Lower Mississippi and Lower Red River Valleys (Gibson 1976a:20; Gibson et al. 1978:44). Most of the emergent Mississippian period sites recorded within the vicinity of the proposed project area consist of shell middens or small villages that are less elaborate than their more inland counterparts. Rectangular mound sites with centralized plazas are not altogether unknown in the region, but they occur much less frequently than in other areas of the state (Gibson 1976a:20). In addition to these shell middens and villages, other more specialized sites have been identified within the vicinity of the proposed project area. The Salt Mine Valley Site (161B23) situated on Avery Island in Iberia Parish is one such specialized site. Prehistoric salt production in the United States gained importance primarily during the Mississippian period, post ca. A.D. 900 (Brown 1981:1) and it continued into the historic period.

In 1997, R. Christopher Goodwin & Associates, Inc., completed data recovery excavations at Site 16LF66, a Plaquemine culture site, in Lafourche Parish, Louisiana. Excavations at the site produced evidence of intact, stratified prehistoric period cultural deposits that produced ceramic sherds, bone tools, faunal remains, and

human burials. These data suggest that Site 16LF66 represented the remains of a perennial occupation by Plaquemine culture peoples dating primarily to the fifteenth century A.D. (Miller et al. 2000).

The substantial midden identified at Site 16LF66 produced a variety of important information about Plaquemine subsistence in the marshes of southeastern Louisiana. Faunal remains were numerous and indicated a focus on the use of aquatic species, especially fish. While macrobotanical remains generally were sparse, the site did yield evidence of maize agriculture in the form of maize kernels. Further, cultural features, including hearths, pits, postmolds, and wall trenches, also provided information about the range and spatial distribution of activities conducted at the site, including the construction of dwellings and data on subsistence-related facilities. Finally, both primary and secondary burials identified within the midden yielded important information regarding prehistoric demography and burial patterns throughout the region (Miller et al. 2000).

The presence of a large number of burials and the thickness of the midden both suggest that the site was occupied continuously or discontinuously over a number of years. Site 16LF66 seems to be a clear example of a long-term village whose occupants focused on the procurement of aquatic resources; however, the consumption of maize at the site also suggests that agriculture may have played some role in the daily life of the prehistoric residents of the site.

According to ethnographic accounts, Coastal Plaquemine culture in south-central Louisiana, unlike groups located further inland and to the east, possibly remained unchanged until as late as ca. A.D. 1750. *Louisiana's Comprehensive Archaeological Plan* identified 83 Plaquemine period sites in Management Unit III (Smith et al. 1983). Of the 83 Plaquemine sites recorded, 17 were located within Iberia Parish.

Late Mississippian Period (ca. 500 - 250 B.P.)

During this time, several traits distinctive of the Mississippian period spread across most of the southeastern United States. Diagnostic cultural traits dating from this period include well-designed mound groups, a wide distribution of

sites and trade networks, shell-tempered ceramics, and a revival in the ceremonial burial of the dead (Griffin 1990:7-9). Late Mississippian period subsistence was based on the cultivation of maize, beans, squash, and pumpkins; despite this focus on maize agriculture, the collection of local plants, nuts, and seeds, as well as and fishing and hunting continued to supplement the subsistence base. A typical Mississippian settlement consisted of an orderly arrangement of village houses, surrounding a truncated pyramidal mound. These mounds served as platforms for temples or as houses constructed for the elite.

Late Mississippian ceramic types frequently are characterized by shell-tempering, an innovation that enabled potters to create larger vessels with thinner walls (Steponaitis 1983). Shell-tempered ceramic vessels included such forms as globular jars, plates, bottles, pots, and salt pans; in addition, loop handles are found on many Late Mississippian vessels. Although utilitarian plainware was common, decorative techniques included engraving, negative painting, and incising; modeled animal heads and anthropomorphic images also adorned ceramic vessels dating from this time period. Other types of late Mississippian period artifacts included chipped and groundstone tools; shell items such as hairpins, beads, and gorgets; and mica and copper artifacts. Projectile point styles such as Alba and Bassett also were common at this time.

In south-central Louisiana, the Late Mississippian period is less clearly defined than in other areas of the state. As previously stated, some continuity may have existed between earlier Plaquemine occupation and later occupations found throughout the region. Recent investigations tend to support the position that the Plaquemine culture continued to dominate the region throughout the Mississippian period. Evidence for this argument derives from research conducted in the Terrebonne Marsh in south-central Louisiana. This research revealed that shell-tempered "Mississippian" ceramics were in the minority, while Plaquemine ceramics were heavily represented at most sites in the area (Weinstein and Kelley 1992:378).

Although probably underreported, *Louisiana's Comprehensive Archaeological Plan* documented only 17 Mississippian cultural pe-

riod sites components within Management Unit III (Smith et al. 1983); seven of these sites were located within Iberia Parish. While not reported, hybrid Mississippian-like artifacts may be found in association with Plaquemine, Attakapan, or Chitimacha sites that date from either the protohistoric or early historic cultural periods.

Protohistoric and Early Historic Period (ca. 400 - 220 B.P.)

An understanding of protohistoric and historic period Native American cultures of the southeastern United States is limited severely by our frequent inability to recognize the ancestral cultures from which these historic groups were derived. This is due in part to the waning influence of the Mississippian culture and, to a lesser degree, the Plaquemine culture, but primarily it is a result of the social disruption initiated by the legacy of the Hernando de Soto entrada of 1539 - 1543. In addition, the subsequent French and Spanish exploration and colonization of the Southeast has affected the clarity to which the Protohistoric period can be brought into focus. During this period, Native American population upheavals and depletions were related to warfare, disruptive migrations, and epidemics introduced by European contact (Davis 1984).

Villages apparently were similar to those reported for the preceding Plaquemine and Mississippian periods. The larger villages generally featured one or more truncated pyramidal mounds surmounted by chiefs' houses and temples; the remaining villagers lived in the area surrounding the mounds and in satellite hamlets. The houses were rectangular in shape and they were constructed of poles placed in the ground, that supported wattle and daub walls, and thatched roofs (Swanton 1946). The French learned cultivation techniques for corn, squash, potatoes, tobacco, and other indigenous crops from the Chitimacha and they apparently lived in the nearby Native American communities during times of famine.

Gibson (1976a:21) states that early colonists arriving in the region "found the Plaquemine culture still flourishing" during the 1700s. These inhabitants reportedly belonged to the Vermilion band of the Attakapa tribe and to the Chitimacha tribe. According to contemporary

accounts; the Chitimacha occupied the lower Bayou Teche region, the Grand Lake area, and the lower stretch of the Atchafalaya River.

The Attakapa originated in southeast Texas, but, following varying degrees of interaction, began migrating to southwest Louisiana during the Late Prehistoric period. Swanton (1953:197-199) recounts that the easternmost Attakapa resided on the Mermentau River and in the vicinity of Vermilion Bay. In 1760, the Attakapa sold the land located between Bayou Teche and the Vermilion River, where their village was located, to a French settler, Fusilier de la Clair (Swanton 1946). The village, however, continued to be occupied by the band until the early nineteenth century.

According to Kniffen et al. (1987:53) and Swanton (1946:119, 1953:202-204), the Chitimacha originally were located on Bayou Lafourche, Grand Lake, and the lower portion of Bayou Teche. In 1702, however, Louis Antoine Juchereau de St. Denis took several members of the Chitimacha tribe as slaves. He was ordered

immediately by Jean Baptiste le Moyne, Sieur de Bienville to return the captured Chitimacha to their people. In 1706, the alliance between the French and the Chitimacha was broken when the Chitimacha attacked and killed four Frenchmen in retaliation for an attack carried out by the Taensas earlier that same year. For the next 12 years, the Chitimacha fought the French and their Native American allies.

In 1718, peace terms were agreed upon between the French and the Chitimacha. According to those terms, the Chitimacha were to relocate to the Mississippi River near the present-day town of Plaquemine. Within a short period, however, the Chitimacha, once the strongest and most "cultured" of the south Louisiana tribes, was reduced greatly in numbers and they were forced to merge with other tribes in the area. Only a few Chitimacha remained by 1881 and they were living on a reservation situated near the town of Charenton, Louisiana (Kniffen et al. 1987:75).

CHAPTER IV

HISTORIC OVERVIEW

Introduction

The currently proposed project item is located along the right descending bank of Bayou Teche in Iberia Parish, Louisiana. It is situated within Section 41 of Township 12S, Range 7E of the Southwestern Land District. When the project vicinity was first settled, it was part of the Attakapas District, which became St. Martin Parish in 1807, then St. Mary Parish in 1811, and finally in Iberia Parish in 1868.

Historically, the region containing the project parcel has been associated with the development of the city of New Iberia and with sugar cane cultivation and sugar manufacture along Bayou Teche. The first section of this chapter serves as a general overview, and it provides data on the history of the region from the colonial era to the present. The final section is a specific history of the Segura Staging Area.

Historic Context of Bayou Teche Area

Colonial Era

During the French and Spanish colonial periods, the project reach included that part of the Louisiana colony known as the Attakapas region, or district, so-named for one of the Native American tribes indigenous to the area. French trappers and concessionaires were joined in the Attakapas region by Acadians, many of which migrated from the Chignecto Isthmus of Nova Scotia as a result of being exiled during the French and Indian War; by Spanish settlers, mostly Málagaans, emigrants from the Costa del Sol in southern Spain; and by African slaves, many of whom came from the Senegambian region.

French Colonial Period, 1699-1769

Nearly 140 years following the last of the unsuccessful sixteenth century Spanish expeditions through the Louisiana region, the French began exploration of the lower Mississippi River Valley area. On April 9, 1682, René Robert Cavelier, Sieur de la Salle, claimed all lands drained by the Mississippi River for Louis XIV, King of France. Approximately 16 years later, i.e., in 1698 - 1699, Pierre le Moyne, Sieur d'Iberville, led an expedition to explore the lower "Colbert or Mississippi River, from its mouth to the Natchez Nation," and to "establish a colony in Louisiana" (French 1875:29, 31).

Shortly after the founding of the Louisiana colony in 1699, the French established permanent settlements along the Mississippi River and the Gulf Coast; however, colonization of southwestern Louisiana was not encouraged by the French government. In addition, settlers were reluctant to leave the security of the Mississippi River posts for "the west," as the territory then was called by the French colonists. This area was uncharted and populated widely by Native Americans. Despite these trepidations, Spanish missionaries reported secluded groups of colonists in the Attakapas as early as 1713. The Native Americans of the Attakapas-Opelousas region initiated trade with the colonial government, offering pelts, tallow, and horses in exchange for French goods. By the 1740s, a profitable deerskin and fur trade had been established with the "Attakapas Country," which name had replaced "the west" as the common designation for southwestern Louisiana (Figure 9) (Bergerie 1962:3; De Ville 1973:24-31, 1986:4; Fontenot and Freeland 1976:1; Iberia Parish Development Board ca. 1948:12).

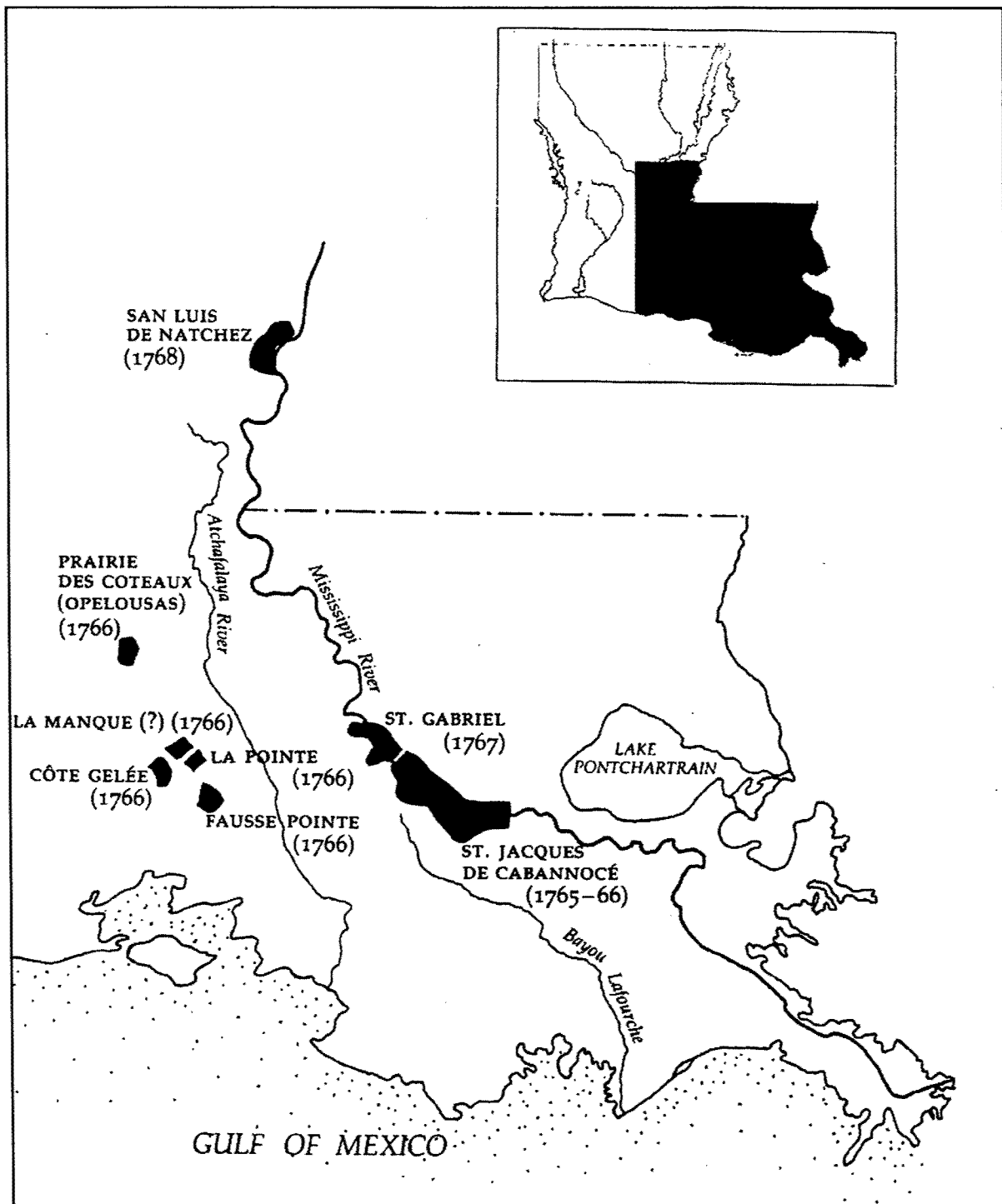


Figure 9. Adaptation of 1760 French Map, from Brasseaux, *The Founding of New Acadia*.

By the mid-eighteenth century, the French had discovered that the southwestern Louisiana prairies were well-suited for cattle ranging, and they thought that tobacco cultivation might succeed throughout this rich marshland (De Ville 1973:31-33, 1986:4). Edouard Masse, one of the earliest documented colonial settlers in the area of present-day St. Martinville, probably arrived during the 1740s. Masse owned 20 slaves, many of whom he freed in his will, as well as a partnership in a cattle ranch. Masse lived in crude frontier conditions:

[He] lived in an open shack, slept on bearskin stretched on boards, and dressed in deer skins. His only utensils were a knife and horn, both of which he carried with him. He lived this way for nearly twenty years, extending hospitality to anyone asking for it; but there were few comforts to induce any travelers to linger there (Bergerie 1962:4).

In 1760, Masse and his partner, retired military officer Antoine Bernard Dauterive, were granted an Attakapas concession upon which they established a cattle ranch, or *vacherie* (Figure 10). This grant was situated on the east side of Bayou Teche near the present-day site of Loreauville. The Dauterive-Masse concession later became the site of the first Acadian settlement in the region, *Fausse Pointe* (Brasseaux 1987:75, 91-92).

Shortly thereafter, the French government proposed a military post in the Attakapas country as part of its plan to protect and secure the boundaries of the developing Louisiana colony from both Native Americans and other colonial powers. The *Poste des Opelousas* was established under the command of Louis Pellerin in 1763, after France officially transferred western Louisiana to Spain. The Opelousas Post, situated in the vicinity of modern-day Port Barre (St. Landry Parish), also became known as Attakapas, after the region it served; however, that name was discontinued with the establishment of the *Poste des Attakapas* at present-day St. Martinville (Brasseaux 1987:94; De Ville 1973:32-34; Fontenot and Freeland 1976:19; Pittman 1973:36).

Spanish Colonial Period, 1769-1803

On November 3, 1762, under terms of the Treaty of Fontainebleau, France secretly ceded the Isle of Orleans and all of the Louisiana colony west of the Mississippi River to Spain. Not only would France be ridding itself of the heavy financial burden of administering and supporting the colony, but the transfer also prevented a sizeable portion of the territory from falling under British control as a result of the impending English victory in the French and Indian War. Although the transfer was announced publicly in 1764, it was not until 1769 that the French colonial government finally was abolished and Spanish control was established under the governorship of Alejandro O'Reilly (Chambers 1898:48; Davis 1971:69-70, 97-105).

The Acadians

Throughout the eighteenth century, European powers struggled for colonial dominance in the New World of the Americas. France and Great Britain, in particular, fought over New France (Canada) and control of the Mississippi River. In 1713, France ceded "Acadie"—Nova Scotia and New Brunswick—to Britain in the Treaty of Utrecht. These lands, populated by the French colonists known as Acadians, were important strategically, located half-way between Boston and the mouth of the St. Lawrence River. Britain required the Acadians to swear an oath of allegiance to the royal crown. Independent, largely Catholic, and convinced of their right to participate in the political process, the Acadians refused, and they struggled with British authorities for decades. On September 5, 1755, approximately 6,000 - 7,000 Acadians, half the total Acadian population, were imprisoned, and shortly thereafter deported to dozens of different colonial settlements. This mass deportation became known as *Le Grand Dérangement*, The Great Deportation (Figure 11) (Brasseaux 1987:25-27; Encyclopedia of Cajun Culture 2000:1).

Two small groups of exiled Acadians arrived in Louisiana, by way of "Santo Domingo" (Haiti). The French government in New Orleans sent the emigres to the Attakapas and Opelousas regions. The Spanish Attakapas District extended

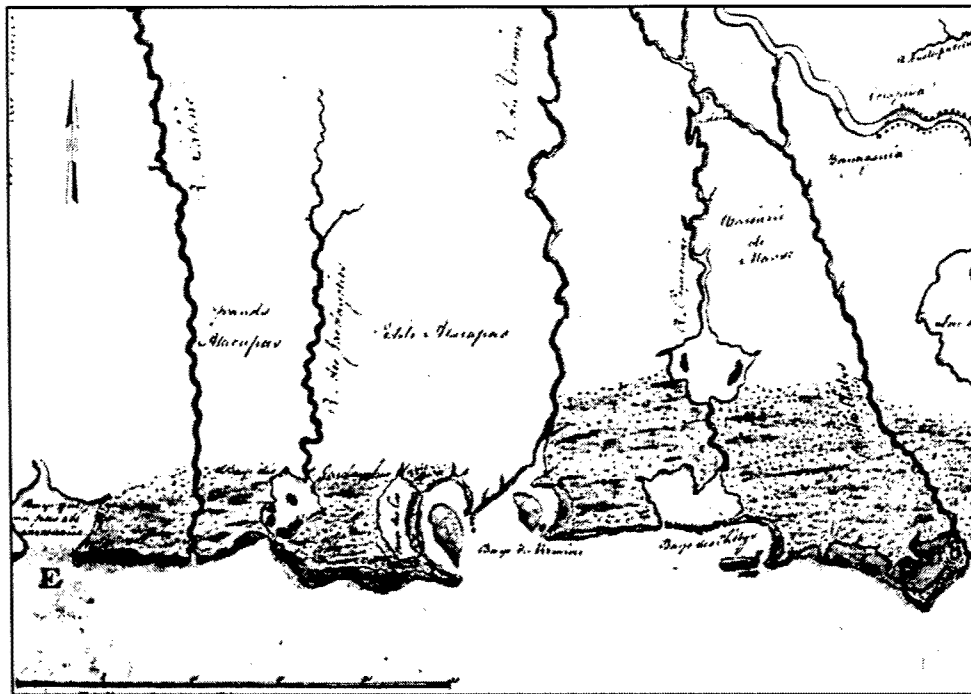


Figure 10. [1760] Excerpt from an untitled map of Louisiana, in reference to the project vicinity. Excerpt depicts the *Atacapas* [Attakapas] region and the *Vacherie de Masse* [Masse's cattle ranch].

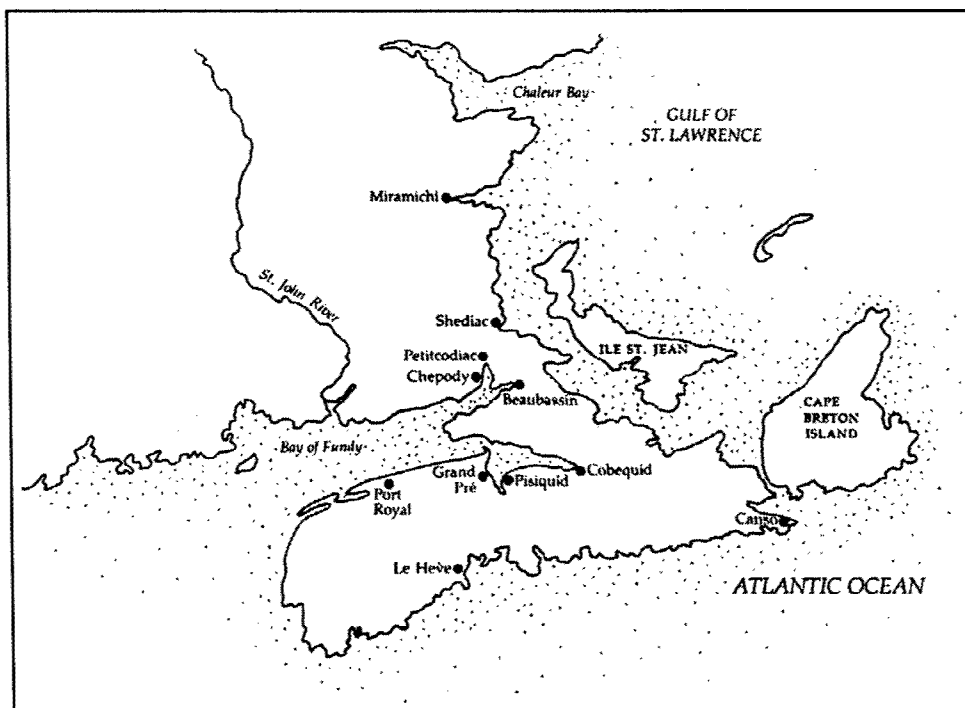


Figure 11. Acadian Settlements, from Brasseaux, *The Founding of New Acadia*.

"along the sea coast between the Delta of the Mississippi and the Western boundary" (the Sabine River), while the Opelousas District adjoined Attakapas to the north (Sibley 1806:97). Several Acadian settlements were established ca. 1765-1766 within these southwestern districts. First and southernmost was *Fausse Pointe*, originally called "*le dernier camp d'en bas*" (roughly, "the last camp of the lower side"). The *Fausse Pointe* community originally extended along both sides of Bayou Teche and it was situated roughly between the present-day communities of Loreauville and Morbihan. To the northwest, along Bayou Teche between present-day Parks and the original site of the Opelousas Post, were *La Pointe de Repos*, *La Manque*, and *Prairie des Coteaux* (Opelousas). *Côte Gelée* was established on the west bank of Bayou Tortue, to the west of *Fausse Pointe* and *La Pointe* settlements (Brasseaux 1987:92-95).

On April 4, 1765, eight Acadian "Chieftains" (or family leaders) agreed to settle in the Attakapas region on lands owned by Antoine Bernard Dauterive and Edouard Masse at *Fausse Pointe*, i.e., along the east bank of Bayou Teche. In return for tending the cattle of the Dauterive-Masse *vacherie* for a period of six years, Dauterive promised to supply each family with "five cows and their calves, one bull, and one half-interest in the produce grown and cultivated on his lands in the Attakapas Country" (Rees 1965:25). In addition, the Acadians would receive the concession granted to Dauterive and Masse five years earlier. They further agreed that the livestock would be delivered when the Acadians arrived at the Attakapas. The French colonial government also supplied the Acadians with seed rice, seed corn, tools, and "sufficient flour, hard-tack, hulled rice, and salt pork and beef to support them for six months" (Brasseaux 1987:75). The eight Acadian "Chieftains" included Joseph Broussard (who was called "Beausoleil"), Alexandre Broussard, Joseph Guilbeau, Jean Dugas, Olivier Tibaudau, Jean-Baptiste Broussard, Pierre Arceneau, and Victor Broussard (Bergerie 1962:5-6; Brasseaux 1987:74-76; Rees 1965:25).

Despite the attractive offer, the eight families soon abandoned their arrangement with Dauterive:

... within days of their arrival at the [Attakapas] post, the Acadians were denounced as trespassers by Dauterive's neighbors. Moreover, in 1771 Dauterive, who had recently become sole proprietor of the ranch, donated a large portion of the designated settlement site to St. Martin de Tours Catholic Church. Finally, rather than raise cattle on shares for Dauterive, the exiles purchased an undetermined number of cattle from Jean-Baptiste Grevemberg shortly after their arrival at *Fausse Pointe*. These settlers immediately sought patents to the land, thereby invoking the wrath of their neighbor, Jean-Baptiste Grevemberg, who claimed the area between *Fausse Pointe* and the Vermilion River as his personal fiefdom. In mid-July, Grevemberg addressed a memorial to Governor [Charles-Philippe] Aubry and Commissaire-ordonnateur [Denis-Nicolas] Foucault, asserting his right to the land and requesting a patent to his fourteen-year-old *vacherie*. Despite the cattle baron's tenuous legal claim to the campsite . . . , Aubry and Foucault permitted the Acadians to remain on their new farmsteads; Grevemberg could console himself with a concession of 7.5 square leagues (18.75 square miles [30 sq km]) (Brasseaux 1987:92).

Both Grevemberg and Broussard had a significant impact on the development of the Bayou Teche region. "Beausoleil" Broussard, who had been the militia captain of a "highly effective guerrilla unit" in Nova Scotia, obtained a Spanish land patent just upstream of the current project area in 1772 (Figure 12) (Taylor 1980). Grevemberg held the patent immediately west of Broussard's. The Acadians who colonized this region, especially around *Fausse Pointe*, settled in widely separate communities, rather than establishing a central town. This pattern was in keeping with their tradition, and it aided them in establishing livestock areas, as well as developing farm acreage. Most of these Acadian families settled on lands positioned adjacent to one another, so that extended family structures remained intact, and grew through intermarriage (Brasseaux 1987).

The Attakapas Acadians anticipated a reunion with other exiled Acadian immigrants and they believed that a "New Acadia" would emerge at the Attakapas post. Insufficient support from the French colonial government, though, prevented other Acadians from settling in the Atta-

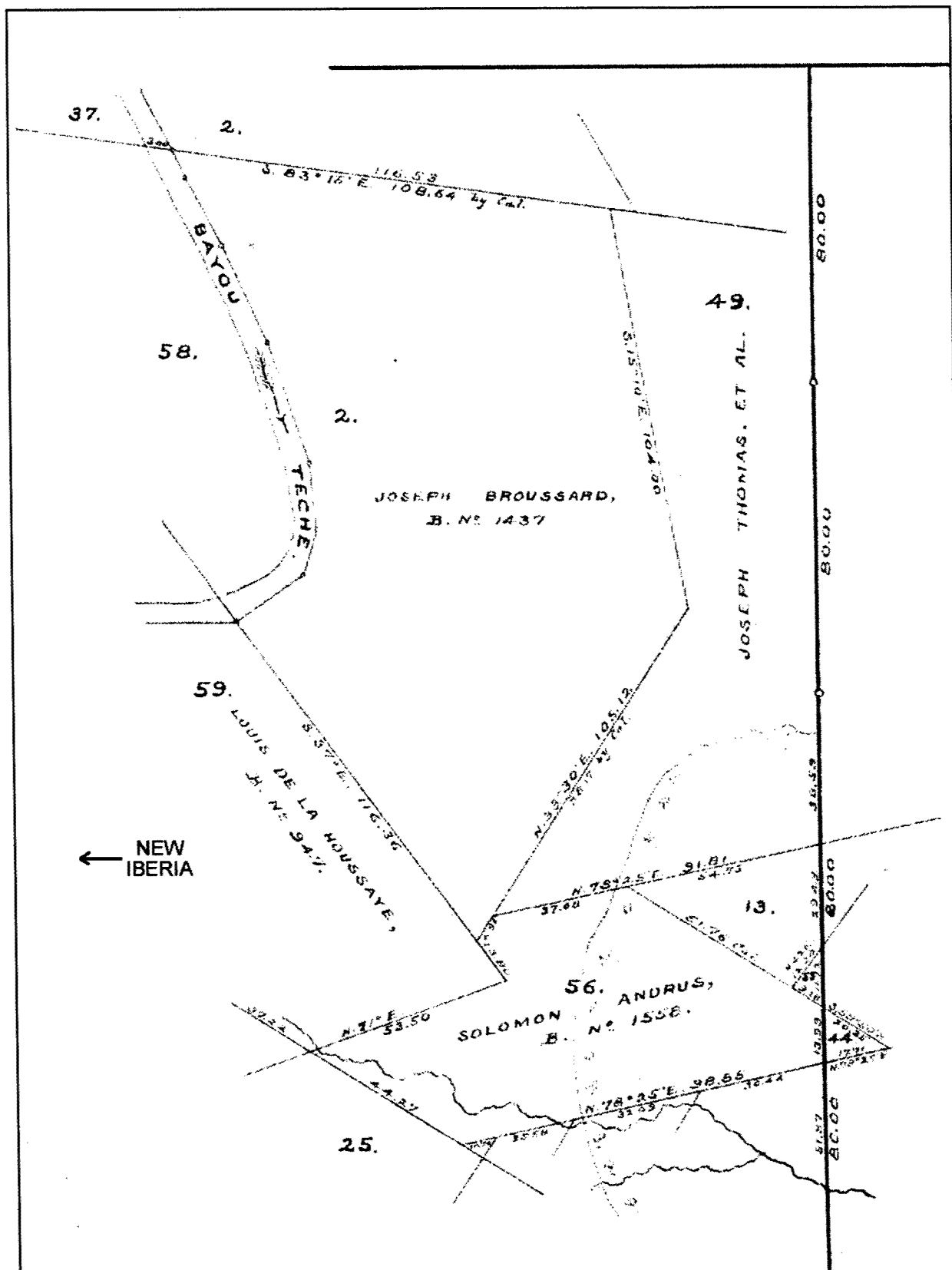


Figure 12. Adaptation of Spanish Land Grant Maps, Along Bayou Teche, ca. 1849. From the Louisiana Surveyor General's Map, 1849.

kapas region. In order to protect the area against Native American raids, a group that arrived in May of 1765 was forced to settle along the lower Mississippi coast, rather than in the Attakapas region (Brasseaux 1987:76-77). Moreover, during the early Spanish period, colonial government officers prevented new Acadian exiles from settling with family members in the Opelousas and Attakapas regions, in an effort to enforce new settlement areas (Brasseaux 1987).

By April of 1766, the Attakapas Acadians had dispersed into three or four settlements. The census of April 25, 1766 listed an estimated 150 inhabitants in the district: 16 households at the "District of the Pointe" (*Fausse Pointe*), 17 households on Bayou Tortue (*Côte Gelée*), 14 households at *La Manque* (probably located between present-day Breaux Bridge and Parks), and 2 households under the category "Allibamont Established at the Attakapas" (the "*Allibamont*," or *Alabamons*, were French nationals who left Fort Mobile in 1763 to escape British rule). This last "Allibamont" entry included Edouard Masse's 20 slaves, who were the only slaves recorded in the Attakapas District; the remaining 130 inhabitants consisted entirely of white settlers (Brasseaux 1987:94; Taylor 1980:16 fn.14; Voorhies 1973:124-125).

Nearly four years later, in early 1770, Don Eduardo Nugent and Don Juan Kelly journeyed through western Louisiana. Their report to the Spanish governor recorded a white population of 166 inhabitants in the Attakapas District. The account also listed 33 slaves, of whom 26 were at least 12 years of age and, therefore, "able to work." The livestock included 1,323 oxen and bulls, 18 calves, 14 "carts with oxen," 266 horses and mares, and 565 pigs (Martin 1976:187, 191-192). The conclusion of the district survey noted:

This district is quite similar to the district of Opelousas with regard to pastures and food production [corn, rice, and sweet potatoes].

Considered as a whole, it stretches over twenty leagues of longitude by six of latitude with population scattered throughout the district.

The Attakapas are favored with a better situation. More lands are cleared [there] than in the Opelousas District. The Acadians have settled there and raised cattle. They are ex-

tremely industrious and eager to work. Their women weave cotton which they turn into excellent cloth. They use it to make clothes for everyone. They also make stockings and cloth which they use as linen, but they were discouraged from cultivating cotton and manufacturing it, not knowing if the government would permit them to do so (Martin 1976:192).

In these early settlement years, both the French and Spanish provisional governments refused to honor the French-Canadian paper currency held by the Acadians. As a result, few of these settlers could afford to purchase slaves. This, in turn, prevented most first-generation farmers from cultivating cash crops such as cotton, tobacco and sugar, all of which were labor-intensive forms of agriculture. Within a generation, however, Acadians began to purchase bondsmen to work their lands; however, throughout the late eighteenth century, most settlers only held between two and four slaves. Consequently, most practiced subsistence farming and cattle ranching (Brasseaux 1987:192-93).

By 1774, the general census of the Attakapas region (October 30, 1774) documented significant growth: 323 white settlers, 129 adults, and 194 children. In addition, a small settlement of *gens de couleur libre*, free people of color, had been established along the Teche; it was comprised of 12 adults and 6 children. These families had been enslaved, but they were set free by the original concessionaires Masse and Fuselier. In just four years, the slave population also had grown dramatically. A total of 155 slaves now worked the plantations in the region. Despite this increase, three planter families, the DelaHoussayes, the deVaugines, and the Fuseliers, owned most of these bondsmen. In fact, only 19 of the 73 white households owned any slaves at all. Even before the turn of the nineteenth century, then, wealth was becoming concentrated along the Teche, foreshadowing the plantocracy that would soon evolve.

Regardless of these early successes, colonial settlers struggled to find a staple crop to sustain the colony. The first cash crop that planters developed was indigo, which became important during the Spanish colonial period. Indigo was a particularly labor-efficient crop; a single slave could plant and tend 0.8 ha (2.0 ac) of the

crop and still have time to attend to his own provisions (Holmes 1967:340). Each plantation or farm usually had its own indigo processing facility, since the manufacture of dye from indigo required little expensive machinery. The cut plant was placed in a vat called a "steeper," and the indigo then was covered with water until fermentation occurred. The liquid by-product then was drawn off into another vat, called a "beater," where it was agitated much like the churning of butter (Figure 13). A precipitate was formed in the solution by adding lime water. The water was drawn off, and the indigo solids were placed in cloth bags to dry (Holmes 1967:344). Because indigo was fairly easy to cultivate, it could be produced with equal efficiency on large plantations and small farms.

While the cultivation of the crop was easier than that of cotton or sugar, the processing was not. Indigo as a staple thrived in the young col-

ony largely because many slaves from the Senegambia region of Africa brought with them the knowledge of how to build vats, beat the leaves, and gauge the timing of the process. No other ethnic group in the area – French, Spanish or Native American – had any experience in indigo manufacturing. Unlike failed tobacco crops, which were unsuited to the soil, planters knew indigo would grow in the marshy Louisiana land, since it grew wild throughout the colony. While the indigo produced locally was inferior to that produced in the West Indian colonies, it became one of the few export staples of eighteenth century Louisiana (Hall 1992).

During this period, the majority of the land along the Teche was dispersed under Spanish patents. Most of the claimants owned land along both banks of the Teche, providing access to agricultural lands on the west bank and to pasturage on the east bank. The size of the land-

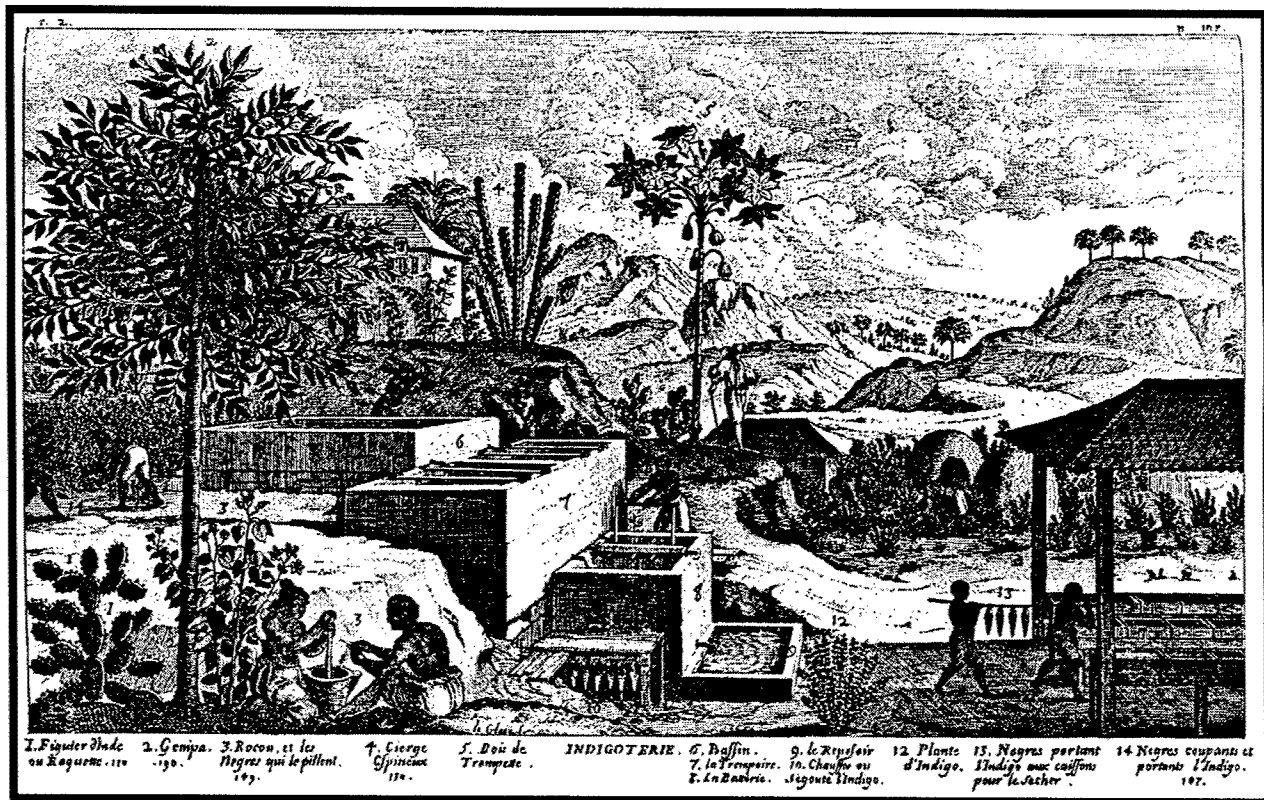


Figure 13. This Depiction of a Seventeenth-Century Indigotiere in the French West Indies Depicts the Process Used in Louisiana. From Hall, *Africans in Colonial Louisiana*.

holdings varied greatly. There were several small landholdings of 243 ha (600 ac) or less, but most of the claims were in excess of 405 ha (1,000 ac). The largest landholdings in Bayou Teche region were those of François C  zar Boutt  , Fran  ois Prevost, John Baptiste St. Marc Darby, Augustin Grevenberg, Paul DelaHoussaye and Etienne deVaigine. They owned 853 ha (2,108 ac), 904 ha (2,233 ac), 597 ha (1,475 ac), 854 ha (2,111 ac), 737 ha (1,820 ac), and 822 ha (2,031 ac), respectively (Figure 14). It also should be noted that the Chitimacha held land positioned along both banks of Bayou Teche in the area of their present reservation, i.e., downstream of the proposed project reach. The Chitimacha had held additional land upriver (20 arpents frontage on both banks of the bayou),

but they sold this parcel, in 1804, to Hyacinth Bernard (Original Conveyance A-2, #455, St. Mary Parish).

Etienne deVaigine's considerable land spanned both sides of the Teche at Fausse Pointe. A 1773 inventory of his indigo estate, performed by neighbor, Claude Boutt  , and witnessed by other nearby concessionaires, Paul DelaHoussaye and Louis Grevenberg, showed his holding to be a good forerunner of the plantation system that evolved along the Teche during the nineteenth century. Self-contained and self-sufficient, the deVaigine land housed himself and his wife (Mrs. Pelagie Petit de Livilliers, recently deceased), as well as 33 slaves. These slaves, valued *in toto* at 4,210 piastres (a silver coin roughly equal to an American dollar), were

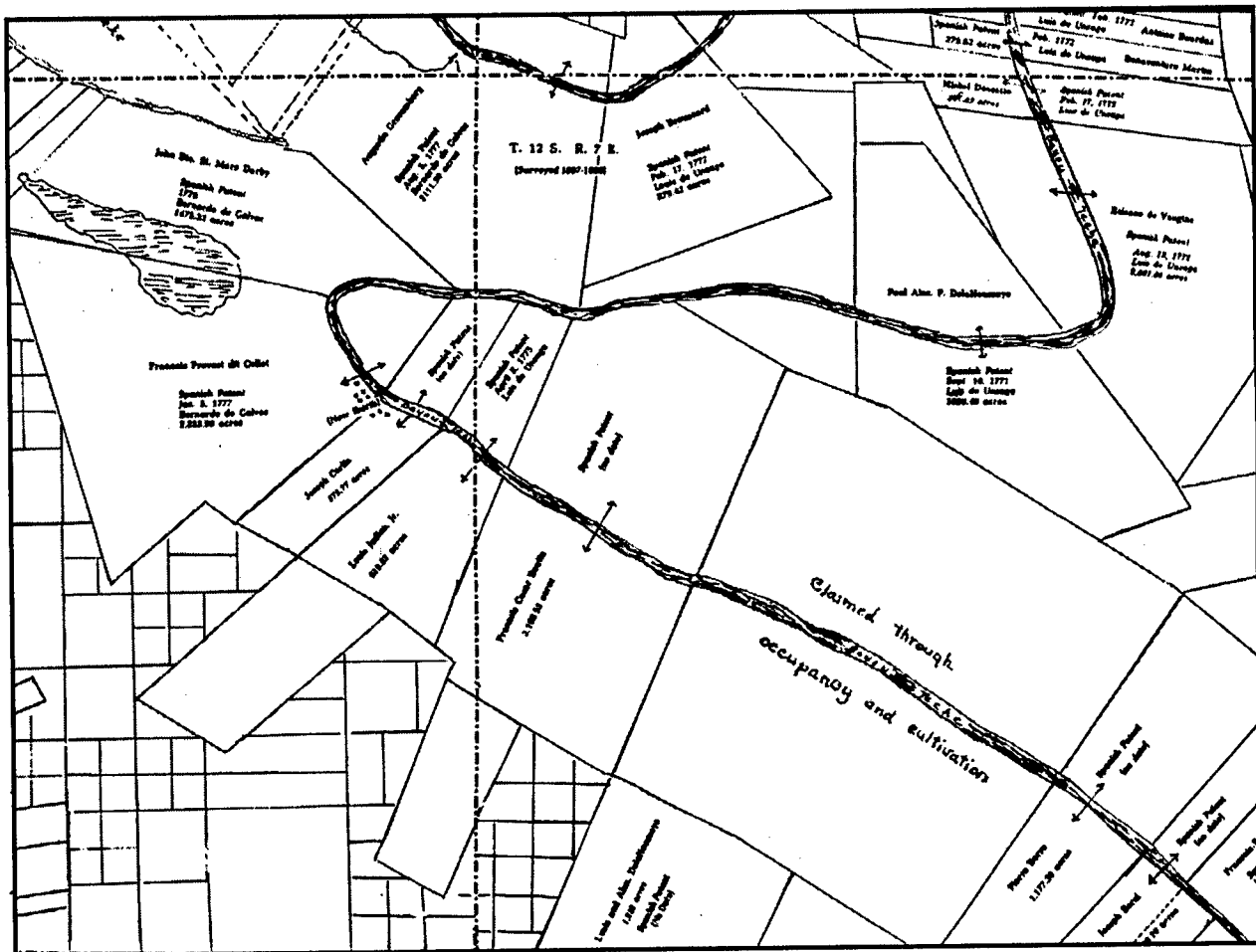


Figure 14. The Major Spanish Land Grants in the New Iberia/Fausse Pointe Area of Bayou Teche, ca. 1849. From G. Taylor, 1980.

worth significantly more than the land, houses, indigo processing material, furniture and all other items included in the inventory combined, which together totaled only 2,534 piastres. As these numbers suggest, planters with either liquid capital or connections to willing creditors had a significant advantage over the subsistence farmers of the region (Dart 1926:571-577).

The value of a slave to a concessioner, both in cash investment and in labor potential, must have made runaways a primary concern for men such as deVaugine. In addition to the slaves listed on the plantation, the inventory notes that two slaves named Jasmin and Guillaume were "fugitives for fifteen months at New Orleans and without any news of them" (Dart 1926). It seems likely that Jasmin and Guillaume joined one of the many "maroon" communities (groups of runaway slaves, African and Native American) in the New Orleans area, such as St. Malo's community by the mouth of the river, close to present-day Venice (Hall 1992:97-99, 214). Such communities made it all the more remarkable that deVaugine trusted another of his slaves, "Big Louis," so much that he sent Louis to New Orleans to collect several debts for him.

The deVaugines' house was not remarkable by plantation standards, but it was quite elaborate for an early Teche settlement. The principal house consisted of a raised cottage on sleepers (piers); it contained three rooms. Galleries enclosed the house on two sides, allowing ventilation through the long, hot summers. The only other buildings mentioned were the two indigo warehouses. This is notable, in that no housing for bondsmen existed. Moreover, while the planter and his wife apparently shared a "walnut bedstead on roe-buck (stag) feet," as well as a feather bed and linen sheets, no provisions for slave bedding existed (Dart 1926).

A few other clues about slave life can be gleaned from the inventory. A total of two married slave couples were listed, including "Sauvier...and his lawful wife Isabelle" (Dart 1926:572). The other couple, l'Eveille "The Lively," and his wife Minerva, apparently were not married legitimately. It is interesting to note that while an able-bodied man was estimated to be worth 240 piastres, and an able-bodied woman at 160 piastres, the legitimate couple, Sauvier and Isabelle, together were estimated at

only 300 piastres. Evidently, a married couple, appraised together, was "worth" less, perhaps because of the limited resale possibilities of a legitimate slave couple. In addition to keeping married couples together, four bondswomen were listed with their children, suggesting perhaps that the separation of young slave children from mothers had not yet come to the Teche.

Except for the few large planters like deVaugine, most white inhabitants engaged mainly in livestock farming. They owned collectively 5,208 head of cattle, 701 horses and mules, 1,126 pigs, and 96 sheep. The small free people of color community also raised livestock, owning 87 head of cattle, 33 horses and mules, and 45 pigs (Voorhies 1973:280-283). The preponderance of cattle reflects the economic importance of animal husbandry within the Attakapas region. Most of the Attakapas Acadians immigrated from the Chignecto region of Nova Scotia, "a sparsely wooded sea marsh and prairie that for half a century before the Grand Dérangement had supported small cattle ranches" (Brasseaux 1987:122). A description of the Chignecto beef economy concludes: "In view of their background, it is hardly surprising that the 1765 Acadian immigrants, whose leaders were drawn exclusively from the Chignecto Isthmus, selected homesites in South Louisiana's prime grasslands and immediately engaged in ranching" (Brasseaux 1987:122). The Acadians were successful, and the size of their herds increased rapidly. In addition to raising cattle, the Attakapas Acadians also farmed enough corn, cotton, and vegetables to be self-sufficient (Brasseaux 1987:122-125).

The size of the parcels claimed suggests that by the early nineteenth century farming and livestock raising had increased in scale. Indeed, major economic changes occurred during the 1790s and into the early 1800s throughout Louisiana. These changes were spurred partly by the economic failure of indigo production, the major cash crop during the colonial period. In terms of quality, indigo grown in Louisiana could not compete in the world market with indigo produced in the West Indies. Indigo also was susceptible to insect blights and it was sensitive to weather. Consequently, crop losses could be severe. Furthermore, the crop exhausted the soil. An increase in the price of slaves in Louisiana

made it difficult to obtain the labor necessary for large scale indigo production on the plantations. Finally, the terrible smell of indigo production attracted disease-carrying insects, and the production of indigo polluted streams (Holmes 1967:346-348). This toxicity also may have contributed to the high death rates seen among young male slaves, traditionally the age group who worked the indigo (Hall 1992:301).

Technological advances also contributed to the decline of indigo, and the subsequent rise of cotton and sugar. During the 1790s, Eli Whitney invented the cotton gin, significantly reducing the time and labor involved in processing cotton. During this same decade, Étienne de Boré developed a process that enabled the commercially successful extraction of sugar from cane. In 1795, the Haitian sugar maker Morin introduced refining processes and equipment that helped to make the sugar industry profitable. As a result of these inventions, cotton and sugar rapidly became major money making crops throughout the area. Berguin-Duvallon, in his 1802 narrative on the status of agriculture in Louisiana, states that

“sugar and cotton are the staple commodities of the colony” (Davis 1806:131).

In addition to the Attakapas Acadians, the proposed project area, both above and below New Iberia, was settled by native French and Spanish settlers, as well as “Creoles,” i.e., settlers born in the colony to immigrant parents. Among these colonial settlers, Paul Alex DelaHoussaye, François Prevost, François César Boutté and John Baptiste St. Marc Darby all held large land grants along the Teche. Boutté, a Creole son of French concessionaires André Claude Boutté and his wife Françoise, and Prevost, a large land owner all around the state, probably did not settle on their land grants. The Darbys, however, did build a home on this concession, in 1813. John Baptiste had died by 1805, but his widow, Françoise, continued to own the large land grant as late as 1849, though the boundaries of the plantation had changed (Figure 15) (Surveyor General’s Map, October 1849). The huge house, once called Co-teau, but eventually known as Darby, faced Spanish Lake on the North end of the plantation. Noted artist Adrien Persac painted the home, cis-

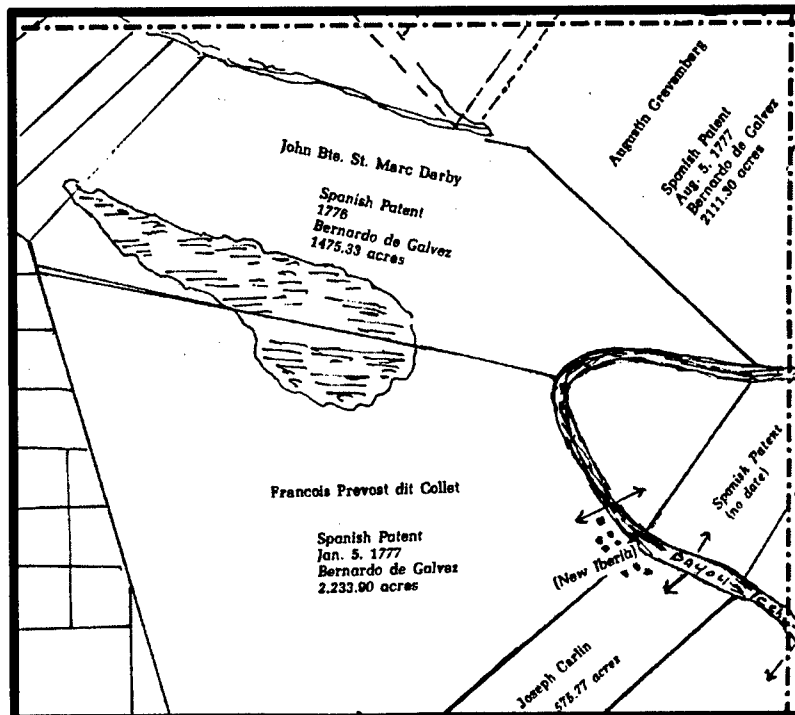


Figure 15. The Darby Plantation Area, 1849. From G. Taylor, 1980.

tern house, garçonnières, and slave quarters on the eve of the Civil War (Figure 16). The structure was built with bricks and made by slaves on site, using large cypress timbers to construct the structure (NRHP, Darby Plantation 2000:1).

Darby, like most other Attakapas concessions in the early years of settlement, was first a cattle ranch; however, it had converted to sugar production by 1810. This shift to staple crop agriculture required a significant increase in labor. Conveyance records from New Orleans show that M. Francois St. Marc Darby, son of John Baptiste and Françoise, purchased 20 slaves from a slave-trader in May, 1828, to meet that growing need for plantation labor (Tolle

1975:89). In 1828, Darby produced 101 hogsheads of sugar, by far the most in the nascent New Iberia area. That same year, Octave Dela-Houssaye, who now owned his father's land grant of over 729 ha (1,800 ac) along both sides of the Bayou near the Segura Staging area, processed only 56 hogsheads (Degelos 1892:67). Several other concessionaires settled on their property in this immediate area, including Baron Bayard, and the prominent Olivier family. By 1819, Olivier had built "the best house ...on the river since ...Franklin," on the west bank of the Teche, just adjacent to the Segura Staging Area (Gibson 1980:74, 78).

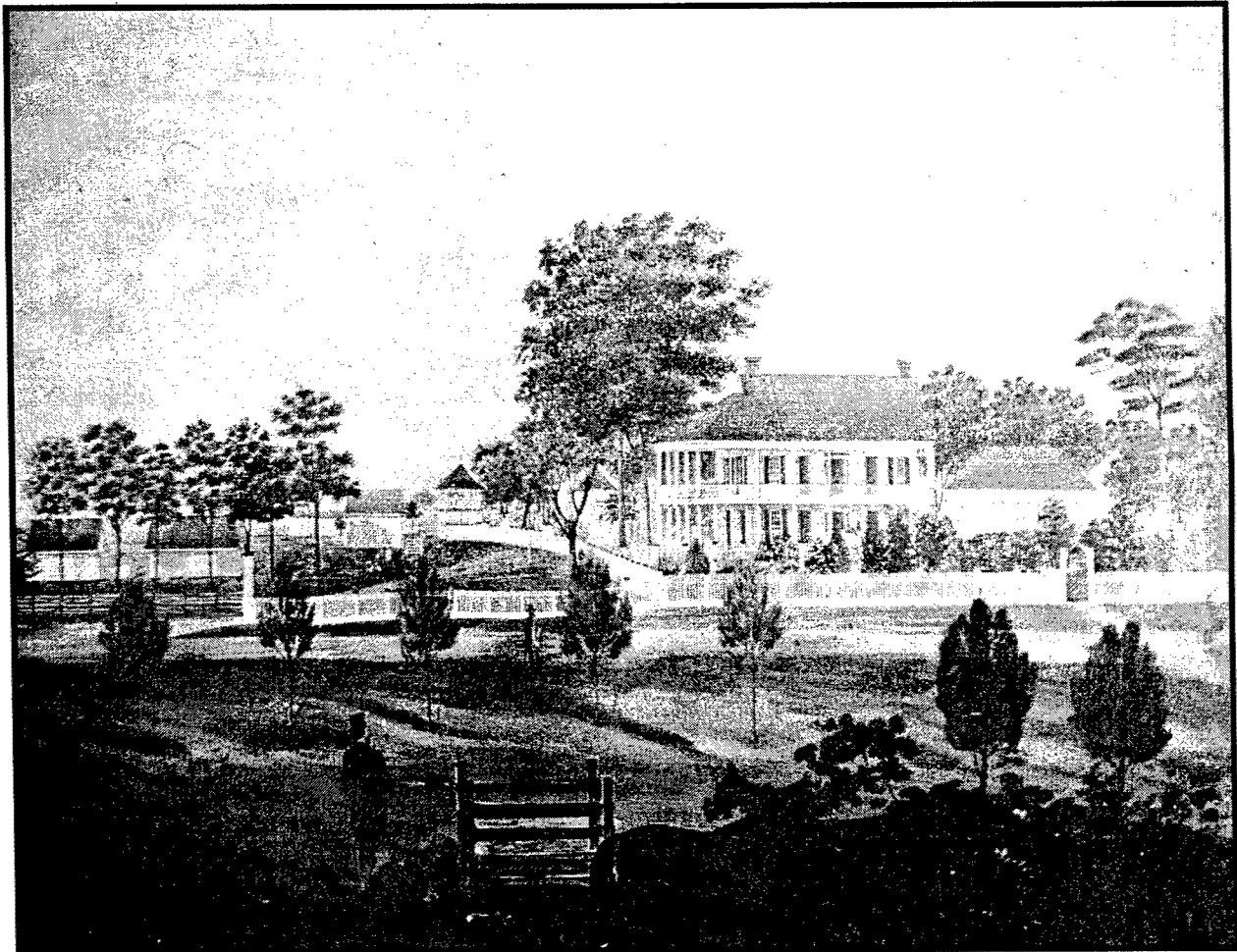


Figure 16. Adrian Persac's Famed Depiction of the Francois St. Marc Darby Plantation on the Eve of the Civil War. Adapted From Bergerie, *They All Tasted Bayou Water*.

The Founding of New Iberia

Don Francisco Bouligny established the town of New Iberia. He was commissioned to go to the Attakapas region in 1779 to establish a settlement for families from Málaga, of the Costa del Sol in southern Spain. Bouligny arrived in Louisiana with Governor Alejandro O'Reilly in 1769 and he spent several years in the colony before returning to Spain. By 1778, Bouligny returned to Louisiana as Lieutenant Governor under Governor Bernardo de Galvez (Allain 1979a:79).

Galvez instructed Bouligny to choose a suitable place on Bayou Teche to settle the Málaga families. Galvez also expressed support for bringing Irish, German, and French immigrants to the region. Surnames associated with these early settlers include Romero, Villatoro, de Aponte, Ortiz, Balderas, Lagos, Segura, and Porras (Allain 1979a:80; Bergerie 1962:9; St. Martin Parish Development Board ca. 1950:9).

Bouligny arranged for an elaborate array of supplies for the settlers of *Nueva Iberia*. These provisions included: salt, rum, powder, bullets, shot, flints, cutter's knives, beads, cloth, work clothes, chisels, posts, shingles, two-handled knives, nails, pliers, pincers, scythes, hammers, clamps, pots, saws, drills, hatchets, cranes, axes, mortars and pestles, fishing equipment, hinges, locks, hooks, trowels, iron hoops, iron (for making hatchets, hoes, and ploughshares), chains, ropes, soap, pitch, thread, needles, chalk, files, compasses, pencils, paper, shovels, weights, manacles, pulleys, tar, shoes, sharpening stones, and a variety of specialized tools for coopers, woodworkers, and blacksmiths. The government also procured slaves for the colonists, to undertake the heavy labor of clearing the ground and for construction (Allain 1979a:81-82).

Bouligny chose a site for the settlement several miles downstream of the current town in February of 1779. The two families of *gens de couleur libre* already lived at this location; however, they were removed. Bouligny wrote of his plans for settling the Málaga families:

I intend to assign each settler six arpents of land fronting the Teche on the right bank going up for cultivation. I will also grant them six on the left bank where I will found the town and where I will leave the land in common for grazing, allowing each settler to build a fence around the land which belongs

to him on that side should he wish to cultivate it (Allain 1979a:83).

By March 1779, modest huts and warehouses had been built. In addition, fields were cleared, and hemp, flax, wheat and barley were planted. By April, though, a disastrous flood forced Bouligny to abandon the site and to search for higher ground. Bouligny bought land at the current site of New Iberia from Joseph Prevost (who was called "Colet") and he settled the Málaga families there:

... I purchased from him a piece of land, thirty arpents frontage by eight arpents of depth, seven or eight leagues above my first establishment on the west bank of the Teche, out of the concession he established. I paid him 400 pesos and promised to grant him, subject to your lordship's good pleasure, two islands near the same place that he will be able to settle as he pleases, a piece of land near the same place for an orchard, and in a remote area that his cattle could reach ... (Allain 1979b:127).

The new location apparently suited the settlers. They planted corn, rice, potatoes, and tobacco, and felled trees for use in construction (Trammell 1987:246). Royal surveyor Thomas Berviquet [Berwick] was assigned the task of planning the town site. Besides constructing the town roads, Berwick was responsible for building the structures for the settlement:

... houses for the blacksmith, the families of the Artache, Prados, Migas y Vida, and Ybañez; two houses for the Germans and two for the soldiers; and houses for Mr. Flammant and Mr. Henderson, who also had a warehouse built. They constructed a royal warehouse, a great shed in which to make bricks and lime, and a large enclosure for the oxen (Trammell 1987:246).

By 1785, there were 125 inhabitants settled along the west bank of Bayou Teche (the east bank usually was reserved for pasture). Approximately three years later, the census recorded a population increase to 190 colonists at *Nueva Iberia* (Bergerie 1962:10-13, 27, 48).

Antebellum Era

As part of the negotiations leading to the 1803 Louisiana Purchase, Spain restored western

Louisiana to France, which shortly thereafter conveyed the Louisiana Territory to the United States. On March 26, 1804, that portion of the Louisiana Purchase located below the thirty-third parallel was designated the Territory of Orleans. The following year, Orleans was partitioned into 12 counties, including the county of Attakapas, which encompassed the present-day parishes of Iberia, St. Mary, and Vermilion, most of Lafayette and St. Martin Parishes, and portions of Cameron and Iberville Parishes. In 1807, the territorial legislature reorganized the county system, further dividing the Territory of Orleans into 19 parishes. Attakapas County was superseded by the parish of St. Martin, which encompassed roughly the same territory as its predecessor. In 1811, southeastern St. Martin Parish was re-designated St. Mary Parish, which included Marsh Island and part of what later would become southern Iberia Parish. The following year, on April 30, 1812, the State of

Louisiana was admitted to the Union (Figure 17) (Bergerie 1962:14-15; Davis 1971:157-164, 167-169, 176; Goins and Caldwell 1995:41-42).

The Federal Government wasted no time in surveying their new territory. They sent James Leander Cathcart and John Landreth to the Attakapas region to conduct a survey of timber resources. From their journal entries recorded during 1818-19, it may be concluded that the western coastal environs of the Attakapas country probably were uninhabited. On the higher grounds of the "salt islands" (i.e., south of the proposed project area) and the chenieres, settlers hunted and trapped, grazed cattle, and burned the marshes to clear ground for small subsistence farms. Away from the marshlands, larger plantations developed along the higher ground fronting the major waterways, especially along Bayou Teche (Glass 1898:18; Prichard et al. 1945; Vermilion Historical Society 1983:6).

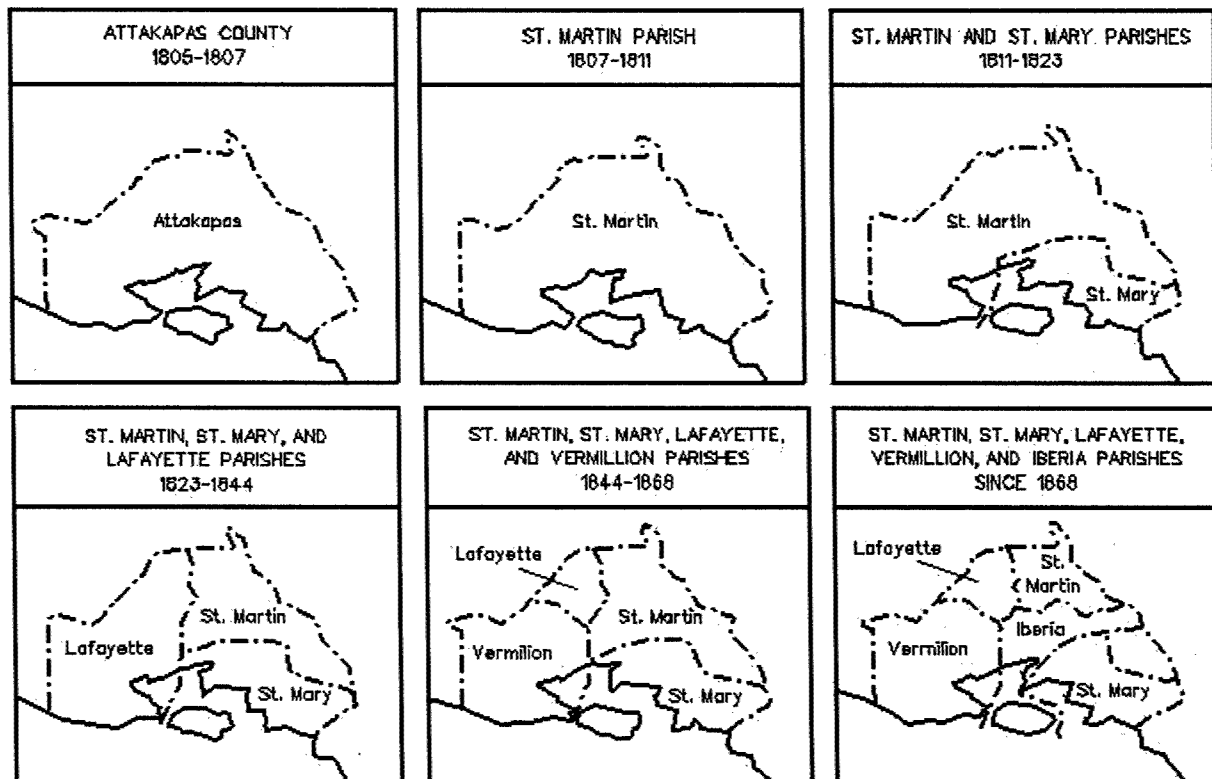


Figure 17. Divisions Of The Original Attakapas Country. Adapted From Bergerie, *They All Tasted Bayou Water*.

Stock raising continued to be a profitable industry, though cotton production became more widespread in the Attakapas region during the late eighteenth and early nineteenth centuries. Planters had experimented with cotton in the Attakapas District early during the colonial period; therefore, it is not surprising that its cultivation increased following the introduction of the cotton gin. Nevertheless, cotton, like indigo, did not surpass animal husbandry in economic importance.

During the early nineteenth century, the average yield of a superficial arpent of land (roughly 0.4 ha [1.0 ac]) was approximately 400 pounds of cotton, worth approximately \$100.00. A skilled slave could cultivate three arpents of cotton (Robertson 1911:155), as compared to two arpents of indigo. Estimates of daily cotton yields picked by an adult slave ranged from 60 pounds of cotton per day, which, when cleaned, would yield about 20 pounds (Robertson 1911:156), to 150 pounds picked per day (Taylor 1976:67). The yearly cycle of cotton production began with the plowing of fields in late winter or early spring. Corn planting was followed by cotton, and the fields were hoed to destroy weeds. Around the Fourth of July, the crop was strong enough to be "laid by." Slaves then turned their attention to gathering firewood and harvesting corn. The cotton bolls began to open in August, and the cotton picking season followed. Ginning began with the accumulation of 1,400 pounds of cotton. The cotton then was pressed into bales weighing 400 pounds each, and then they were transferred to the New Orleans Market (Taylor 1976:66-67).

Development of the Sugar Plantations

Despite the continued profitability of the cattle industry and the addition of a profitable cotton industry, the tremendous success of sugar growing in southeastern Louisiana during the early nineteenth century eventually attracted the interest of the Attakapas planters. Although sugar was grown in the district during the late eighteenth and early nineteenth centuries, sugar agriculture had not dominated the Teche region. In 1810, St. Marc Darby was the only sugar planter situated near the present project area. The transfer of the Louisiana Territory to the United States, however, and the opportunities

afforded by the nascent sugar industry clearly stimulated American immigration into the area. Some incoming Americans brought large amounts of capital with them for the purpose of financing sugar plantations, which required substantial capital outlays for mills, levees, and slaves. The majority of American immigrants, however, were ambitious men who saw an opportunity to advance themselves through the newly developing sugar industry. Land along the Teche was inexpensive; undeveloped land could be had for as little as \$4.00 to \$10.00 per arpent (Sitterson 1953:24).

The influx of Americans largely was responsible for the shift to sugar staple crop cultivation along the Teche. Because both stock raising and cotton cultivation were profitable, there was no economic imperative that forced the Creole and Acadia planters on Bayou Teche to shift to sugar cultivation. Moreover, the capital outlays to outfit a sugar plantation far exceeded those required for a cotton plantation. According to Schmitz (1977:108), by 1860 the average investment in sugar producing machinery on a Louisiana plantation was \$9,900.00. This contrasted sharply with the \$830.00 average investment for equipment on a cotton plantation. Even in the early antebellum years, when sugar manufacturers used horse-drawn sugar houses, rather than steam-powered houses, the investment in converting cane to crystal was high. Because of the relatively low expense of cotton production, it could be cultivated both by owners of large plantations and by yeoman farmers who worked their own land (Taylor 1976:65). However, the total investment in a sugar plantation could exceed \$200,000.00 (Taylor 1976:65), making sugar cultivation beyond the reach of small farmers. The attractiveness of cane cultivation derived from around a nine percent return on the planters' investment, while the return on a cotton plantation of 1500 acres was about seven percent (Taylor 1976:67).

Incoming Americans encouraged the shift to cane cultivation both by buying lands along the Teche, which they then converted to sugar estates, and by demonstrating to the wealthier resident Creoles and Acadians the advantages of sugar agriculture. Additional encouragement was found in the protection of domestic sugar under the tariffs of 1816 and 1828. Finally, be-

tween 1818 and 1830 cotton prices fell sharply, which further induced planters to consider sugar cultivation. Because sugar agriculture was most efficient on a large scale, it only was a question of time before livestock pasture lands were converted to cane fields. Similarly, small farms along the Teche were purchased and consolidated into sugar estates. By 1828, there were 99 sugar plantations in St. Mary, St. Martin, and Lafayette Parishes (which included present day Iberia and Vermilion Parishes). The following year, that number increased to 162 (Sitterson 1953:25). By 1835, the vast majority of plantations along Bayou Teche were engaged in sugar production, although small amounts of indigo still were produced as late as the early 1830s (De Grummond 1949:21).

Settlement within the Attakapas region proceeded rapidly. The soil was rich, and inland waterways such as Bayou Teche provided a convenient means of transportation. Describing the region to Americans unfamiliar with Louisiana, William Darby wrote: "Nature has been more than usually beneficent to the Attacapas, the fertility of the land is excessive, and the facility of navigation is seldom exceeded. It demands comparatively but little from the hand of art, to complete the benefits of this favored spot" (Darby 1816:73). Since lands were not difficult to clear, farms could be transformed easily into plantations, and cotton farming soon gave way to sugar cane cultivation. In addition, the region abounded with valuable timber and other natural resources.

Before 1850, the majority of sugar planters were busy expanding and developing their holdings. Using borrowed capital, they purchased new lands and they acquired plantations, slaves, and equipment (Sitterson 1953:70). By the 1850s, the developmental phase had ended. The sugar plantation regime had become firmly established, dominating the economy of both St. Mary and St. Martin Parishes.

To make a sugar crop, the seed cane was planted in furrows, end to end, and lightly covered with soil:

as soon as the cane comes up generally they begin to work it with the Hoes [hoes] until it gets about a foot in height they commence plowing it and generally plow it about twice and hoe it afterwards until it gets to about two feet in height then they let it stand until it

is fit to cut if the land is good and the Season favorable it will often bear a second cutting and will produce a Saving crop the second time one hand on an average is allowed twenty three arpents or acres of Sugar cane to tend it (Gibson 1979:106; sic throughout).

In October, when the cane grew tall enough for harvest, fieldhands cut the stalks:

The slaves who did the cutting used special cane knives, basically machetes with a hook on the end. Cane cutters are a rare sight today, but men and women skilled at this work developed a rhythm and economy of motion that might aptly be compared with a ballet. Seemingly never halting the movement of the knife, they lopped off the tip of the cane, stripped the blades away, and cut the stalk down as close to the ground as possible, knowing well that the last joint held the most sugar. Other workers, practically all of them slaves, gathered the cane and loaded it on the ubiquitous two-wheeled carts; they then hauled it to the sugarhouse (Wall et al. 1984:157).

During the antebellum era, sugar planters did not utilize centrally located mills or refineries. Every sugar cane plantation had to be both farm and factory, necessitating a sugar house for each plantation, regardless of its size (Roland 1957:3). Sugar cane cultivation and sugar production favored larger planters who could afford to maintain a sugarhouse. At the sugar house, the cane was processed into brown sugar, and the molasses was drawn off. Hogsheads then were filled with wet sugar. To market a sugar crop, a planter had several options. He could ship it down the Teche for sale in New Orleans; "he could sell it from his plantation wharf to the various sugar merchants assigned to buy for northern markets;" or, he could sell it to a speculator (Broussard and Broussard 1955:11; Wall et al. 1984:157-58).

Bayou Teche was the most significant waterway in the lower Attakapas in terms of sugar cultivation. Before the Civil War, the average price of land along Bayou Teche had risen to \$16.00 per arpent of improved land, while some parcels sold for as much as \$30.00 to \$40.00 per arpent. Unimproved first quality lands often sold for \$10.00 per arpent. Land of lesser quality, as well as government lands, could be acquired for prices ranging from \$2.00 to \$10.00 per arpent inland (Gibson 1979:107).

The wealth of the local planters increased rapidly as a result of sugar agriculture. With improved transportation, both necessity and luxury goods became more readily available. The acquisition of imported goods helped to transform Bayou Teche from the frontier region described by Landreth and Cathcart in 1819, into a comfortable, visibly prosperous area. Planters abandoned their former adobe dwellings, and built larger plantation houses. Even these newer houses, though, were generally less than pretentious. Many of the plantation great houses were simple, raised cottages.

Other structures usually found on residential plantations included a kitchen, offices, garconnières, pigeonniers, and carriage houses. The overseer had his own house, and the slaves lived in spartan one or two-room cabins set in rows. Often there was a separate kitchen for the slaves' use (Sitterson 1953:92). Barns, stables, storage sheds, and privies also were found on most sugar plantations. The major industrial structure and the major investment on a sugar plantation was the sugar house. During the early nineteenth century, these structures generally were made of wood. By 1850, however, many of the sugar houses were constructed of brick. Some of the former gin houses situated along the Teche had been converted into sugar mills (Richardson 1886). Sugar houses generally measured 30.5 – 45.7 m (100 - 150 ft) in length and 15.2 m (50 ft) in width (Sitterson 1953:137). During the earlier years of the industry horses powered the mills, by the eve of the Civil War, most sugar works in St. Mary Parish had converted to steam power. The mill pressed juice from the cane. The mill normally was housed within the sugar house, but some detached structures also existed on Louisiana plantations (Goodwin et. al. 1985:43). The most common method of cane juice clarification and evaporation was the open pan method. This method used a set of four kettles of decreasing size called, respectively, the grande, the flambeau, the syrup, and the battery. The kettles were set into a masonry structure usually about 9.1 m (30 ft) long and 2.1 m (7 ft) wide, within which was a furnace and a flue for conveying heat to the kettles. The furnace was located under the battery, and an ash pit would have been located outside of the sugar house, adjacent to that structure.

Both coal and wood were used to fuel the furnaces. The flue, positioned at the opposite end of the kettle set, would have turned at right angle to the set and passed to the outside of the sugar house, where it connected to the chimney (Sitterson 1953:141).

Furnishings on plantations often were simple, but usually a house contained a large number of chairs for entertaining large groups (De Grummond 1949:29-33). F. D. Richardson, the builder of Bayside Plantation, provided a description of an elaborate gathering at Nicolas Loisel's plantation (just a few miles below the Segura Staging area) ca. 1836. He wrote:

The feast began in earnest with their far-famed Creole dish, not national, but state sovereign, gumbo, of African descent. I did not count the courses, they were "distinct as the bellows, yet one as the sea," and each bellow was enough to drown a common appetite (Richardson 1886).

The nascent sugar aristocracy was divided, however, into distinct Creole and American groups:

Very few of the Creoles of that day spoke English, or spoke it very imperfectly, which was no doubt the main cause of the little social intercourse there was between them and their American neighbors, planters of the same social position who settled among them (Richardson 1886).

The leading Creole planters along the Teche were Major Charles Olivier, M. DelaHoussaye, Mr. Malus, Nicholas Loisel, St. Marc Darby, Dr. Solange Sorrel (who later was murdered by his slaves), Frederic Pellerin, and Charles Pecot. American planters of similar social and economic standing included Thomas H. Thompson, Colonel J. G. Richardson, Judge Moore, D. Bonin, J. W. Jeanerette and William Weeks (Cayton 1881:85-87; Richardson 1886). Thus, by the late 1830s, sugar agriculture had created a plantocracy along the banks of Bayou Teche that was similar to the society along the Mississippi River (Figure 18).

There were 613 ha (1,515 ac) in cane cultivation in St. Mary Parish in 1824; during that year, the crop yielded 1,586 hogsheads of sugar, and it was worked by 644 slaves. One year later, 204 ha (504 ac) were added to the total acreage planted, with a harvest of 2,254 hogsheads. By

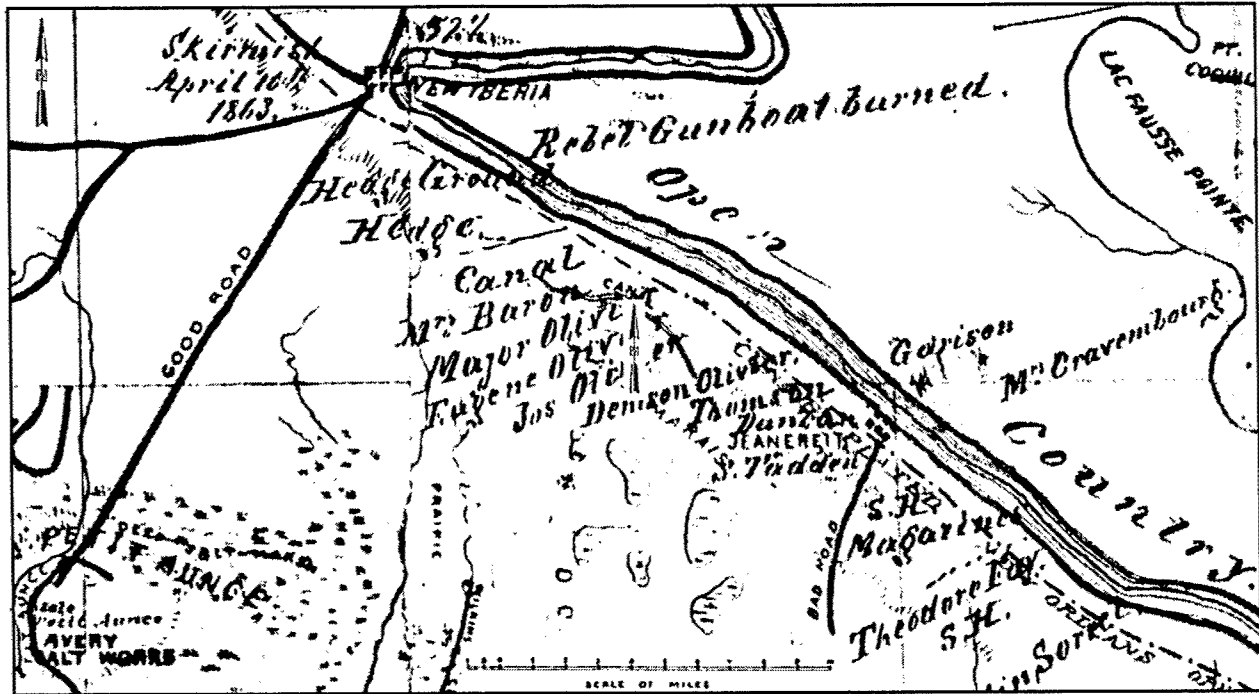


Figure 18. [1863] Adaptation From Abbot's Department Of The Gulf, Map No. 8, Atchafalaya Basin, Prepared By Order Of Maj. Gen. N. P. Banks. Excerpt Depicts Plantation Owners Downstream Of New Iberia, As Well As Petite Anse Island And Camp Bisland.

1828, there were 74 sugar producers in St. Mary Parish, harvesting a total crop of 4,528 hogsheads (Broussard and Broussard 1955:3; Degelos 1892:67).

Although not as prosperous as St. Mary Parish, adjacent St. Martin Parish also experienced growth in sugar agriculture during the antebellum years. In 1828, there were 19 sugar producers in St. Martin Parish, with a total sugar crop of 1,684 hogsheads. Just one year later, the parish counted 46 sugar producers; however, there was a drop in yield to 1,486 hogsheads. Although most of these St. Martin Parish planters held plantations along Bayou Teche, three men, David Weeks, John C. Marsh, and John Hayes, began to develop Weeks and Avery Islands, two of the south Louisiana "salt islands," positioned just west of the proposed project area (Degelos 1892:67).

St. Mary Parish led the state in cane production during the 1850s. During that decade, however, two harvests (1853 and 1857) suffered from adverse weather conditions: in 1853, the parish crops were affected by the continuing conse-

quences of a severe freeze and snowfall, and a few years later, an August 1856 hurricane disrupted parish sugar production for 1857. St. Mary Parish rebounded the following season, though, when planters produced 44,634 hogsheads of sugar (Broussard and Broussard 1955:11; Champomier 1857:v-vii; De Grummond 1949:37, 43).

The slave population in St. Mary Parish was an indicator of the dominance of the plantation economy throughout the region. During the decade of the 1850s, the population of the parish grew from 13,697 inhabitants in 1850, to 16,816 in 1860, an increase of 3,119 people, only 85 of whom were white. The rest of the parish growth came from additional slaves; in 1850, the slave population had numbered 9,850. By 1860, it had risen to 13,057. The white population remained stable, numbering 3,423 in 1850 and 3,508 in 1860. Only the free black population declined during this period, from 424 in 1850 to 251 in 1860 (Broussard and Broussard 1955:4).

As a result of the increase in slave labor, and the shift in slave control under the American gov-

ernment, slave communities underwent dramatic changes during the antebellum period. As plantations grew in size, slave communities expanded. By early in the nineteenth century, the slave population held a significant majority in St. Mary Parish. Planters increased slave control, dispensing harsher punishments for smaller infractions. Louisiana, along with most other Southern states, passed laws prohibiting private manumissions and slave education. Fewer slaves were allowed to develop artisanal skills, and even fewer were permitted to travel freely, as deVaugine's charge "Big Louis" had done just a few years earlier.

On the eve of the Civil War, the majority of the planters in the region had converted their sugar houses from horse to steam power (De Grummond 1949:44), and harvests were measured in hogsheads. The contemporary chronicler of the sugar crop, Champomier, wrote in 1857 that "it is well known that our planters do not make hogsheads of the same size, and there is a wide margin in some of them"; nevertheless, he estimated the average hogshead contained 1,150 pounds of sugar (Champomier 1857:43).

Just before the war, the proposed project area was dedicated entirely to sugar planting. The Segura Staging Area was included in the Olivier family holdings, which included Orange Grove Plantation. Other well known Bayou Teche planters included St. Marc Darby, Jonas Marsh, the Deblanc/Delacroix complex, and the Hawthorne Plantation, owned by S. O. Nelson (Bergerie 1962:24-47; Champomier 1844-1860; Glass 1898:18; La Tourrette 1845, 1853; unidentified surveyor ca. Civil War).

Riverine Transportation

Throughout the antebellum period, riverine transportation formed the primary means of travel throughout the Attakapas region, including the project area. The use of numerous lakes and bayous impeded development of overland routes between the district and the Mississippi River. While local traffic utilized a public road that followed the west bank of Bayou Teche (Conrad 1979), travel and commerce over long distances was dependent on the successful navigation of Bayou Teche.

During the early nineteenth century, commerce in the Attakapas region was focused on the production of beef, vegetable, and agricultural

products, and on the distribution of these goods to New Orleans. Many of these products required rapid transportation to prevent spoilage during shipment. In response to this transportation need, commercial vessel routes between the district and New Orleans, via the Teche and the Mississippi River, were established beginning in the late 1810s. These routes initially extended from Bayou Teche, through the Atchafalaya Basin and Bayou Plaquemine, to the Mississippi River. Various steamers, including the 217-ton cattleboat, the *Volcano*, and the 48-ton *Louisville*, were used to transport agricultural commodities produced along the Teche. By the 1840s and 1850s, such steamboats as the *St. Helena*, the *Kentucky*, the *St. Mary*, the *Judge*, the *McLean*, and the *Billow* traveled frequently along the Teche (Goodwin et al. 1985). However, low water levels generally made them impassible during the summer and fall months. A few vessels, such as the *Teche*, transported goods to New Orleans via the Gulf of Mexico, although numerous snags along lower Bayou Teche hindered navigation to the Gulf, resulting in high operational costs (Brasseaux 1979).

Despite these problems, as early as the Cathcart and Landreth expedition in 1819, the schooner *James Lawrence* made regular trips from New Orleans, along Bayou Teche, as far upstream as New Iberia. By 1821, the Attakapas Steam Boat Company had constructed the 295-ton steamer, the *Teche*, and monopolized steam navigation on the bayou. However, high operating expenses and frequent snags led to that firm's failure in 1825 (Conrad 1979:211; Goodwin et al. 1985). Increased agricultural production required improved transportation, however, and in 1825, 40 planters donated \$1,200.00 each to clear Bayou Teche for steamboat navigation between St. Martinville and New Iberia, thereby extending the route further upstream, as well as to keep the lower Teche route navigable (Goodwin et al. 1985:41).

The completion of the New Orleans, Opelousas, and Great Western Railroad Company spurred riverine commerce and travel along Bayou Teche in 1857. The railroad ran between Algiers, situated across the Mississippi River from New Orleans, and Brashear City (modern-day Morgan City), located at the mouth of the Atchafalaya River. This 129 km (80 mi) long rail link with New Orleans permitted rapid, reliable

transportation of passengers and cargo from the plantations along the Teche to New Orleans on a year-round basis. This resulted in a considerable increase in the volume of cargo carried by steamers along Bayou Teche to the railroad depot in Brashear City. The rail link proved so successful, that during the same year, 45 prominent St. Mary Parish planters and merchants petitioned the general assembly to erect a dam across Bayou Plaquemine to inhibit flooding of the new tracks (Brasseaux 1979; Millet 1983).

Establishment of the Avery Island Salt Mine

Ironically, other than sugar, the only major commodity in this region was salt. Avery Island is part of southern Louisiana's "Five Islands," a chain of coastal salt domes roughly paralleling the west bank of Bayou Teche, some 13 to 19 km (8 to 12 mi) below the waterway. In descending order, these land formations are known today as Jefferson Island, Avery Island, Weeks Island, Côte Blanche, and Belle Isle. The upper three "islands" are located in present-day Iberia Parish; the southeastern two can be found in St. Mary Parish. Avery Island was the only one of the five "islands" to commercially produce salt during the nineteenth century (Chisholm 1952; Hansen 1971:8-9). Salt was a crucial preservative used throughout the eighteenth and nineteenth centuries, to prepare meats and fish. With no means of refrigeration to extend the viability of these staple foods, curing meat with salt was the only option. As such, it was a very desirable and valuable commodity.

During the antebellum period, Avery Island was known as Petite Anse Island, and it probably was named for Bayou Petite Anse (meaning, literally "small cove" or "small bay"), which ran southwestward to Vermilion Bay. It should be noted that Petite Anse Island was called various names, including Thomas Island, Salt Island, and Marsh, or Marsh's, Island, until it finally became known commonly as Avery Island. Early settlers on the island included John Hayes, Jesse McCaul, and John Craig Marsh, all of whom arrived there during the Spanish colonial period. Not only was Marsh the man who made the first serious efforts at salt extraction, but he also was the progenitor of the family that remains associated with Avery Island to the pre-

sent day (Chisholm 1952:175; Hansen 1971:428; Lonn 1933:32).

Brine springs had been discovered on Petite Anse Island during the previous century, ca. 1790 – 1791, by early settler John Hayes (Native American use of the springs apparently ended prior to historic discovery). Salt production first began at Petite Anse strictly as a household operation, i.e., buckets of briny water were boiled down for the salt residue. During the War of 1812, property holder John Marsh constructed a salt extraction plant near the springs (for U.S. military supply); however, it never was exploited fully and was shut down shortly thereafter. The outbreak of the Civil War motivated subsequent landowner Judge Daniel D. Avery (son-in-law of John Marsh) to revive the salt operation to help support the Confederate cause (Chisholm 1952:176-179; Lonn 1933:32-33; Meek and Guldedge 1986:4; Raphael 1976:54-55).

The Civil War

In late 1862, war descended on the Bayou Teche region, bringing disruption and death to families, turmoil to fields, and devastation to homes, crops, sugar houses, plantation outbuildings, bridges, and vessels. The Teche Campaign, undertaken during the spring of 1863, was planned as part of the Federal strategy to split the Confederacy by gaining control of the lower Mississippi River. Union command of the western tributaries of the Mississippi River was considered necessary to the success of this objective. In addition, Federal occupation of the Teche country would help terminate the southwestern Louisiana supply line connecting Texas and the Attakapas region to Confederate forces east of the Mississippi River. Due to its proximity to the Avery Salt Works on Petite Anse Island, New Iberia was important strategically to both Confederate and Union forces. The Confederate gunboat *Stevens* (formerly called the *Hart*) was burned and scuttled 3 km (2 mi) below New Iberia (just upstream from the Segura Staging Area) in order to obstruct Union passage up Bayou Teche; however, both the town and the salt mine fell to Federal troops during April of 1863, cutting off an important supply of salt, and therefore meat, to the Confederacy (Davis 1971:256-257; Raphael 1976; Winters 1963).

The Battle of Bisland or Bethel's Place

The Confederates had established a position known as Camp Bisland on Bayou Teche, downstream of the current project area, just outside of Franklin, Louisiana. The camp was located on a plantation owned by Dr. Thomas Bisland and on Ricohoc Plantation, owned by William T. Palfrey. When a Federal force led by General Nathaniel Banks began an invasion up the Teche, the Confederates and Federals clashed primarily on the Bethel plantations.

According to a military historian, the Confederates had built:

between Pattersonville and Centreville . . . a line of simple breastworks across the narrow necks of dry land which extended on both sides of the Teche. Impenetrable cypress swamps and canebrakes flanked the short line on either extremity, and a strong redoubt served each side as an observation and command post. Along the Teche, which ran through the right center of the Confederate line, fields of knee-high sugar cane, laced with deep drainage ditches, stretched on either side back to the swamps (Winters 1963:223-224).

The battle, which took place on April 13, 1862, consisted of a powerful artillery duel combined with short forward infantry movements. When heavy fog lifted at 10 a.m., Federal infantry advanced on Confederate positions along both banks of the bayou.

On the right bank, the 75th New York and the 114th New York infantries moved to the far left in an attempt to flank the Confederate right. The New York troops twice tried to break through the Confederate lines but each time they were held in check. At 3 p.m., the Confederates positioned along the right bank began a counter-attack. Startling the enemy with rebel yells, General H. H. Sibley and the Texas Brigade attempted a flanking movement through the canebrake. The Texans fought the New Yorkers in the soft swampland. Unable to see each other or strike directly, each side fired in the general direction of its enemy, without producing significant results. By nightfall, the Federals were preparing for a general assault along the entire Confederate works along the right bank. Nevertheless, for strategic reasons, the Confederates that evening withdrew quietly and effectively from

all their positions before Camp Bisland, on both the right and left banks. The Federals realized, too late to pursue, that the enemy had abandoned the breastworks (Winters 1963:223-226).

Military Engagements Along the Bayou Teche During the Civil War

Because New Orleans was the south's largest city, and the controlling port of the Mississippi River, it, and regions that supplied it, became targets of Union assault. New Orleans was occupied by Federal troops in April, 1862.

In the Fall of 1862, Union forces attacked Confederate troop concentrations in western Louisiana. Brashear City (Morgan City) was occupied in early November, 1862, and it became the base of operations for Federal forces in the Bayou Teche region. Franklin was used as the staging area for the three Union offensives (April 1863, October 1863, and March 1864).

In early 1863, federal troops, under General Grover, were transported by steamers up Grand Lake to a landing near Irish Bend. They were instructed to march to Bayou Teche, seize the plantation bridges across the bayou and then advance to Franklin. One of Grover's vessels, the *Arizona*, ran aground at Cypress Pass (Raphael 1976:103). The Union drive at Irish Bend had been arrested, and Rebel troops withdrew toward Franklin while the Confederate gunboat *Diana* provided covering fire. The withdrawal of the Confederate Army from Irish Bend in April, 1863, resulted in the loss of the remaining Confederate vessels on Bayou Teche: the gunboat *Diana* was blown up along with eight other vessels that were burned or scuttled (Raphael 1976:117) (Figure 19).

Military engagements during the Civil War in the Bayou country, after the fall of New Orleans in May 1862, left the banks and channel of the Teche strewn with wrecks. The consequences of war left the Teche hampered with obstructions that impeded trade, transportation, and communication through the main water artery throughout the region. After the war, the U.S. Army Corps of Engineers was assigned the task of reopening Bayou Teche (Wilby 1991:1).

The Teche Campaign and the Federal Destruction of the Avery Salt Works

The Teche Campaign had a significant effect on the area around New Iberia. Several

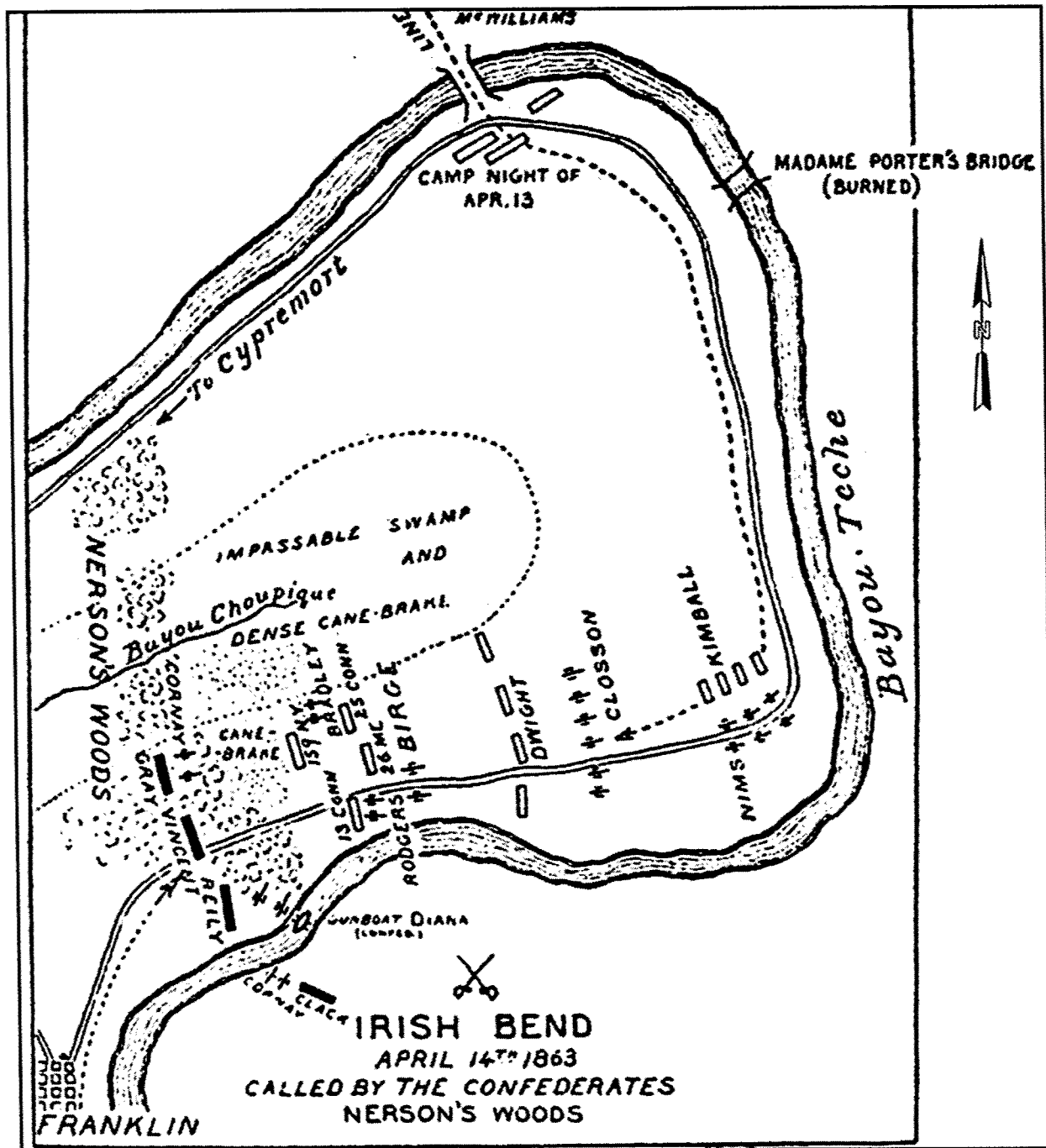


Figure 19. Excerpt from Irwin's 1893 map *Irish Bend*, in Raphael's *The Battle in the Bayou Country*.

skirmishes took place just outside the town limits, as both sides scrambled for additional rations and provisions. The city housed a packing plant, which cured meat for the Confederate troops. In addition, Governor Thomas Moore opened a workshop where workers tanned leather, made harnesses and built cartridges and wagons. Confederate General Taylor established Camp Pratt in the town, and he immediately enforced the Conscription Act, drafting all men from 18 to 35. The stronghold did not last long. New Iberia fell to the Federals in early April, 1863. They placed over 150 residents under arrest, holding them in the Episcopal Church before moving them to Franklin (Figure 20). Supposedly, the scuff marks can still be seen on the old pews from the Union horse hooves. Union troops used the town as their headquarters for the campaign to destroy the Avery Salt Works (Bergerie 1962:20-21).

Salt was of primary importance to the Confederacy; although used as a seasoning and a chemical agent, it also was vital for preserving meat, maintaining healthy livestock, and tanning leather. With the fall of New Orleans and the coastal blockade of Louisiana, the South lost its chief port for salt shipped from its major supplier, England (Lonn 1933:13-18; Raphael 1976:54). Southerners became so desperate for a meat preservative that "They were collecting salt by going into smokehouses and taking the drippings from the sides of pig and beef, using the dirt that absorbed those drippings and mixing it with water to put on the meat" (Schweid 1980:60).

The outbreak of the Civil War motivated Petite Anse Island landowner Judge Daniel D. Avery to revive the salt operation to support the Confederates. On May 4, 1862, slaves on the Avery plantation discovered an enormous vein of rock salt, the first such discovery in the continental United States. Judge Avery accelerated the development of the mine and he contracted with various Southern states to provide them with salt. The Avery Salt Works produced an estimated 22,000,000 pounds of salt for the Confederacy between May of 1862 and mid-April of 1863 (Chisholm 1952:176-179; Lonn 1933:32-33; Meek and Gullledge 1986:4; Raphael 1976:54-55; Winters 1963:232).

A Confederate report dated November 9, 1862, noted that defensive measures should be taken regarding "the rich district bordering on the Teche, including the salt mines on Marsh Island, of incalculable value to the Confederacy" (U.S. Secretary of War [OR] 1886:15:175). The Federal command soon realized the importance of the Avery Salt Works to the Confederacy and it set about employing measures, first, to stop the salt shipments and, second, to end the salt-processing operations altogether. Although the Union blockade initially was a hindrance to salt transports from Petite Anse Island, Confederate forces quickly found a "back door" to their strongholds. From Bayou Teche, the salt shipments were conveyed to the Atchafalaya River, then over land to Alexandria and to the Red River, where they were loaded on steamboats for transport to the Mississippi River and on to Port Hudson, Vicksburg, and other Southern-held ports. In anticipation of a Union attack, two infantry companies and an artillery unit were placed both on Petite Anse Island and on Bayou Teche (Chisholm 1952:179; Hansen 1971:428; Lonn 1933:34; Raphael 1976:55-56).

In mid-November 1862, General Benjamin Butler, in charge of Federal troops in Louisiana, ordered the destruction of the Avery Salt Works. As a result, two Union gunboats and a transport steamer approached Petite Anse Island from the Gulf of Mexico, through Vermilion Bay, and up Bayou Petite Anse (Figure 21). As soon as news of the Federal naval movement was reported, Confederate forces were dispatched from Camp Bisland on Bayou Teche to intercept the Federals. On November 21, Captain T. A. Faries and his Louisiana Artillery engaged the enemy at the lower end of Petite Anse Island, within sight (but out of howitzer range) of the gunboats positioned at the mouth of the bayou. The Federal forces retreated to their vessels and returned via their previous route. While the wind had aided their approach to Petite Anse Island, it worked against them during their retreat, creating a low tide that grounded the three boats for 15 to 20 days (Hansen 1971:428; OR 1886:15:1088; Raphael 1976:60-61).

Federal forces at last succeeded in destroying the Avery Salt Works on April 18, 1863. Colonel William K. Kimball arrived early that

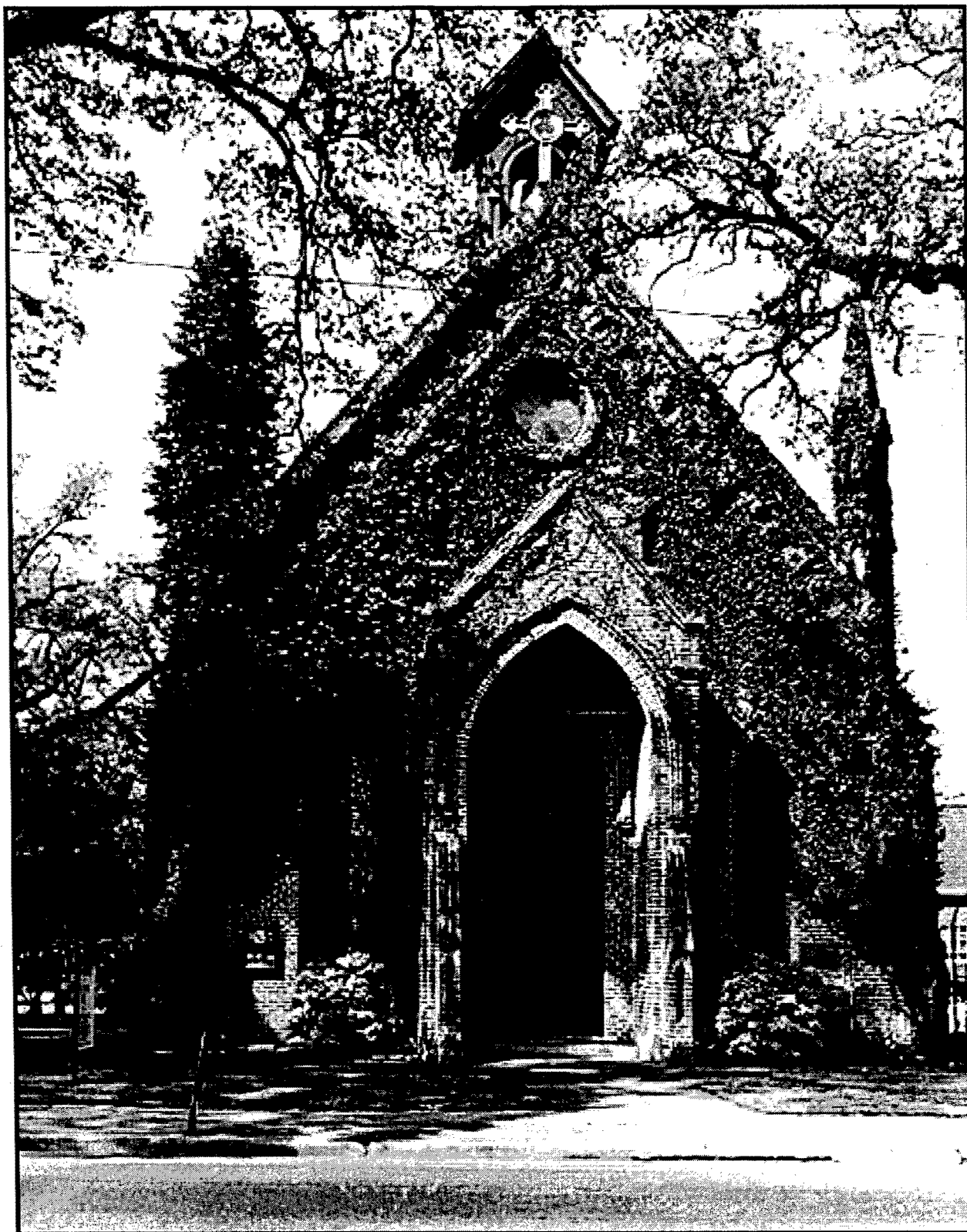


Figure 20. Modern Picture of the Episcopal Church of the Epiphany, used by Union Troops as a Prison During the Federal Occupation of New Iberia. From The Louisiana National Register of Historic Places, www.crt.state.la.us.

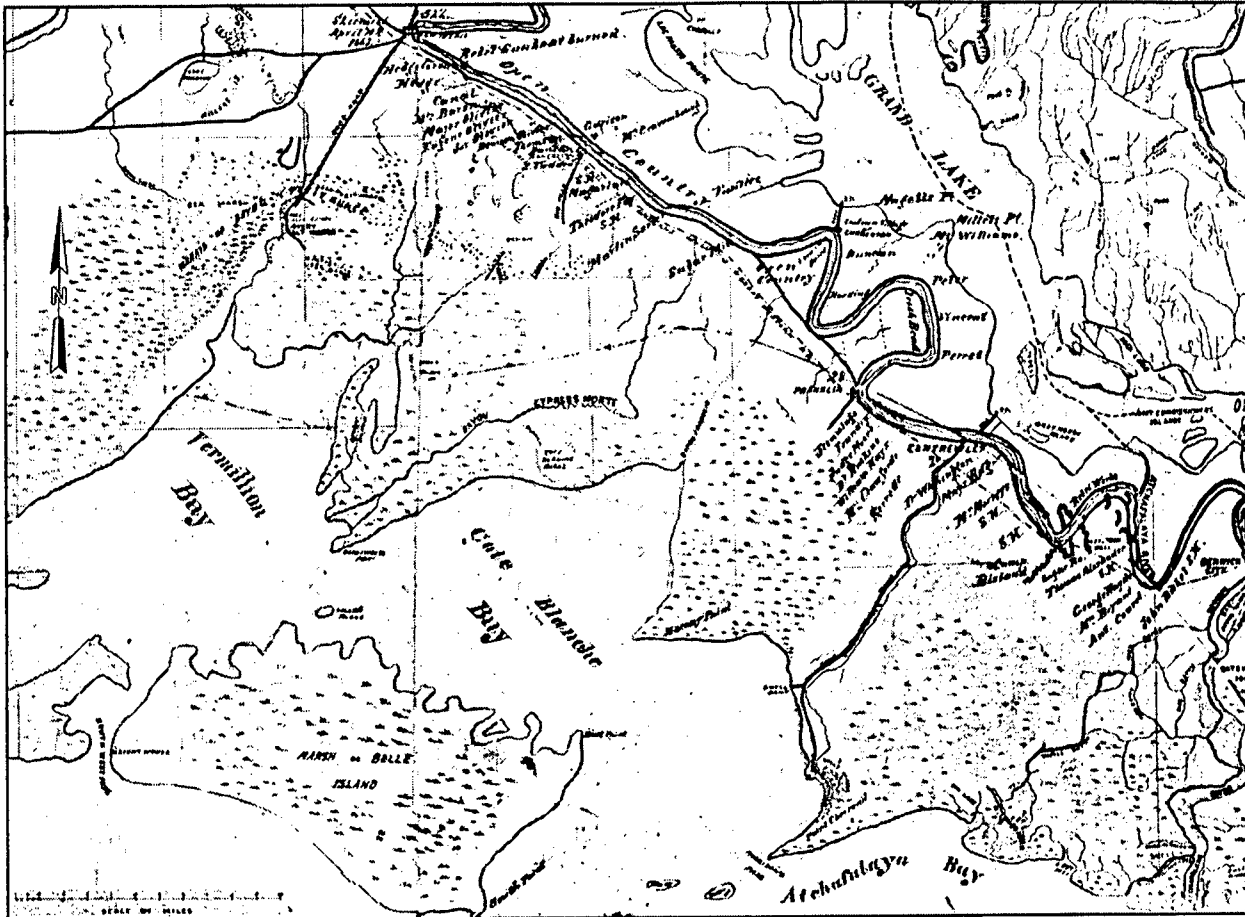


Figure 21. Adaptation From Abbot's Department Of The Gulf, Map No. 8, Atchafalaya Basin, Prepared By Order Of Maj. Gen. N. P. Banks. Excerpt Depicts Location Of Petite Anse Island And Camp Bisland.

morning with his New England troops to discover that the Confederates had abandoned the facility (Raphael 1976:137; Winters 1963:232). In his report, Colonel Kimball described the scene as follows:

I . . . found the enemy had evacuated his works and removed his guns. I proceeded at once to destroy all the buildings, 18 in number, connected with the saltworks, steam-engines, windlasses, boilers, mining implements, and machinery of all kinds; also 600 barrels of salt, ready for shipment. About one ton of powder and one ton of nails, found in the magazine, I caused to be transported to New Iberia . . . The bomb-proof magazine connected with the fortification I caused to be blown up and the works de-

stroyed, so far as they could be with the means at my command (OR 1886:15:382).

As the structures went up in flames, the Federals flooded the salt mine and ruined the Avery sugar plantation and grounds (Meek and Gullledge 1986:4; Schweid 1980:60). Following the destruction of the Avery Salt Works, the vicinity of the current project area remained relatively quiet through the end of the Civil War.

Commerce Along the Bayou Teche

The towns of New Iberia, Jeanerette, and Franklin were the principal merchant centers on Bayou Teche, which handled all commerce in the area, in part related to the plantations along

the banks. In a discussion pertaining to the commercial value of the Teche, Major Stickney wrote:

The commerce of the Teche is considerable, and is probably greater than that of any stream of the same length in Louisiana. The lands bordering the bayou are very rich and are all under cultivation, principally in sugar cane. It may be said to be the center of the sugar industry of the State. Cotton, cattle, hides, wool, moss, lumber, &c., are also produced in quantities. The trade supports a line of steamers which make regular trips to New Orleans about three times in two weeks, besides steamers which make daily trips to Morgan City and other small steamers in local trade (ARCE 1884:1273).

In 1899, 273,000 tons were carried to and from market along the Teche. By 1909 shipments exported and received totaled 999,125 tons. The largest item of commerce were logs which made up three-quarters of the total shipments. By 1912, a boat and barge line, the Plaquemine route, already was established between New Iberia and New Orleans, which shipped cotton, cottonseed products, rice, sugar, sugar cane, cord wood, brick, machinery, shingles, potatoes, crossties, and molasses from points produced along the Teche. As stated previously, there were numerous sawmills operating along the Teche, as well as sugar plantations and sugar factories. Almost the entire tonnage of sugar being grown along the banks of the Teche was cultivated within 1.6 km (1mi) of the bayou. Goods received from outside of the area included machinery, fertilizers, cooperage, coal, fuel oil, cane, logs, lime, cement, gravel, sand, corn, oats, ground feed, and brick (U.S. Congress 1913:6-8,12).

At the turn of the century, the commerce of the Teche was transported principally along the 87 km (54 mi) below New Iberia, primarily by stern-wheel steamboats and barges. In 1909, the number was 32 steamboats and 89 barges. Other vessels included gasoline boats that carried small cargoes of oysters, fish, and the like that made many short term jaunts (U.S. Congress 1913:12).

Commercial activity along Bayou Teche before the Civil War was dominated by plantation agriculture and by bayou traffic and trade.

Franklin, situated a few miles south of the proposed project corridor, became a major port of sugar export as shipping along Bayou Teche took on major economic importance. The town also served as a distribution center for goods entering the region. From 1847 to 1853 sugar shipments from Franklin increased three-fold and molasses five-fold. New York, Richmond, and Baltimore became the three top importers of goods originating from St. Mary Parish (De Grummond 1949:53-54).

Significant increases in trade, brought in by ship, occurred during the early 1850s. A total of 71 domestic and 9 foreign vessels landed in Franklin in 1847. Approximately five years later, 24 foreign and 98 domestic ships imported goods into Franklin. Steamboat navigation between Franklin and New Orleans, however, frequently was troublesome and irregular, due to problems encountered by the vessels during low water, currents that were too swift, or floods (Thorpe 1853:766). Franklin continued to grow during the final decade before the Civil War, which was a boom time for the region.

Surveying the Bayou Teche

The importance of Bayou Teche had been realized as early as 1829. That year, the first piece of legislation, under the Rivers and Harbors Act of March 2, 1829, provided authorization for a study to examine the feasibility of improving and shortening navigation of the channel. That survey was completed. Subsequent legislation in May 1870 approved a survey assessing the cost of removing obstructions to navigation within the Teche (Athens and Saltus 1991) (Figure 22).

This assessment was conducted under the direction of Major C. W. Howell of the United States Army Corps. In a letter from Howell, dated January 22, 1870, to his superior Brigadier General A. A. Humphreys, Howell mentions a printed sketch in existence in Louisiana (possibly the one produced in 1868 by Captain E. B. Trinidad) that showed the location of obstructions in Bayou Teche, with explanatory notes. The sketch was being used in order to argue for appropriations from the State of Louisiana, which was in session at that time, to be used for improvements to the Teche. Howell also quotes a couple of eye-witnesses to the condition of navigability of the Teche. Their testimonies

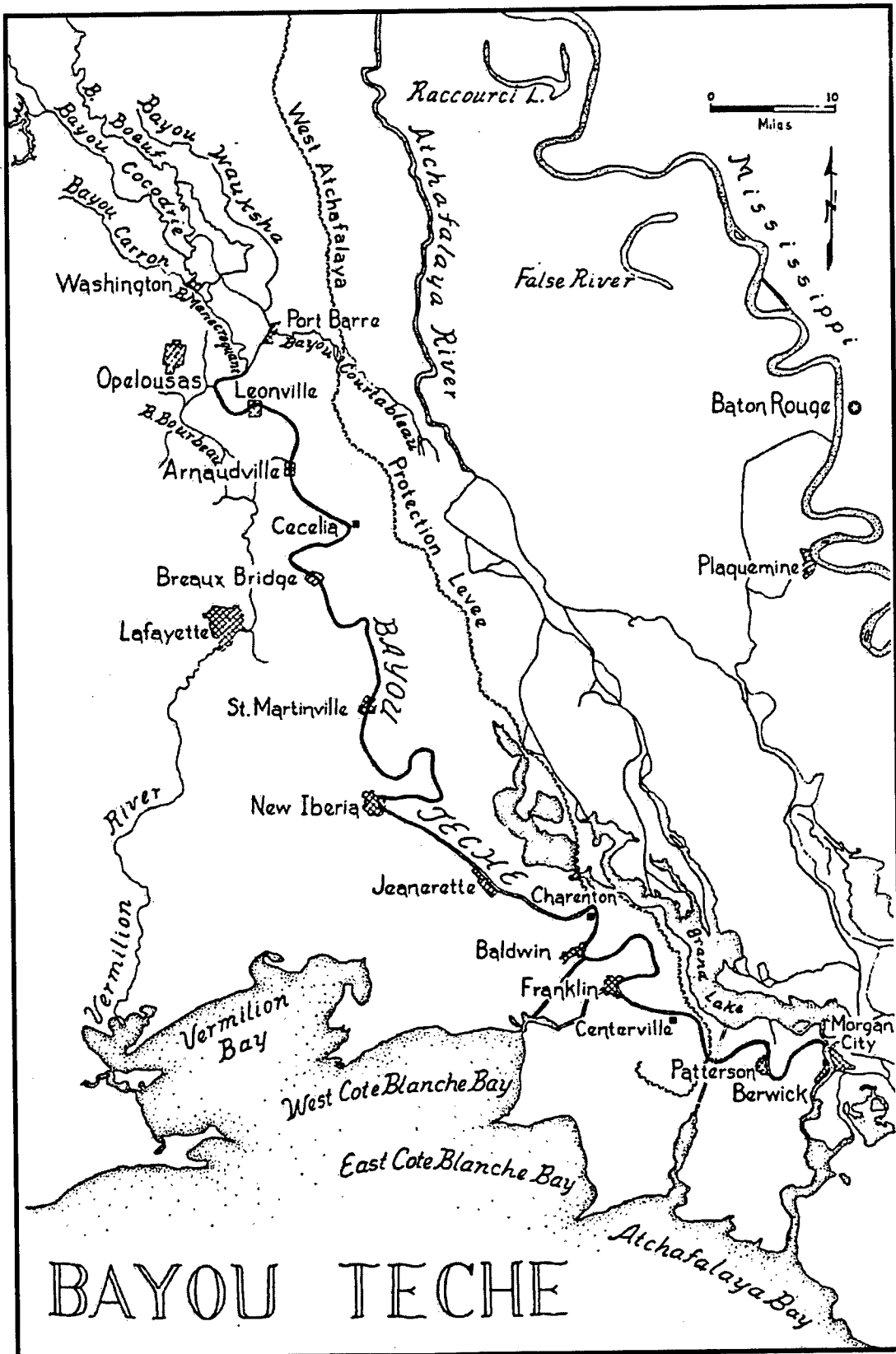


Figure 22. Map of Bayou Teche and Surrounding Localities, from Davis's *The Rivers and Bayous of Louisiana* (Davis 1968).

were contradictory as to the severity of obstructions found there. Howell, therefore, decided that a survey was needed to ascertain the true condition of obstructions in the Bayou Teche (U.S. Corps of Engineers RG77, Entry H720, January 29, 1870).

Mr. W. D. Duke, a civil engineer from St. Martinsville, and two assistants completed this assessment. During survey, the field party identified two classes of obstructions: (1) obstructions located in the bed of the bayou, including wrecks, snags, piles, and sunken logs and, (2) obstructions located on the banks of the bayou, including overhanging trees, projecting logs, and overhanging undergrowth (ARCE 1870:348). Directly across from the Segura Staging Area, the wrecks of the *Rob Roy* and the *Minerva* were identified and removed.

Postbellum Era

The years following the end of the Civil War were difficult for southern Louisiana. The economy throughout the state had been destroyed; plantations and farms, railroads and levees, businesses and homes all had been affected by the war, both physically and financially. The emancipation of slaves, which accompanied Federal victory, not only destroyed the plantation labor system, but it also eliminated the millions of dollars planters in the region had invested in human bondage. According to one authority, abolition swept away one-third of Louisiana's wealth (Winters 1963:428). The postbellum period proved to be an era of recovery for the entire state.

The political boundaries of the current project area changed in 1868, when Iberia Parish was created from portions of southern St. Martin and western St. Mary Parishes. As early as 1848, legislative measures and surveys were taken to organize this new parish. The groundwork was not completed before the Civil War, which, of course, further delayed the process. Finally, on October 30, 1868, the Louisiana State Legislature approved the establishment of Iberia Parish (Bergerie 1962:22-23; Pourciaux 1985:6).

The period immediately after the close of the war was one of tremendous political and social unrest. Violence against freedmen erupted throughout the state. Even the pro-Union politicians, who had occupied Louisiana until the end

of the war, were opposed to African American suffrage. Consequently, at the end of the War, freedmen still did not have the right to vote. When pro-Union politicians lost control of the state at the end of the Civil War, the extension of suffrage to African Americans became a Republican cause, partially as a means to regain power. A state constitutional convention for this purpose was called in July, 1866, in New Orleans. The session never opened, however, because of a lack of a quorum. During the delay, a riot broke out between freedmen and the police. As a result, 3 white Republicans and 34 African Americans were killed and 136 reconstructionists were wounded. This violence, one incident of many against African Americans, drew U.S. Congressional attention to the status of freedmen in the South. Congress acted to secure the civil and political rights for African Americans.

The first of the Military Reconstruction Acts passed Congress in early 1867. Louisiana and Texas were named the fifth military district, and they were placed under the command of General Philip Sheridan. The act permitted voter registration of only those adult males who could swear that they never had aided voluntarily and abetted the Confederacy. Because of the resultant disenfranchisement of most Confederate sympathizers, and consequently most Louisiana voters, Democratic victory in the 1868 presidential election depended on keeping African American voters from exercising the franchise. This was of particular concern in St. Mary Parish, where newly enfranchised blacks outnumbered whites three to one. The infamous Knights of the White Camelia, which was listed officially as a subversive organization by the United States government, was organized in 1867 in Franklin, Louisiana (just downstream of the project area), primarily to keep freedmen away from the polls. Judge Alcibiades de Blanc served as the chairman of the group, which claimed to be a "strictly peaceful, law abiding and loyal order; as much so as Freemasons or Odd Fellows" (Brown 1970).

Despite this claim, however, the intent of the organization was similar to that of the Ku Klux Klan. They sought to intimidate African Americans away from the polls, out of newly-elected office and solidify white dominance through fear. To this end, councils formed rap-

idly all over Louisiana. By the end of the decade, there were 10 councils and 800 Knights of the White Camelia in St. Mary Parish alone. Members of these councils were armed, reportedly, "for the protection of white people against lawlessness and violence, riots and blood shed" (Brown 1970).

The Knights of the White Camelia also threatened white, Northern "carpetbaggers." Republican rule in parish government, often by these Northern immigrants, spurred further violence in St. Mary Parish. Locals directed tremendous hostility toward the Northerners, who were widely blamed for all racial tensions:

... the Negroes and white people of the parish would have been harmonious and friendly, had it not been for about a half a dozen carpetbaggers and scalawags who organized and stirred up hell in our midst (Brown 1970).

Daniel Dennet, a local journalist, suggested in 1869 that the "carpetbaggers" were responsible for all the problems of the area:

The white people and conservative Colored people have every reason to take courage, and work for the over-throw of the carpet-bagger, who, if elected, will overwhelm both planter and laborer in ruin. If we defeat them, we hope to see a good degree of peace, prosperity, and good feeling between the two races in this state. In no part of the world is the Colored race treated better or more kindly than in Louisiana. We want peace in this state, and we wish to give no encouragement to disturbers of the peace and mischief-makers of the carpet-bag persuasion (Brown 1970).

Notwithstanding this statement, and white popular belief, to the contrary, violence was frequent. Colonel Henry H. Pope, an African American from New York, settled in Franklin following the war, and he was elected sheriff in 1868. On October 18 of that very year, both Sheriff Pope and a newly-elected African American judge were murdered in the presence of Pope's family in O'Neill's Hotel in Franklin. The murderers were disguised, and the involvement of the Knights of the White Camelia could never be established.

Besides repairing the considerable physical damage to their holdings, sugar planters in the region who wished to resume operations had to deal for the first time with a labor supply that was not enslaved. Before labor could be hired, many obstacles had to be overcome, not the least of which was the complete lack of trust exhibited on both sides in the bargaining. Nevertheless, by 1869, planters in the area were hiring workers at \$15.00 to \$20.00 a month for first class hands, which included a rudimentary cabin, scant rations, and fire wood (Sitterson 1953:244). As might be expected, the cabins, originally slave quarters, were insubstantial structures. Down the Teche from New Iberia, William T. Palfrey hired a carpenter to build some structures at Ricohoc in the 1850s for \$25.00 each (Sitterson 1953:67).

The Civil War severely disrupted both the transportation system and the market for sugar. In 1869, when Bouchereau resumed the chronicle of the sugar crops that Champomier had written during the antebellum period, only a few plantations were operating along Bayou Teche. Several small planters in the Loreauville area switched from sugar to cotton cultivation. Not until the 1880s did the sugar growers of the Teche equal their output from the eve of the war. During these years, there was also a change in the old antebellum system whereby each plantation was designated a factory as well as a farm. The development of large processing plants made it uneconomical and unnecessary for each plantation to have its own sugar house. The Central Factory System evolved, virtually separating the cultivation of cane from the manufacturing of sugar. The renewed importance of the postbellum sugar industry to the region is reflected in the fact that a New Iberia newspaper of the period was called the *Louisiana Sugar Bowl* (Bergerie 1962:40-45; Bouchereau 1869-1876; Heitmann 1987).

Despite these changes to try to boost the productivity of the economically damaged plantations, the relationship between planters and slaves, now freedmen, had changed radically. Formerly successful planters had lost their cheap, abundant supply of labor and they were forced to pay workers in order to continue operations. In addition, despite their new status as freed persons, immediately following the war

most former slaves remained in the agricultural fields of the South, both to stay near families and due to lack of industrial skills. Thus, the tenant farming land tenure system was born (Aiken 1978).

Under this tenure system, tenant farmers supplied their labor for the production of crops, which in the case of southern Louisiana included sugar, rice, and, in some areas, indigo. Planters, now functioning in their new roles as landlords, provided the land, seed crops, farm implements, and sometimes dwellings. They also extended a line of credit, either in the form of cash or commodities, from an inflated plantation commissary or store to the tenant farmers. As payment for their labor, the tenant farmers received a portion of the crops, usually 50 percent or less. In some few cases, the landlord paid the tenant farmer in cash for his portion of the crop. The proceeds, however, were never enough to allow the tenant farmer to pay off the debt he had accrued at the plantation store. This was a cyclical pattern between the landlord and the tenant farmer and it insured that the labor supply would remain on the plantation, and that, in the long term, the plantation would remain solvent. Only the planter profited as a result of this relationship.

The 1890s and Beyond

While this system of production was fairly successful at the outset, some basic changes in agricultural techniques introduced during the early twentieth century led to its demise. These changes included the introduction of the tractor, the mechanization of the harvest, and improved weed control methods (Aiken 1978). The development of the tractor for use as an agricultural tool began during the nineteenth century; however, with the abundance of cheap labor, planters were at first reluctant to purchase expensive farm tractors. Over time, however, industrial employment in the North, combined with severe Jim Crow laws in the South, drew African Americans away from the fields and into the factories. As the labor supply dwindled, the use of tractors increased. The tractor provided a reliable source of power, and a larger scale of coverage (Aiken 1978).

In addition, several new methods mechanized the harvest of agricultural crops such as

sugar, rice, and cotton. While at first they were not very reliable or widespread, new machines to cull cotton, cut cane and gather rice were quickly adapted for use with the new farm tractors. The coupling of these two technologies mitigated investments in labor and reduced harvest times dramatically. The net effect of this new technology was a dramatic reduction in the numbers of tenant farmers need to sow, maintain, and harvest crops.

Significant advances in weed control were made during the early parts of the twentieth century. While weeding of crops previously had been done by hand, eventually new machines and herbicides became popular (Aiken 1978). Rotary hoes and weeders that could be attached to the tractor significantly reduced the time and labor needed to keep agricultural fields clear of weeds that so often choked crops and resulted in low productivity. In addition, major advances in chemistry aided in the development of several new herbicides that controlled weeds. Large scale weed control reduced planters' need for tenant labor and it also helped to boost crop productivity.

During the same period of centralization of the sugar factories, the lumber industry was beginning to develop along the Teche. Like the sugar industry, lumbering was assisted by an influx of northern capital:

... you got people looking at government surveys, and bam! It hits them right in the middle of the eye, look at the cypress, look at the timber, look at the lumber! And I'm sure we must have had a hell of a lot of influx of capital... like Williams and Patterson, or Hughes; Hughes is in Jeanerette. Hughes is not a native of Louisiana, he's some Yankee that saw a government survey. That damn timber was there for \$2.00 an acre, and he knew how to market it . . . (Goodwin et al. 1985).

Nineteenth century lumber mills, like the sugar factories, utilized steam engines for power, so the new lumber industry had need for individuals with knowledge of boilers, steam engines, and machinery maintenance. Larroque (Goodwin et al. 1985) believed that the skilled laborers who no longer could find employment in the sugar industry filled this need. This permitted rapid growth of the lumber industry, because the

labor base in the region was pre-adapted to its technology.

The sugar and the lumber industries also prompted other industrial development in the region. Both encouraged the growth of local foundries to manufacture processing machinery. The sugar industry, in particular, needed local suppliers of machinery parts, since the mill rollers wore out and they had to be replaced on a regular basis. Antoine Moresi, a native of Switzerland, settled on Bayou Teche late in the antebellum period and he operated a small blacksmith and machine shop, which repaired local sugar house equipment. By 1890, local demand for machinery and parts was so great that Moresi opened a foundry and machine shop that still is in operation today. Although the foundry initially was established to meet the needs of the sugar industry, similar machinery and parts were utilized by sawmills. Like the lumber industry, the foundry was able to draw on a pool of skilled personnel who already had familiarity with sugar processing machinery, helping to insure the success of this industry.

The postbellum sugar and lumber industries also encouraged the expansion of regional transportation systems, since their continued growth was dependent on the efficient transport of processed goods. The New Orleans, Opelousas, and Great Western Railroad had been completed as far as Morgan City prior to the Civil War. Morgan's Louisiana and Texas Railroad resumed westward expansion of this line in the late 1870s. By 1879, tracks for this line had been laid through Franklin, Jeanerette, and New Iberia. Regular freight and passenger service began in November of that year.

The speed and reliability of rail service eventually resulted in a decline in the importance of river travel. Fewer steamboats operated on the Teche after the completion of Morgan's Line through the region. Steamboats increasingly were utilized on a charter basis, delivering supplies to and receiving outgoing products from local plantations. Thus, the bayou functioned primarily as a short-distance transportation corridor during the late nineteenth and early twentieth centuries. As such, it provided an alternative shipping route to the local roads, facilitating the transport of agricultural products and

supplies between the plantations and factories of the centralized sugar industry.

All of these changes in farming methods and equipment led to a more streamlined plantation effort. Where once hundreds of workers were necessary for the successful operation of the plantation, now agricultural surpluses, and by extension profits, could be produced with fewer individuals. Consequently, the tenant farming land tenure system largely had collapsed by the end of the first half of the twentieth century.

By the turn of the century, further consolidation of farms and plantations had occurred in the project area, and the planting of cane had been separated from the manufacture of sugar (Figure 23). Shadyside, located at some distance downstream of the current study area along Bayou Teche, had emerged as a giant sugar processor. This firm controlled a series of plantations that in 1898 encompassed more than 2,023.5 ha (5,000 ac) of land, of which 1,214.1 ha (3,000 ac) were in cultivation. This acreage would increase during the twentieth century. A private tramway joined the different plantations; the railroad line used a locomotive and 60 cars to haul cane in the height of the harvesting season. At the Shadyside refinery, equipment included a Krajewski crusher, a six-roller mill, one 2.7 m (9 ft) and one 3.1 m (10 ft) vacuum pan, ten centrifugals, a 150,000 pound double effect, the Deeming system of clarification, and numerous pumps and boilers (Glass 1898:71). In 1902, Shadyside manufactured more than 9,000,000 pounds of sugar.

The Twentieth Century

The twentieth century was marked by major changes in the regional economy. Reliance on sugar cane agriculture decreased, while exploitation of mineral resources increased. Technological advances brought tremendous growth to the area salt mining operations, to the new petroleum industry, and even to sugar agriculture and refining. The Central Factory System now dominated the region, and it was quite successful; in 1874 Bouchereau remarked: "gradually the cultivation of cane and the manufacture of sugar from it are becoming separate and distinct industries. Men of means invest their capital in equipping first class factories furnished with all the modern im-

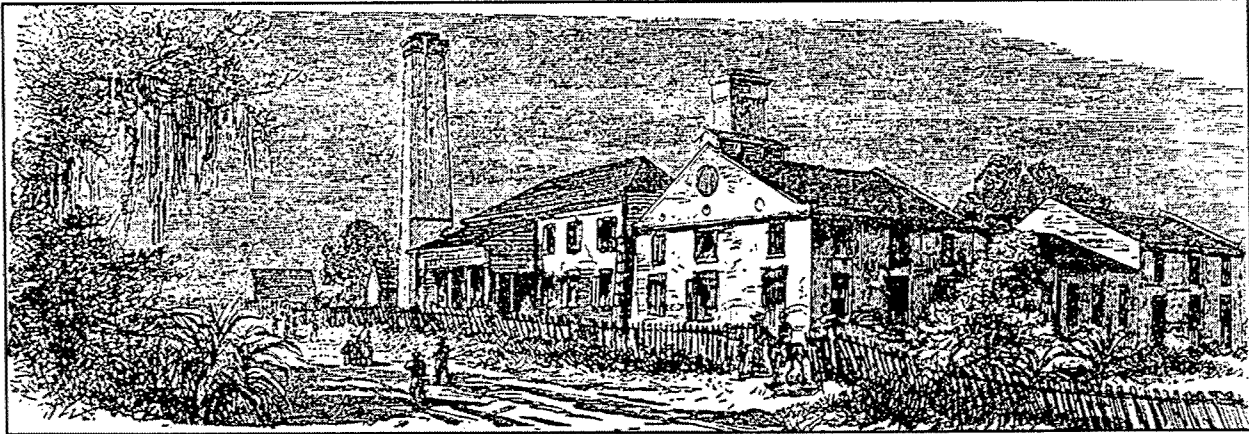


Figure 23. Harper's Weekly Sketch of Sugar Houses Along the Teche, ca. 1866. From Bergerie, *They All Tasted Bayou Water*.

provements that the genius of the inventor has produced; small planters pursue the cultivation on the general lines More sugar is now produced per acre than ever before" (Bouchereau 1874:xii-xiii).

A severe decline in sugar production occurred in the years after 1911, and in the 1920s, the sugar industry was confronted with extinction. Bad weather contributed to the troubles of the planter. In 1911, there were severe early frosts, and in 1912, floods damaged crops. Furthermore, plant disease, particularly mosaic, swept through the canefields with devastating effect. Another problem was the higher cost of labor, especially after the wartime economy offered better paying jobs to canefield workers. Prices for sugar were unusually low, and the new Democratic administration of Woodrow Wilson in Washington, passed a bill that abolished the tariff on sugar.

World War I brightened the outlook of sugar planters temporarily. Congress repealed the free sugar bill, and an international shortage raised sugar prices to their highest levels since 1889. Furthermore, in 1916, Louisiana planters produced a bountiful crop. Nevertheless, the federal government issued wartime controls that limited profits during the war.

After the removal of governmental controls, the sugar market entered a period of chaos. The expectation was that the price of sugar would rise on the world market. Instead, it collapsed and

caught planters, manufacturers, and bankers by surprise. Louisiana sugar planters and manufacturers entered the 1920s in a severe depression from which many of them would not recover. This economic decline increased the movement toward consolidation of sugar factories, but at the same time it brought about a countermovement in the breakup of large cane plantations. Some plantations were abandoned, while others were subdivided into smaller holdings (Sitterson 1953:343-360).

Despite the problems of the early twentieth century, sugar cane cultivation has remained an important part of the area economy. Along the Teche, several sugar and syrup factories, or refineries, have been important influences on the Iberia Parish economy during the twentieth century. Among these Bayou Teche facilities, active and inactive, are the Vida Sugar Factory, Cajun Sugar, the Iberia Sugar Cooperative, and the Orange Grove Factory (Bergerie 1962:75; Iberia Parish Development Board ca. 1948:18, 29-32, 132-147; Louisiana Planter & Sugar Manufacturer Co. 1924:92, 1929:47).

New Iberia grew with manufacturing after the turn of the century. In 1903, the town housed several factories: the Trainor & Sons sash and blind factory, the Bernard Wagon Factory, the Pharr lumber mill and planing factory, and the New Iberia Foundry and Machine Shop. Several sugar manufacturers, cotton gins, and rice mills

flanked the Teche, and the first oil company opened an office along the Southern Pacific Railroad line. The growing commercial center even supported an opera house. The population had grown to 12,000 people, with enough residential diversity to warrant an African American Baptist church (Figure 24) (Sanborn Maps 1903:index).

Lumbering was an important industry in Iberia Parish during the latter half of the nineteenth century. The Timber Act of 1879 opened the cypress swamps of the Atchafalaya Basin, including the northeastern section of the parish, for sale (Norgress 1947). The Timber Act allowed the sale of the remaining unclaimed cypress stands for as little as 12.5 cents per acre (Norgress 1947). Innovations in the cypress lumber industry during the late 1800s, such as the "overhead skidder," the "pull boat," the rotary saw, then the band saw, increased lumbering exploitation. The clearing of cypress stands in the basin between 1880 and 1920 progressed at a phenomenal rate (Gibson 1982). Lumber settlements, or mill towns, grew up near saw mill processing centers. "Portables" were communities established near harvest sites; they also were referred to as "skidder towns" (Roberts 1974). "Swampers" consisted of seasonal laborers who worked the temporary lumber camps of south Louisiana. The cypress industry, however, declined as rapidly as it developed. By the middle of the 1920s, the great cypress stands in the Atchafalaya Basin were being exhausted and the mills were forced to close (Roberts 1974). The cultural and ecological changes caused by the deforesting of the basin are still being felt. According to Comeaux (1978), the innovative swamper culture degenerated with the passage of the great lumbering era.

Another major twentieth century change occurred in the southern end of the parish. In 1911, Ned McIlhenny secured purchase options to over 30,353 ha (75,000 ac) of land on Marsh Island in order to establish a large wildlife refuge, primarily to protect wintering ducks and geese. Charles Ward helped McIlhenny with the property acquisitions, but the chief financial support came from New York philanthropist Mrs. Russell Sage. In 1916, Mrs. Sage transferred the title to most of Marsh Island to the Russell Sage Foundation. Following the death of Mrs. Sage in 1918,

her executors transferred the remainder of Marsh Island to the Russell Sage Foundation in 1920. The latter donated the Marsh Island property to the State of Louisiana in November of 1920, with restrictions governing its management and use, along with the stipulation that failure to adhere to the transfer agreement would result in the return of the land title to the Foundation.

By 1933, the Marsh Island Wild Life Refuge totaled 32,093 ha (79,300 ac), and it encompassed the entire island. Within the next decade, the acreage was renamed the Russell Sage Wildlife Preserve in honor of its chief benefactor. Today, the property contains approximately 33,185 ha (82,000 ac), predominantly brackish marsh, and it is known as the Russell Sage Foundation State Wildlife Refuge, or more commonly as the Marsh Island Wildlife Refuge (Glenn et al. 1947:1:267-270; Iberia Parish Library n.d.:20-21; Jones 1965:1, 5; LDC 1933:255, 257; 1943:93; LWLFC 1963:106). Since the early 1950s, oil and natural gas wells have harvested millions of gallons of energy from reserves found on Marsh and Avery Islands, currently employing as many workers as the Tabasco plant and salt works combined.

Modern petroleum exploration brought great changes to the physical landscape of Marsh Island, Avery Island, and Iberia Parish in general. By the early 1960s, flotation canals traversed the islands in order to facilitate the barge transport of oilfield equipment. In 1963, the Louisiana Wild Life and Fisheries Commission described this "most perplexing problem" presented by "the management of mineral operations . . . in a manner consistent with the wildlife preservation and development program" as follows:

Although seismograph operations have been relatively simple to handle, the prevention of damage to valuable wild-life marshes is difficult during the period that the mineral lessee begins development. The general approach used by most mineral operators along the Louisiana Coast in reaching drilling sites has been to dredge out a flotation canal some eight feet in depth and sixty to eighty feet in width and barge in the drilling rig and other heavy equipment. Such operations as this not only cause direct losses of many acres of marsh in the excavation of the canals, but also creates water management problems in-



Main Street, New Iberia, 1910



Main Street, New Iberia, 1961

Figure 24. Main Street, New Iberia, 1910 and 1961, Adapted from Bergerie, *They All Tasted Bayou Water*.

volving drainage of the marshes, increased tidal flow, and some rapid changes in water levels and salinities. This generally tends to reduce the quality of the marsh for wildlife by bringing about changes in vegetative types, particularly in the brackish areas (LWLFC 1963:176).

This problem continues to plague Louisiana today, especially in the coastal regions where oil is, once again, king. While less-damaging roads have been constructed to drilling sites in some coastal areas, water-bound wells, such as Avery Island and rigs in the Gulf of Mexico, generally are too isolated for that method of entry. State officials hoped to lessen the potential damage by "requiring the lessees to confine their access as much as possible to existing waterways. When it is necessary to cross a marsh area with a drilling rig it will be specified that the canal will be completely enclosed by means of a levee constructed from material dredged out of the access channel" (LWLFC 1963:176-177).

Although sporadic mineral exploration began in neighboring St. Martin and St. Mary Parishes during the late nineteenth century, it wasn't until the 1920s that major exploitation of Iberia Parish petroleum resources began. By the early 1960s, flotation canals traversed the marshlands to facilitate the barge transport of oilfield equipment, and New Iberia had become a center for petroleum industry suppliers. The oil boom brought a flood of new residents to the parish, and to New Iberia in particular. Along with the boom, came a shift in the economic focus of the parish. Oil dominated industrial concerns between the 1920s and the 1980s. In 1964, Iberia Parish produced over 11,500,000 barrels of oil. Today, several pipelines and petroleum facilities are located through or near the project area, above and below the town of New Iberia (Draughon et al. 1998:4; DTC Cartographic Services 1992; Hansen 1971:301-302). When the bottom fell out of the oil market in the late 1980s, the wildcatters moved to new jobs, again changing the demographic base of the parish.

Several new factories opened in the parish during the last half of the twentieth century, including the Jeanerette underwear mill and a vibrant ship building industry, Universal Fabricators. Morton Salt Company now mines the Avery

saltworks, although the Tabasco Hot Sauce Factory employs almost as many workers. According to the 1996 Census Bureau reports, over 71,000 residents live in Iberia Parish, roughly half in New Iberia. Parish-wide about 25,000 are part of the labor force. Over 5,000 residents work in industrial jobs, the largest employment category. Only 381 farms remain in the parish, most of them consist of very large cane cultivators, and only 985 Iberia Parish residents work on a farm (U.S. Census Bureau 1997).

Historic Context of Segura Staging Area

As noted above, the first settlers along the Teche were Spanish concessionaires and Acadian immigrants. Louis and Alexandre Dela-Houssaye, who owned several large land tracts on both sides of Bayou Teche, first claimed the land; however they apparently never settled upon it. Hugues Charles Honoré Olivier de Vezin purchased the riverside acreage from Dela-Houssaye soon after the Louisiana Purchase (1803), naming his new plantation Orange Grove after the native vegetation. Olivier was the eldest child of Pierre François Marie Olivier de Vezin, a French colonial official who came to Louisiana via the Acadian settlement of Trois Rivières in Canada. Hugues married Marie Madeleine Philippe de Marigny de Mandeville, and his son, Major Charles Honoré Olivier de Vezin developed Orange Grove into a large, profitable sugar plantation (Arthur 1931:411-413).

By 1819, John Landreth, an American traveler along Bayou Teche, proclaimed Orange Grove "the best House I have seen on the river since we left Franklin," approximately 40 km (25 mi) downstream (Gibson 1980:78). As the Civil War approached, noted artist Marie Adrien Persac painted a detailed watercolor of Orange Grove. At that time (1861), the plantation included a large, two and a half story main house, an attached *garçonnière*, a *pigeonnier*, a large overseer's house, and several other outbuildings, all situated along the south side of the bayou. In fact, the property extended for 1.2 km (.75 mi) on both sides of the water, and included more than 1,214 ha (3,000 ac) (Figure 25). In addition to huge land holdings, Olivier owned 116 slaves, and, according to the 1860 Federal Census, had an estimated worth of approximately \$210,000.

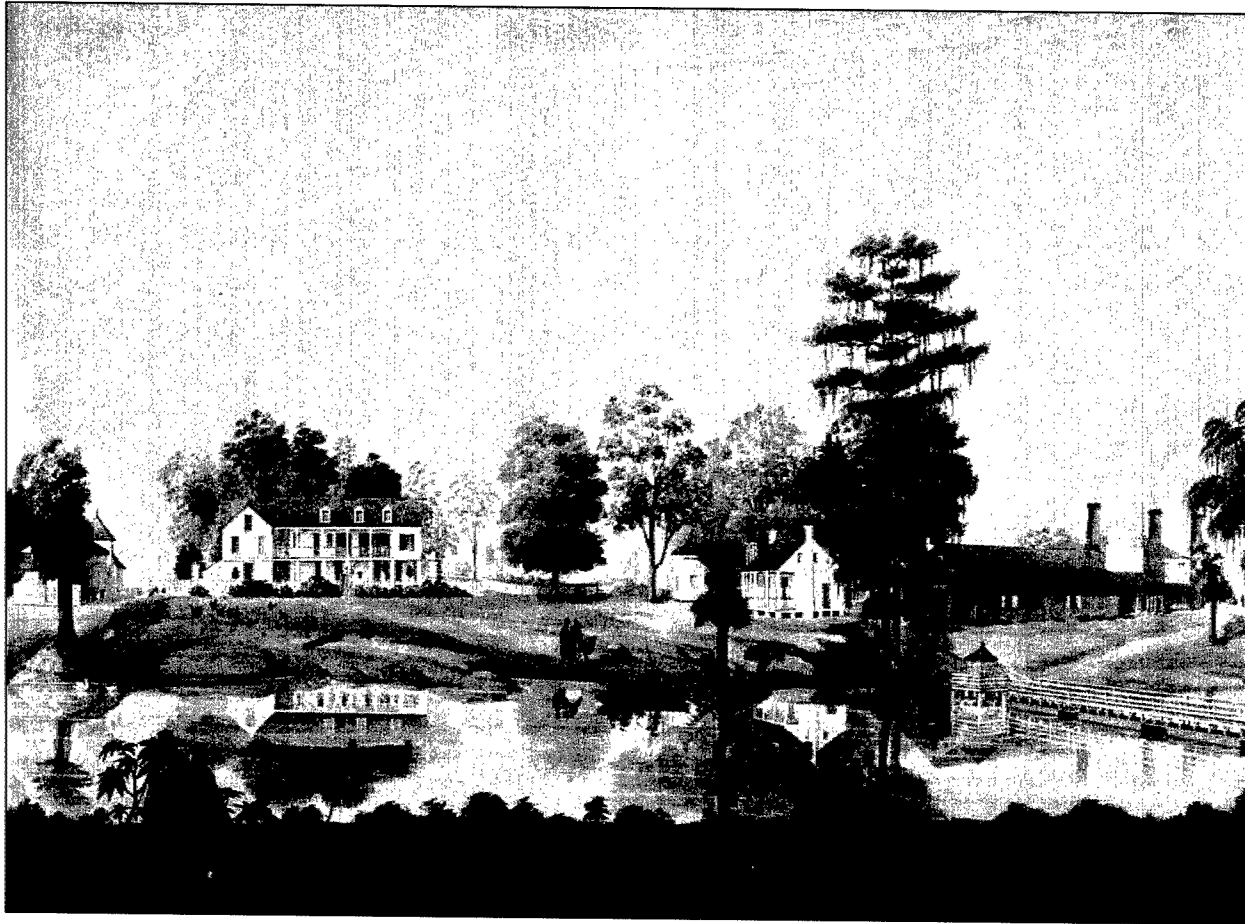


Figure 25. Persac's painting of Olivier's Orange Grove Plantation, ca. 1861 (excerpted from Bacot et al. 2000).

The Civil War changed the fortunes of everyone, slave and free, in the South. The success of the Federal troops in the Teche Campaign of 1863 encouraged many slaves to escape their plantations. In fact, Union Major General Nathaniel T. Banks recruited enough able-bodied freedmen from the Teche area alone to form two thousand-man regiments (Winters 1963:238). Many of these men formed the heart of the Corps D'Afrique, who fought in the bloody siege of Port Hudson just four weeks after the close of the Teche campaign (Winters 1963:236-260).

Although Charles Olivier died in November 1861, just a few months after the first shots at Fort Sumter signaled the start of the war, his family was not spared the economic devastation

that accompanied the conflict. Orange Grove slaves doubtless abandoned the confines of the plantation. The Teche campaign did not directly affect Orange Grove, although both armies marched from Franklin to New Iberia in April 1863, using the "Old Spanish Trail," which ran through the Olivier land. This certainly left the property vulnerable to plunder. One Federal soldier on that march, Harris H. Beecher of the One Hundred Fourteenth New York noted: "The men soon learned the pernicious habit of slyly leaving their places in the ranks, when opposite a planter's house, to 'appropriate' a chicken, or 'confiscate' a pig, or 'gobble' a few turnips and radishes" (Winters 1963:236). Nonetheless, attempts were made to minimize the civilian damage. William Root of the 75th New York Regi-

ment wrote in his diary on April 15, 1863, the night his men marched from Franklin to Jeanerette, just below the project area,

Gen'l Bank's chief anxiety on this march seems to be to prevent our soldiers from disturbing the property of the secesh citizens along the road. A guard is posted over every house of more than two chimnies [sic] till the cavalcade passes to keep the soldiers from taking anything, though the smaller houses of the poor are left unguarded....[O]ne of Gen'l Bank's staff posted himself in the road at the head of the column and stopped and arrested everybody, officer or soldier who was mounted on a horse or mule, or driving a cart that did not belong to the government....[A]bout 300 were arrested fro confiscating from the secesh along the road....The men say he cares more for the property of rebels than he dows for the comfort of his own soldiers.. He marches them very hard and then won't allow them to have what they want to eat. Just in front of where we stopped for the night there is a splendid mansion & plantation the owner of which, I doubt not, holds a commission in the rebel army. The [slaves] all say so....Yet at this house a guard is placed and our soldiers cannot even get water. The sentinel on post there says 'a year ago I was a [Confederate] prisoner & today I am guarding the property of the d__d rebels (Root, *Louisiana Historical Quarterly*, v. 19:644-45).

These guards evidently were successful in guarding Confederate property in the vicinity of Orange Grove. Despite the fact that Eugene Olivier, master of the Teche plantation after his father's death, fled the area with his family when the Union forces arrived, by the war's end, the main house was intact. Apparently the interior of the estate was unscathed as well, since in 1867, Eugene Olivier transferred Orange Grove and all its assets to his wife, which included 27 head of cattle, 12 horses, mules, farm equipment, wagons, as well as over \$16,000 worth of furniture, silverware, utensils and household goods (Bacot, et al. 2000:60; Courts 1997:140-42; Margie Luke 2001, personal communication).

A significant amount of loss, both real and market-driven, did effect the value of Orange Grove. For example, according to an estate inventory dated February 6, 1866, the sugarhouse was in ruins (Iberia Parish Courthouse, Judicial Sale 53607, book 133, p. 255, September 3,

1870). Moreover, due to "the destruction by the Federal Army of a large portion of the property belonging to" the Olivier estate, a postwar inventory of Orange Grove was performed. The value of the estate before the war, which included slaves, totaled over \$311,000. After the war, the value of Orange Grove had dropped to just under \$55,000 (Iberia Parish Courthouse, Judicial Sale 53607, book 133, p. 255, September 3, 1870; St. Mary Parish Courthouse, Succession 1088, November 12, 1861).

The Oliviers suffered a fate similiar to plantation owners throughout the south in the post-war years. Land, once valued at extraordinary rates due to the huge crops produced by slave labor, declined in value. Few Confederate families had money left after the war, and most had lost their net worth, which had been invested overwhelmingly in human bondage. Sheriff's sales, Judicial Sales, and Tax Sales litter parish record books throughout the Reconstruction era. The Olivier estate was divided and sold by Charles' heirs at a Judicial Sale in 1870. Many of the ancillary lands and livestock were sold at public auction for pennies on the dollar (Iberia Parish Courthouse, Judicial Sale 53607, book 133, p. 255, September 3, 1870).

Eugene and his wife, Therese Laura Dalcour Olivier, struggled to renew the economic solvency of the main Orange Grove estate. In order to recover, the couple became heavily indebted to Alphonse Tertrou, a sugar factor in New Orleans. When Eugene left to attend to his sugar plantation in Cuba, Therese was forced to take on partners in the Orange Grove sugar business, or risk losing the property through default. In 1875-76, the parish sugar and rice reports note that the property was owned by "Eugene Olivier and Others," who are not named (Bouchereau 1876:58). By 1880, the partnership of Dr. Harvey Bussy and Captain John Newton Pharr shared half of the Orange Grove sugarhouse and profits, and they agreed to repair and update the plantation's machinery (Courts 1997:133-34). Therese and Eugene lost the plantation land in 1885, for default on back taxes totaling \$16.65. Their son, Robert Olivier, along with two partners, Warren Farmer and Eugene Abraham, purchased the property at a Sheriff's sale in 1888. However, Pharr continued to hold an interest in the sugarhouse and atten-

dant collection and granulation machinery. By 1897, Orange Grove passed out of the Olivier family for good, when Robert Olivier lost the sugar land to bankruptcy. John N. Pharr purchased the property for \$21,535 (Courts 1997:113-138).

Captain John Pharr had come to Louisiana in 1848 from North Carolina, taking an interest in both sugar production and steamboating. After the war, he ran packet steamers along Bayou Teche and Bayou Vermilion, transporting mail, passengers, and freight to and from the railroad terminus at Morgan City. By 1876, he owned both Fairview and Glenwild Plantations along the lower Teche, and by the turn of the century was regarded as one of the largest sugar planters in the state.

He was so influential, in fact, that in 1896, he ran for Governor of Louisiana on the Republican ticket. That year, the sugar planters around the state had withdrawn from the Democratic Party in protest of the punitive Wilson Bill, leading an unusual number of white citizens to vote for the party of Lincoln. The New Orleans *Times-Democrat* even noted that "Mr. Pharr, the Republican candidate, carried twenty of the twenty-five white parishes in the State, while the Democratic candidate carried five of the white parishes and all of the [African American] parishes" (Eugene Pharr n.d.:1). Though Pharr lost, the election was one of the closest in state history.

Pharr died in 1903, leaving his vast sugar empire to his three sons, John, Henry, and Eugene. The brothers formed J. N. Pharr & Sons, Ltd. the next year, and they continued to grow the business. Records of the corporation indicate significant growth occurred throughout the first two decades of the twentieth century. For example, an inventory from 1904 documents 26 workers' cabins, 1 large residence (the original Orange Grove plantation house), 3 large dwellings, 1 medium dwelling, 2 small dwellings, one large workers' hall, one hay house, one stable, and one corn crib, in addition to a large sugarhouse (Pharr Papers, Record Book, 1904). In 1908, the Pharrs built a large warehouse on Orange Grove at a cost of \$1,000. At the end of the first World War, they began construction on a new, state-of-the-art sugarhouse, with new granulators and refining equipment. Complete installation was estimated

to cost \$25,000 (Pharr Papers, Minute Book, 1904-1920, March 20, 1918).

The expansion of the Pharr sugar holdings resulted in the construction of many new, industrial buildings in the vicinity of the current project parcel. Orange Grove also contained a rice mill, livestock industry and an extensive dairy, which provided 100 gallons of milk to New Orleans' Charity Hospital daily in the early years of the century. This livestock and dairy facility required both ice and cold storage plants, and a large barn to house 100 dairy cows, 260 beeves and 100 hogs. 100 laborers worked the plantation year-round, with considerably more employed during the grinding season (H. Newton Smith collection, n.d., courtesy of Margie Luke). Additional buildings included a modern blacksmith shop, tool and cattle shed, slaughter house, watchman's cabin, pumping plant and irrigation facilities (Pharr Papers, 1921 Appraisal, n.d.).

The Pharrs had significant influence and economic holdings outside of Louisiana, as well. Henry N. Pharr was the president of the American Cane Growers Association. The brothers invested in land in the central portion of the Rio Grande Valley of Texas, developing a town that still carries their name. According to some estimates, by 1920, the brothers ran one of the most successful and profitable sugar operations in the country (Eugene Pharr, n.d.:2).

Unfortunately for the brothers, after World War I, the bottom dropped out of the sugar market. Economic tariffs that had severely restricted foreign imports of processed cane were revoked during the Wilson administration, and in the postwar era, sugar prices worldwide plummeted. The Pharr brothers, with over \$2.5 million of equipment and physical assets, were caught by surprise. In 1921, the company could not cover its debts, and entered into receivership. This corporate restructuring lasted for six years, but after the Great Flood of 1927 destroyed all three of the company's major canefields, and facing a worldwide sugar depression, the Pharrs had no choice but to liquidate the company.

The Whitney National Bank foreclosed on Orange Grove in January 1929. Although the Great Depression was still eight months away, it had already devastated the sugar industry. Whereas a 1921 appraisal of the sugar estate estimated the value of Orange Grove at almost

\$700,000, by early 1929, the entire operation sold for just \$160,000 to the Orange Grove Sugar Company, Inc. (Iberia Parish Courthouse, Book 112, folio 301). This company did not hold Orange Grove through the Depression, and by 1935, the Teche Sugar Company purchased the operation for \$85,000 (Courts 1997:107).

It was probably the Teche Sugar Company that reorganized the labor and physical geography of the plantation. A 1938 aerial photograph, on file at the Army Corps of Engineers, New Orleans District, depicts a large barn in the Segura Staging area, as well as a series of large, dormitory structures to the east of the project parcel (Figure 26). The barn may have been standing during the 1921 receivership inventory, which notes two cow barns (each 11.3 x 30.5 m [37 x 100 ft]). Rehder (1999) also suggests that many plantation barns and storage sheds are converted throughout the twentieth century for new uses, which may apply in the project area. It is also possible that the structure may have been built after the Pharr ownership (Appraisal, Iberia Parish Courthouse, Case no. 16, 168, 16th Judicial District Court of the State of Louisiana, 1921).

In the years following the Depression and World War II, the sugar industry changed again. Another period of consolidation occurred, this one spurred by large corporations. Many of these corporations had geographically disparate divisions across several states. In this model, corporations often used the canefields of many plantations, but the granulation and refinery of a few,

centralized factories. In any event, Louisiana contained more than 100 sugar factories in the early years of the twentieth century. By 1969, that number had diminished to 44, and by 1999, just 19 remained operational statewide (Rehder 1999:xi). Orange Grove is not one of them.

Summary

There's a saying along the Teche, that once a person has "tasted bayou water," they must ever return to the area. Iberia Parish natives, now working in fishing, tourism, support industries, as well as new manufacturing efforts, still live by the rhythm of the cane season. The largest event in the parish, which brings thousands of tourists, is the Sugar Cane Festival, still held in the fall when the cane is ready for harvest. While the area containing the proposed project items has remained part of an agricultural region from earliest tenure to the present, the reality of economic life in Iberia Parish no longer turns on the fate of the crops. Though the Segura Staging Area was surveyed under colonial rule and farmed throughout the nineteenth and twentieth centuries, agriculture no longer determines the seasons. Now, New Iberia serves as the economic heart of the parish, where half the residents live, and employment opportunities are most plentiful. Sugar cane is but one commodity amongst many found along the banks of the Teche, and, while many Oliviers and Pharrs still populate the area, they no longer employ hundreds in the manufacture of sugar.



Figure 26. 1938 U.S. Army Corps of Engineers aerial photograph depicting the Segura Staging Area.

CHAPTER V

PREVIOUS INVESTIGATIONS

Introduction

This chapter presents an overview of previous archeological research completed in the vicinity of the proposed Segura Staging Area situated within Iberia Parish, Louisiana (Figure 1). This discussion provides the comparative data necessary for assessing the results of the current cultural resources inventory, and it ensures that the potential impacts to all previously recorded cultural resources located within the general vicinity of the proposed project area were taken into consideration. Specifically, this chapter reviews all previously completed cultural resources surveys conducted within 8 km (5 mi) of the current project area, as well as those archeological sites and standing structures recorded within 1.6 km (1 mi) of the Area of Potential Effect. The discussions presented below are based on a background search of data currently on file at the Louisiana Department of Culture, Recreation and Tourism, Office of Cultural Development, Divisions of Archaeology and Historic Preservation, in Baton Rouge. Both the quantity and quality of the information contained in the examined cultural resources survey reports, site forms, and historic standing structure forms are reflected in this document.

Previously Conducted Cultural Resources Surveys Located within 8 km (5 mi) of the Currently Proposed Segura Staging Area

A total of seven previously completed cultural resources surveys and archeological inventories were identified within 8 km (5 mi) of the currently proposed Segura Staging Area (Table 9). These investigations resulted in the identi-

fication of 51 archeological sites; however, none of these sites are located within 1.6 km (1 mi) of the currently proposed project area. The seven surveys which were examined are presented here in chronological order by the parish in which they were conducted. Those surveys completed in more than one parish are discussed at the end of the section.

Iberia Parish

On October 26th of 1976, the State of Louisiana, Department of Highways, conducted a Phase I cultural resources survey and archeological inventory of a section of LA Highway 3195 within portions of Sections 22 and 38 of Township 12S, Range 7E, prior to the proposed construction of the Nelson Canal Bridge over Bayou Teche (Rivet 1976). The overall size of the area subjected to cultural resources survey was not reported. Pedestrian survey of the proposed Nelson Canal Bridge and Approaches project area failed to identify any cultural resources; no additional testing of the proposed project area was recommended.

During January of 1978, an unspecified party conducted a Phase I cultural resources survey and archeological inventory of Iberia Sewerage District No. 3 which reportedly included the west central portion of Iberia Parish (Simmons J. Berry & Associates 1978). The survey was completed at the request of Iberia Sewerage District No. 3, Iberia Parish, Louisiana. The overall size of the area subject to cultural resources survey was not reported. Windshield survey augmented by pedestrian survey of unspecified portions of Iberia Sewerage District

Table 9. Previously completed cultural resources surveys conducted within 8 km (5 mi) of the currently proposed Segura Staging Area.

FIELD DATE	REPORT NUMBER	TITLE/AUTHOR	INVESTIGATION METHODS	RESULTS AND RECOMMENDATIONS
IBERIA PARISH				
1976	22-210	Letter report. Subject: Cultural Resources Survey of Nelson Canal Bridge and Approaches, Route LA 3195, Iberia Parish, Louisiana (Rivet 1976)	Records review and pedestrian survey	No cultural resources were identified; no additional testing was recommended.
1978	22-364	<i>Facility Plan Environmental Assessment for Proposed Wastewater Treatment Works to Serve Sewerage District No. 3 of Iberia Parish, Louisiana</i> (Simmons J. Barry & Associates 1978)	Records review, windshield survey, and pedestrian survey	No cultural resources were identified; no additional testing was recommended.
1983	22-905	<i>Archaeological Excavations at Shadows-on-the-Teche 1983</i> (Smith 1983)	Records review and unit excavation	Excavations of three areas resulted in the collection of 3,343 artifacts dating from 1000 A.D. through the 20 th century. The Shadows on the Teche property (Site 161B155) had previously been listed on the National Register of Historic Places in 1974; however, Smith recommended additional testing of the site.
1999 - 2000	22-2295	<i>Phase I Cultural Resources Survey and Archeological Inventory of the Proposed 19.3 km (12 mi) Long Stretch of Bayou Teche, Iberia Parish, Louisiana</i> (George et al. 2000)	Records review, pedestrian survey, auger testing, backhoe trenching, and marine remote sensing survey	Identified two non-site cultural resources loci (SA2-01 and DA2-01), as well as 662 underwater anomalies. Both loci and all of the underwater anomalies were assessed as not significant; no additional testing of the study area was recommended.
MULTIPLE PARISHES				
1975	22-105	<i>Archeological Survey of Bayou Teche, Vermilion River, and Freshwater Bayou, South Central Louisiana</i> (Gibson 1975)	Records review and boat survey augmented by limited pedestrian survey and subsurface investigations with the use of a trowel	Identified 37 sites of which a total of 16 (161B2, 16LY5 – 16LY7, 16LY14, 16LY23, 16LY61, 16SL2, 16SM13, 16SM15, 16SM17, 16SM20, 16SM24, 16VM7, 16VM11, and 16VM127) were assessed as potentially significant. Various recommendations, ranging from no additional testing to mitigation, were reported for each of the 38 identified sites.
1979	22-1151	<i>A Cultural Resources Survey of the Proposed Erath-Weeks Island Pipeline Route</i> (Swanson 1979)	Records review, helicopter survey, and pedestrian survey	Identified an historic period materials scatter for which no site number was reported. While this locus was not specifically assessed it was recommended that the scatter be avoided during proposed construction. If avoidance was not possible, additional testing of the locus was recommended.
ca. 1985	22-1053	<i>An Archeological and Historic Sites Inventory of Bayou Teche between Franklin and Jeanerette, Louisiana</i> (Goodwin et al. 1985)	Records review, informant interviews, pedestrian survey, shovel testing, and remote testing	Relocated Sites 16SMY2, 16SMY12, 16SMY13, and 161B49, as well as identifying Sites 16SMY171 – 16SMY177, 161B56, and 161B57. Of these, Sites 16SMY12, 16SMY13, 16SMY171, 16SMY174, 16SMY176, 161B49, and 161B57 were assessed as potentially significant and additional testing was recommended. Site 16SMY2 was not assessed; however, additional testing was recommended. The remaining five sites were assessed as not significant and no additional testing was recommended.

No. 3 failed to identify any cultural resources. No statement concerning additional testing was reported in Simmons J. Barry & Associates, Inc. (1978).

The Center for Archaeology at Tulane University, New Orleans, Louisiana, conducted archeological investigations during June and July of 1983 at Shadows-on-the-Teche (Site 16IB155) located within irregular Section 50 of Township 12S, Range 6E, Iberia Parish, Louisiana (Smith 1983). The survey was conducted at the request of the National Trust for Historic Preservation. The Shadows-on-the-Teche property had been previously listed on the National Register of Historic Places in 1972 and was described as a townhouse constructed during 1831 – 1834 for David Weeks. Smith (1983) reported that the 1983 excavations at the site were conducted in the vicinity of the former kitchen and slave quarters areas, as well as in an area believed to be the location of a privy.

Smith (1983) reported that unit excavation within the former kitchen area failed to identify the kitchen wall foundation; however, subsurface features of stained soil mixed with brick and mortar fragments were identified. It was suggested that the walls had been dismantled and that these features represented the refilled wall trenches of the west and east kitchen wall foundations. A single unit measuring 0.8 x 2.3 m (2.5 x 7.5 ft) in area was excavated in the vicinity of the former slave quarters in order to determine if a cultural midden was present. Smith (1983) noted that numerous artifacts were recovered from the single excavation unit indicating that a midden was present in the former slave quarters area. Finally, a single unit of an unspecified size was excavated in the area believed to contain a privy. Smith (1983) stated that excavation failed to identify a privy; however, numerous artifacts dating from the late nineteenth – early twentieth century were recovered. It was suggested that these artifacts represented a dump site.

Smith (1983) reported that the 1983 excavations resulted in the collection of 3,343 historic period artifacts, including ceramic sherds, glass shards, brick fragments, iron and various other metal fragments, coins, gun flint fragments, buttons, pipe fragments, jewelry, marbles, coal,

shells, bone fragments, and plastic. In addition, 106 prehistoric period ceramic sherds, including Bell Plain, Mississippi Plain, Addis Plain, Maddox Engraved, Leland Incised, and Mazique Incised, also were recovered. Based on the excavations conducted at Site 16IB155, Smith (1983) suggested that three separate occupations had occurred at the site, the first being a prehistoric period occupation possibly dating from 1000 A.D. to the date of European contact. It was suggested that the second occupation dated from between 1772 and ca. 1831 – 1834. This suggestion was based on the recovery of French gun flints and a French coin dated 1772. The final occupation was associated with the Shadows-on-the-Teche and dated from ca. 1831 to the present. As previously noted, Site 16IB155 (Shadows-on-the-Teche) had been listed on the National Register of Historic Places and thus, Smith (1983) did not report on the significance of the site; however, it was suggested that additional testing of Site 16IB155 be conducted. Site 16IB155 is not situated within 1.6 km (1 mi) of the currently proposed Segura Staging Area.

R. Christopher Goodwin & Associates, Inc., of New Orleans, Louisiana, conducted a Phase I underwater cultural resources survey and archeological inventory during December of 1999 and January of 2000 of a 19.3 km (12 mi) portion of Bayou Teche situated between River Mile 48.7 and River Mile 61.0 within Iberia Parish, Louisiana (George et al. 2000). The survey, which was completed on behalf of the U.S. Army Corps of Engineers, New Orleans District, was conducted prior to proposed maintenance dredging of the waterway. Phase I terrestrial cultural resources survey and archeological inventory of three proposed staging areas, three proposed dredge disposal areas, and two proposed access roads also was conducted. George et al. (2000) noted that the proposed staging and dredge disposal areas measured, in total, 41.3 ha (102 ac) in size, while Access Roads 1 and 2 measured, in total, 1.2 km (0.7 mi) in length by an unspecified width.

The marine remote sensing portion of the project consisted of magnetometer and side-scan sonar survey of the study area. George et al. (2000) noted that these investigations resulted in the identification of 662 acoustic and magnetic anomalies of which 445 reportedly represented

scatters of modern ferrous debris. The remaining anomalies were combined into 84 target groups. According to the authors, additional examination of these 84 underwater targets demonstrated that none of these anomalies were significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing of the identified anomalies was recommended.

In addition, pedestrian survey augmented by auger testing and backhoe trenching of the terrestrial portions of the proposed project area resulted in the identification of two non-site cultural resources loci (SA2-01 and DA2-01). Locus SA2-01 consisted of a scatter of historic and modern materials including a single hard paste porcelain sherd, 1 complete colorless machine-made bottle, and 1 whole fired brick. These artifacts reportedly dated from post ca. 1870 to ca. 1942; however, the locus was assessed as not significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]) and no additional testing was recommended. The second identified locus (DA2-01) also was assessed as not significant applying the criteria cited above. George et al. (2000) reported that Locus DA2-01 consisted of a modern cow burial. In addition, a single colorless machine-made glass shard was collected but it was not associated with the cow burial. No possible date was suggested for Locus DA2-01 and no additional testing was recommended.

Multiple Parishes

During 1975, The University of Southwestern Louisiana, Lafayette, conducted a Phase I cultural resources survey and archeological inventory of portions of Bayou Teche, Vermilion River, and Freshwater Bayou, prior to proposed unspecified operation and maintenance work (Gibson 1975). The survey was completed at the request of the U.S. Army Corps of Engineers, New Orleans District, and included portions of Iberia, Lafayette, St. Landry, St. Martin, and Vermilion Parishes, Louisiana. Gibson reported that the study area measured approximately 100 m (328.1 ft) from both bank lines of Bayou Teche, Vermilion River, and Freshwater Bayou. Overall, the study area measured approximately 352 km (218.7 mi) in length and included the entire lengths of Bayou Teche, Vermilion River,

and Freshwater Bayou. A bankline survey augmented by limited pedestrian survey and subsurface investigations with the use of a trowel of each study area resulted in the identification of Sites 16IB2, 16LY5 – 16LY7, 16LY10, 16LY12 – 16LY14, 16LY22 – 16LY26, 16LY28, 16LY29, 16LY55, 16LY61 – 16LY63, 16SL2, 16SL31, 16SM6, 16SM13, 16SM15, 16SM17, 16SM18, 16SM21, 16SM24 – 16SM26, 16VM7, 16VM11, 16VM15, 16VM16, 16VM127, and the Indian Mound Road Site.

Of these 37 sites, a total of 33 (Sites 16IB2, 16LY5, 16LY7, 16LY10, 16LY12 – 16LY14, 16LY22 – 16LY26, 16LY28, 16LY29, 16LY55, 16LY63, 16SL2, 16SL31, 16SM6, 16SM13, 16SM15, 16SM17, 16SM18, 16SM21, 16SM24 – 16SM26, 16VM7, 16VM11, 16VM15, 16VM16, 16VM127, and the Indian Mound Road Site) were described as consisting of prehistoric period components, while Sites 16LY6, 16LY14, 16LY61, and 16LY62 reportedly contained both prehistoric and historic period components. A total of 16 sites (16IB2, 16LY5 – 16LY7, 16LY14, 16LY23, 16LY61, 16SL2, 16SM20, 16SM13, 16SM15, 16SM17, 16SM24, 16VM7, 16VM11, and 16VM127) were assessed as potentially significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]) and avoidance (or additional testing if avoidance was not possible) was recommended. The remaining sites were assessed as not significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]); however, it was recommended that an archeologist monitor any construction activities within the vicinity of these 21 sites. None of these sites are located within 1.6 km (1 mi) of the currently proposed project area.

New World Research, Inc., conducted a Phase I cultural resources survey and archeological inventory during May of 1979 of the proposed Erath-Weeks Island pipeline right-of-way located within portions of Vermilion and Iberia Parishes, Louisiana (Swanson 1979). The survey was conducted at the request of EMANCO, Inc., of Houston, Texas. The proposed pipeline corridor measured approximately 34 km (21 mi) in length; however, the width of the proposed right-of-way was not reported. An aerial survey of the proposed pipeline right-of-

way utilizing a helicopter augmented by limited pedestrian survey resulted in the identification of a single cultural resources locus (Site #1) for which no official site number was assigned.

Site #1 was described as a surface scatter of historic period artifacts identified within a plowed field located on the east bank of Jack's Coulee in Iberia Parish, Louisiana. Overall, the locus was reported to measure 90 x 165 m (295.3 x 541.3 ft) in area. Pedestrian survey resulted in the collection of 31 historic period ceramic sherds, 9 glass shards, 2 nail fragments, and a single brick fragment. Swanson (1979) suggested that Site #1 represented a nineteenth century occupation. The locus was not assessed; however, Swanson (1979) recommended that Site #1 be avoided during proposed pipeline construction. If avoidance was not possible, additional testing was recommended. Site #1 is not situated within 1.6 km (1 mi) of the currently proposed project area.

Prior to June of 1985, R. Christopher Goodwin & Associates, Inc., of New Orleans, Louisiana, conducted a Phase I cultural resources survey and inventory of the right and left descending banks of Bayou Teche between River Mile 45.5, located 3.2 km (2 mi) north of the town of Jeanerette, Iberia Parish, Louisiana, and River Mile 15.5 located in the vicinity of the town of Franklin, St. Mary Parish, Louisiana (Goodwin et al. 1985). The survey was completed at the request of Louisiana Department of Culture, Recreation and Tourism, Office of Cultural Development, Division of Archaeology, Baton Rouge, Louisiana. The authors noted that the overall length of the portion of Bayou Teche subjected to cultural resources survey measured 48.9 km (30 mi); however, the width of the Bayou Teche study area was not specifically reported. Records review, informant interviews, pedestrian survey, shovel testing, and remote testing resulted in the identification of Sites 16IB56, 16IB57, and 16SMY171 – 16SMY177. In addition, previously recorded Sites 16IB49, 16SMY2, 16SMY12, and 16SMY13 were relocated.

Of these 13 sites, a total of four (Sites 16SMY12, 16SMY13, 16SMY172, and 16SMY176) were described as consisting of prehistoric components while Sites 16IB49, 16IB56, 16IB57, 16SMY171, 16SMY173, 16SMY174, 16SMY175, and 16SMY177 re-

portedly contained only historic period components. The final site (16SMY2) contained both prehistoric and historic period components. A total of seven of these sites (16IB49, 16IB57, 16SMY12, 16SMY13, 17SMY171, 16SMY174, and 16SMY176) were assessed as potentially significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]) and additional testing was recommended. Site 16SMY2 was not assessed; however, additional testing of the site was recommended. The remaining five sites (16IB56, 16SMY172, 16SMY173, 16SMY175, and 16SMY177) were assessed as not significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]) and no additional testing was recommended. None of these 13 sites are located within 1.6 km (1 mi) of the currently proposed project area.

Previously Recorded Archeological Sites Located within 1.6 km (1 mi) of the Currently Proposed Segura Staging Area

A review of data currently on file at the Louisiana Department of Culture, Recreation and Tourism, Office of Cultural Development, Division of Archaeology, in Baton Rouge, Louisiana, failed to identify any previously recorded archeological sites which were situated within 1.6 km (1 mi) of the currently proposed Segura Staging Area.

Previously Recorded Standing Structures Located within 1.6 km (1 mi) of the Currently Proposed Segura Staging Area

A review of the standing structure files located at the Louisiana Department of Culture, Recreation and Tourism, Office of Cultural Development, Division of Historic Preservation, Baton Rouge, Louisiana, resulted in the identification of five previously recorded standing structures (23-398 – 23-402) situated within 1.6 km (1 mi) of the currently proposed Segura Staging Area (Table 10). All of these structures were located within Iberia Parish, Louisiana.

All five structures were recorded in 1979 by Dewailly and Fontenot; however, the state standing structure forms provided only limited data on each building. Structures 23-398 – 23-402 were classified as residences. Standing structures 23-398, 23-399, and 23-402 were de-

scribed as Victorian style residences, while the architectural style of the remaining two structures (23-400 and 23-401) was not reported. Structures 23-398, 23-399, 23-401, and 23-402 had reported dates of construction, which ranged from ca. 1870 to ca. 1910. No possible construction date was noted for Structure 23-400. Fi-

nally, Structures 23-398 – 23-402 were not assessed applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]) and no recommendations concerning additional recordation of these five structures were noted on the standing structure forms.

Table 10. Previously recorded standing structures located within 1.6 km (1 mi) of the currently proposed Segura Staging Area.

STRUCTURE NUMBER/NAME	USGS 7.5' QUADRANGLE	CONSTRUCTION DATE	USE	STYLE	NRHP ELIGIBILITY	RECORDED BY
IBERIA PARISH						
23-398	Jeanerette, La.	ca. 1880 – 1910	Residential	Victorian	Not assessed	Dewailly and Fontenot 1979
23-399	Jeanerette, La.	ca. 1870 – 1900	Residential	Victorian	Not assessed	Dewailly and Fontenot 1979
23-400	Jeanerette, La.	Not reported	Residential	None reported	Not assessed	Dewailly and Fontenot 1979
23-401	Jeanerette, La.	1900	Residential	None reported	Not assessed	Dewailly and Fontenot 1979
23-402	New Iberia South, La.	ca. 1870 – 1900	Residential	Victorian	Not assessed	Dewailly and Fontenot 1979

CHAPTER VI

METHODS

Objective The objective of this cultural resources investigation was to evaluate the potential impacts that the proposed U.S. Army Corps of Engineers, New Orleans District undertaking may have on historic properties located in the Segura Staging Area. As part of this investigation, the Segura Staging Area was examined for cultural resources; this area will be used to facilitate dredging operations throughout the bayou to coordinate boat traffic and to receive spoil dredged from the bayou bottom. (Figure 2).

Archival Research

Background research for this project included a review of readily available historic period maps depicting the Area of Potential Effect; an examination of the 1963 (Photorevised 1975) USGS 7.5' series, New Iberia South, Louisiana topographic quadrangle associated with the proposed project item; and an inspection of the archeological and historic standing structure data currently on file with the Louisiana Department of Culture, Recreation and Tourism, Office of Cultural Development, Divisions of Archaeology and Historic Preservation in Baton Rouge, Louisiana. The intent of this background research was to identify previously recorded cultural resources situated within or adjacent to the Area of Potential Effect. This information was used to develop an archeological context for assessing each cultural resource identified during survey; to develop and implement a model for predicting possible archeological site locations in the vicinity of the Area of Potential Effect

(i.e., determining areas with low, moderate, and high potential for containing intact cultural deposits); and to execute survey methods and techniques appropriate for evaluating the significance of cultural resources identified as a result of the subsequent Phase I cultural resources survey and archeological inventory.

Field Methods

Following completion of the background research, a Phase I cultural resources survey and archeological inventory of the proposed project item was completed. The purpose of this investigation was to identify all cultural resources located within or immediately adjacent to the proposed staging area, and to assess their eligibility applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). Fieldwork for this investigation consisted of intensive pedestrian survey augmented by systematic shovel testing throughout the Area of Potential Effect. In addition, soil probing with a blunt-tipped rod, exploratory trench excavation, and unit excavation within selected portions of the proposed staging area was completed. Each of these field methods is described briefly below.

Shovel Testing

During survey, shovel tests were excavated at 15 m (49.2 ft) intervals along survey transects spaced 15 m (49.2 ft) apart (Figure 27). Shovel tests positioned along adjacent transects were offset to maximize coverage of the project area. This cultural resources investigation was limited to the overall project area (i.e., no shovel tests

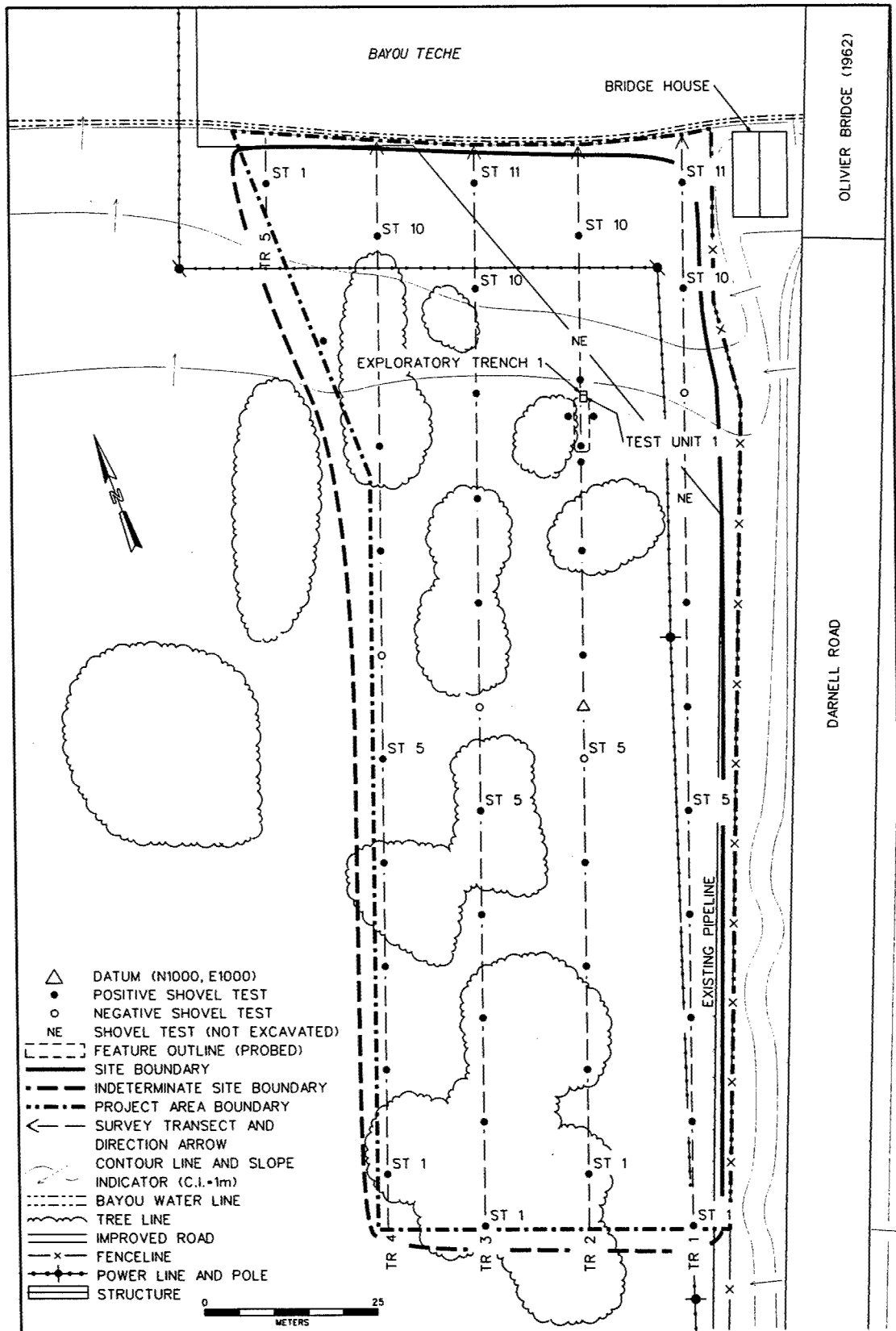


Figure 27. Plan view of the proposed staging area depicting the locations of shovel tests, units, and the perceived boundaries of Site 161B74.

were excavated outside of the Area of Potential Effect). Each shovel test was excavated in 10 cm (3.9 in) arbitrary levels within natural strata. All shovel tests measured 50 cm (19.6 in) in width and were excavated to a depth of 100 cm (39.4 in) or until the influx of groundwater hindered the excavation process. The excavated soil matrix was screened through 0.64 cm (0.25 in) hardware cloth, and all artifacts were collected, bagged, and labeled by provenience. Finally, each shovel test was backfilled immediately upon completion of the archeological recordation process. During survey, 46 of 48 (96 percent) planned shovel tests were excavated throughout the Area of Potential Effect. The two planned but unexcavated shovel tests fell within a previously disturbed pipeline corridor that crossed the northern portion of the proposed staging area (Figure 27).

Soil Probing

During the shovel testing portion of this archeological survey and inventory, a single historic brick feature was identified. In an effort to determine its dimensions, soil probing was conducted throughout this portion of the Area of Potential Effect. The probing process was accomplished using a blunt-tipped, stainless steel rod that measured 1.27 cm (0.5 in) in diameter by 1 m (39.4 in) in length. The probe was inserted into the ground in the cardinal directions in the area immediately surrounding the identified cultural feature. This was completed in an effort to determine the approximate size of the feature without having to excavate a large area.

Unit Excavation

In addition to shovel testing and soil probing, a single unit excavation unit measuring 1 x 1 m (3.3 x 3.3 ft) in size and one narrow exploratory trench covering an area of 0.5 x 1 m (1.64 x 3.3 ft) were excavated in the vicinity of the historic feature identified as a result of this investigation (Figure 27). The unit and the exploratory trench were placed in this area to expose and reveal portions of the identified feature. Both the unit and the exploratory trench were excavated in 10 cm (3.9 in) arbitrary levels within natural strata, and the excavated sediments were screened through 0.64 cm (0.25 in) hardware cloth. All recovered artifacts were col-

lected, bagged, and labeled by provenience. Finally, upon completion of the excavation process, the walls of the unit were cleaned by hand, drawn in profile, and photographed using color print film and a color digital camera. After the unit recordation process was completed, the unit and trench were backfilled completely.

Application of the Criteria for Evaluation (36 CFR 60.4 [a-d])

The single archeological site identified during fieldwork was examined to ascertain, if possible, the nature, size, depth, integrity, age, and affiliation of the associated cultural deposits. Delineation also was used to assess the stratigraphic placement, density, and research potential of Site 16IB74. This information was gathered to assist in the subsequent assessment of whether the site was significant, potentially significant, or not significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]).

Delineation of Site 16IB74 included: (1) establishment of a datum labeled N1000 E1000; (2) intensive surface reconnaissance throughout the immediate area; (3) excavation of tightly spaced shovel or auger tests to delineate both the size and configuration of this cultural resource; and (4) mapping and photographing of the site. Both black and white and color photographs, as well as color digital images were taken of Site 16IB74.

Laboratory Analyses

Laboratory analyses consisted of a detailed study of all of the data collected as a result of this investigation. It included the analysis of all materials recovered during survey and the compilation of locus descriptions for all cultural resources loci identified as a result of this survey effort. The laboratory analysis provided information on both site type and chronology. All of the material recovered during survey was washed and sorted by material category, and it subsequently was encoded into a number of computerized catalogs that allowed for further manipulation of the data. The nature and structure of the analyses was guided by the goals of the project.

The first requirement of the research was to determine whether or not the identified cultural

resource had the potential to meet the legal definition of an historic property. Therefore, particular care was taken to observe and record chronologically sensitive attributes of historic artifacts, and to evaluate, for example, whether or not the material was more than 50 years in age. Beyond the determination of minimum age, the artifact analysis consisted of making and recording a series of observations for each recovered specimen. The observations were chosen to provide the most significant and temporally or functionally diagnostic information about each specimen. A total of three separate databases were required to store, organize, and manipulate the data generated by the analytical process. Separate databases were used to analyze historic/modern artifacts, faunal specimens, and prehistoric lithic artifacts recovered during survey. The use of these different databases reflected the differences in the analytical protocols required to study thoroughly the various types of materials.

During the data analysis phase, a site description was compiled for Site 16IB74. Minimally, this description included data on site type, size, and cultural/temporal affiliation. In addition, data pertaining to landform, elevation, distance to water, and soil type were recorded. This description also included an assessment of archaeological integrity and significance of Site 16IB74 applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]).

Historic/Modern Cultural Material Analysis

The analysis of the historic/modern cultural material was organized by class, functional group, type, and subtype. The first level, class, represented the material category, e.g., ceramic, glass, or metal. The second level, functional group, e.g., architecture, kitchen, or personal, was based on classifications established by South (1977) and it referred to the presumed function of the material recovered. The remaining levels, type and subtype, described the temporally or culturally diagnostic attributes of an artifact. The identification of artifacts was aided by consulting standard reference works, including Coates and Thomas (1990), Fike (1987), Florence (1990), Kovel and Kovel (1986), Miller (1980, 1991), Nelson (1968), South

(1977), Speer (1979), Switzer (1974), Toulouse (1969, 1971) and Wilson (1981).

Prehistoric Lithic Analysis

The prehistoric lithic analysis protocol was a "technological" or "functional" one designed to identify reduction trajectories, lithic industries, and tool functions. The protocol, therefore, focused on recording the technological characteristics of the lithic artifacts. The database was organized by lithic material group, artifact type, and artifact subtype. The lithic material group category described the raw material type of the recovered artifact. The lithic material was classified by utilizing recognized geological descriptions and terminologies (Fenton and Fenton 1940; Whitten and Brooks 1972) and with the use of type specimens of known source. The artifact type category described the general class of the lithic artifact, e.g., unmodified flake, core, or preform. The last category, artifact subtype, listed various morphological attributes associated with each examined specimen, such as primary cortex, extensively reduced, or corner-notched). These taxonomic levels followed classifications outlined or suggested by Callahan (1979), Crabtree (1972), and Servello (1983).

Faunal Analysis

The faunal database was organized by type and subtype. The biological class according to conventional systematics, e.g., mammal and bird, was listed under "type." The subtype column included the family, genus, or species when identifiable. When generic or specific identification were not possible, each skeletal element was placed into a general descriptive category, e.g., large mammal, large to medium mammal, medium to small mammal, small mammal, bird, reptile, fish, etc. The orientation of recovered skeletal element also was identified when possible. In addition, for the purposes of recordation, thermal modification to each recovered bone was noted as burned, charred, or ashed. The presence of cut marks, butchering, and/or sawing also was identified when possible, as was fragmentation.

Vertebrate specimens recovered from the cultural resources loci located during fieldwork were examined using standard zooarcheological methods. Identifications were made using com-

parative reference skeletal collections maintained by R. Christopher Goodwin & Associates, Inc.; these collections are housed at our New Orleans laboratory. In addition to the aforementioned type collections, guidelines and manuals were used to aid identification procedures. These references included those compiled by Gilbert (1980), Hillson (1986), and Olsen (1964, 1979).

Curation

Following acceptance of the final report, all archeological materials, records, photographs, and field notes will be curated with:

State of Louisiana
Department of Culture, Recreation, and Tourism
Division of Archaeology
1051 3rd Street, Room 405
P.O. Box 44247
Baton Rouge, Louisiana 70804-4247
(225) 342-8170

CHAPTER VII

RESULTS OF INVESTIGATIONS

Introduction

The currently proposed Segura Staging Area project item is located along the right descending bank of Bayou Teche at approximate River Mile 61.0 in Iberia Parish, Louisiana. The Area of Potential Effect associated with the proposed project item is situated to the southwest of the intersection of Bayou Teche and Darnell Road (State Route 320) (Figures 2 and 27). The proposed staging area measures approximately 155 m (508.5 ft) in length by 70 m (229.6 ft) in width and it consists of an open grassy horse pasture (Figure 3). The southern end of the proposed project area is located approximately midway State Route 182 to the south and Bayou Teche to the north. The Area of Potential Effect extends up to and fronts on the bankline of Bayou Teche. Topography throughout the project item is dominated by a floodplain that slopes gently down towards Bayou Teche, with elevations ranging from 4.6 m (15 ft) to 1.5 m (5 ft) NGVD at the bank edge. Groundcover throughout the area consists of a grassy horse pasture with widely distributed large oak trees.

Field methods for this investigation consisted of intensive pedestrian survey augmented by systematic shovel testing, soil probing with a blunt-tipped rod, and unit excavation. A total of 46 of 48 (96 percent) planned shovel tests were excavated throughout the Area of Potential Effect. The two planned but unexcavated shovel tests fell within an existing pipeline corridor that crossed the northern portion of the proposed staging area. Upon discovery of a brick feature during shovel testing a single unit and one narrow exploratory trench were excavated. Soil probing was conducted to determine the ap-

proximate size of the brick feature, and to aid in deciding where to excavate the subsequent units.

The current Phase I cultural resources survey and archaeological inventory resulted in the identification of a single archeological site (16IB74). Site 16IB74 consists of a subsurface scatter of historic/modern period and prehistoric artifacts that extends throughout the limits of the proposed staging area. A total of 986 artifacts were recovered during shovel testing and unit excavation conducted within the confines of Site 16IB74. The results of shovel testing and unit excavation at Site 16IB74 are presented in detail below.

Results of Shovel Testing

During survey and site delineation, 46 of 48 (96 percent) planned shovel tests were excavated successfully throughout the Area of Potential Effect. They produced both prehistoric and historic/modern period cultural material (Figure 27). A total of 717 artifacts were recovered during shovel testing conducted within the limits of Site 16IB74. This cultural material consisted of a single piece of prehistoric chert block/shatter, 71 historic/modern period ceramic sherds, 13 faunal specimens, 451 glass shards, 149 metal artifacts, and 32 miscellaneous artifacts. The miscellaneous artifacts consisted of pieces of brick, mortar, leather, plaster, and plastic. A breakdown of cultural material recovered by strata and material type is presented below.

Historic/modern period ceramic sherds were recovered from both Stratum I and Stratum II of the shovel tests excavated throughout the area encompassing Site 16IB74 (Table 11). A total of 64 historic ceramic sherds were recovered from Stratum I; they consisted of a single black glazed

Table 11. Historic/modern period ceramics recovered from shovel tests at Site 16IB74.

STRATUM	FUNCTION	TYPE	SUBTYPE	COLOR	PORTION	TOTAL	
Stratum I	Kitchen	Earthenware	Black glaze	Black	Body	1	
		Hard paste porcelain	Undecorated	White	Base	1	
					Body	8	
					Handle	1	
					Rim	1	
					Ironstone	Decal decorated	Multicolored
			Undecorated	White	Rim	2	
					Base	2	
					Body	2	
						Rim	3
			Stoneware	Albany glaze	Brown/Grey	Body	1
		Glaze		Grey	Body	1	
		Undecorated		White	Base	1	
		Unidentified	Glaze	Green	Body	2	
		Whiteware	Burnt	Grey	Base	1	
			Decal decorated	Multicolored	Body	1	
					Base	1	
					Rim	1	
			Undecorated	White	Base	5	
					Body	19	
					Rim	8	
		Yellowware	Spongeware	Blue/yellow	Body	1	
Stratum I Total						64	
Stratum II	Kitchen	Hard paste porcelain	Decal decorated	Pink	Body	1	
		Stoneware	Glaze	Grey	Fragment	1	
				White	Body	1	
		Whiteware	Hand painted	Multicolored	Body	1	
			Undecorated	White	Body	2	
	Personal	Hard paste porcelain	Toy Doll Arm	White	Complete	1	
	Stratum II Total						7
Grand Total						71	

earthenware sherd, 11 plain hard paste porcelain sherds, 1 decal decorated ironstone sherd, 2 embossed ironstone sherd, 7 undecorated ironstone sherds, 1 albany slip glazed stoneware sherd, 1 gray glazed stoneware sherd, a single plain stoneware sherd, 1 burnt whiteware sherd, 2 decal decorated whiteware sherds (Figure 28), 1 embossed whiteware sherd, 32 plain whiteware sherds, a single sponge decorated yellowware sherd (Figure 28), and 2 unidentified sherds. Stratum II of the shovel tests produced 7 historic ceramic sherds. These consisted of a single decal decorated hard paste porcelain sherd, 1 gray glazed stoneware sherd, 1 white glazed stoneware sherd, 1 underglaze hand painted whiteware sherd, 2 plain whiteware sherds, and a single complete hard paste porcelain doll arm (Figure 29). Temporally diagnostic ceramic sherds recovered from the site area during shovel testing consisted of decal decorated and embossed ceramic

types. Recovery of these ceramic types suggests that Site 16IB74 was occupied post ca. 1890 to present. Although the whiteware suggests a possible date of occupation of Site 16IB74 as early as 1820, the predominance of plain and embossed patterns recovered from the shovel tests argues strongly for a late nineteenth to twentieth century use of the area.

In addition, 451 glass shards were recovered from shovel tests excavated throughout Site 16IB74 (Table 12). Of these, 420 (93 percent) glass shards were recovered from Stratum I. They consisted of 6 colorless window glass shards, 2 light blue window glass shards, 2 light green window glass shards, 6 colorless lamp glass shards, a single brown Clorox bottle shard (Figure 30), 4 colorless embossed bottle glass shards, 2 brown embossed bottle glass shards, 1 colorless liquor bottle glass shard, a single complete milk glass smudge pot (Figure 31), 3 milk

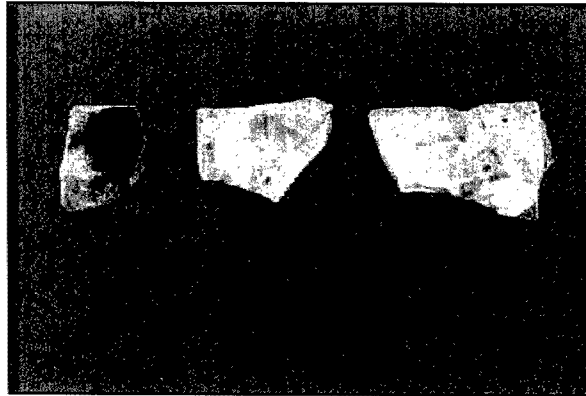


Figure 28. Selected ceramic sherds recovered during shovel test excavation at Site 16IB74: (a) spongeware decorated yellowware sherd (FS #13); (b) decal decorated whiteware sherd (FS #53); and (c) decal decorated whiteware sherd (FS #53).

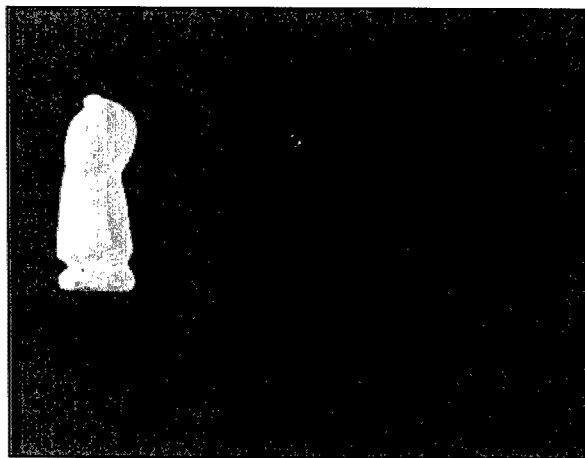


Figure 29. Selected miscellaneous personal artifacts recovered during shovel test excavation at Site 16IB74: (a) hard paste porcelain doll arm (FS #6); and (b) modern plastic toy tire fragment (FS #34).

Chapter VII: Results of the Field Investigations

Table 12. Historic/modern period glass recovered from shovel tests at Site 161B74.

STRATUM	FUNCTION	TYPE	SUBTYPE	FINISH TYPE	BASE TYPE	COLOR	PORTION	TOTAL
Stratum I	Construction	Window	2mm +	Indeterminate	Indeterminate	Colorless	Body	5
							Fragment	1
						Light Blue	Body	1
							Fragment	1
						Light Green	Fragment	2
	Domestic	Lamp	Lamp glass	Indeterminate	Indeterminate	Colorless	Body	6
	Kitchen	Bottle	Clorox	Indeterminate	Indeterminate	Brown	Body	1
			Embossed	Indeterminate	Owens Scar	Colorless	Base	1
					Indeterminate	Brown	Body	2
						Colorless	Body	3
			Liquor	Indeterminate	Indeterminate	Colorless	Body	1
			Milk glass	Threaded	Owens Scar	White	Complete	1
				Indeterminate	Indeterminate	White	Body	3
			Pepsi	Indeterminate	Indeterminate	Colorless	Body	1
			Textured	Indeterminate	Indeterminate	Brown	Body	5
						Colorless	Body	1
			Unidentified	Lipping Tool	Indeterminate	Brown	Finish	1
				Patent	Indeterminate	Amethyst	Finish	1
						Brown	Finish	1
						Colorless	Finish	1
				Patent	Owens Scar	Colorless	Complete	1
				Threaded	Owens Scar	Colorless	Complete	1
					Indeterminate	Cobalt	Finish	1
				Indeterminate	Owens Scar	Colorless	Finish	10
						Brown	Base	1
						Cobalt	Base	1
						Colorless	Base	4
							Body	2
					Indeterminate	Amethyst	Body	7
						Blue	Body	1
						Brown	Body	54
						Colorless	Base	10
							Body	204
							Finish	1
							Neck	1
						Dark Green	Body	5
						Embossed	Neck	2
						Green	Body	9
						Light Blue	Body	28
						Light Green	Body	6
						Purple	Body	1
						Red	Body	1
						Yellow	Body	1
		Decorative	Embossed	Indeterminate	Indeterminate	Dark Red	Body	1
						Green	Body	1
	Drinking glass	Undecorated	Undecorated	Indeterminate	Indeterminate	Colorless	Body	2
							Rim	2
		Unidentified	Unidentified	Indeterminate	Indeterminate	Colorless	Body	1
	Unidentified	Embossed	Milk glass	Indeterminate	Indeterminate	Colorless	Body	2
						Green	Body	3
						White	Base	1
		Thumbscrew	Unidentified	Indeterminate	Indeterminate		Body	6
						Colorless	Complete	1
							Base	1
		Unidentified	Unidentified	Indeterminate	Indeterminate		Body	1
							Handle	1
							Rim	3
						Opaque white	Body	1
						Yellow tint	Body	1
	Unidentified	Unidentified	Unidentified	Indeterminate	Indeterminate	Light Green	Fragment	1
Stratum I Total								420

Table 12, continued

STRATUM	FUNCTION	TYPE	SUBTYPE	FINISH TYPE	BASE TYPE	COLOR	PORTION	TOTAL
Stratum II	Kitchen	Bottle	Condiment	Threaded	Indeterminate	Colorless	Finish	1
			Unidentified	Crown	Indeterminate	Light Green	Finish	1
				Patent	Indeterminate	Colorless	Finish	1
				Threaded	Indeterminate	Colorless	Finish	1
				Indeterminate	Indeterminate	Amethyst	Rim	1
			Brown			Body	1	
			Colorless			Body	13	
				Light Blue	Body	2		
		Drinking glass	Undecorated	Indeterminate	Indeterminate	Colorless	Body	1
		Unidentified	Embossed	Indeterminate	Indeterminate	Colorless	Body	1
Unidentified	Indeterminate		Indeterminate	Colorless	Body	1		
Stratum II Total								24
Stratum III	Kitchen	Bottle	Unidentified	Indeterminate	Indeterminate	Colorless	Base	1
							Body	1
						Green	Body	3
						Light Blue	Body	1
	Unidentified	Unidentified	Unidentified	Indeterminate	Indeterminate	Colorless	Body	1
Stratum III Total								7
Grand Total								451



Figure 30. Selected glass shards recovered during shovel test excavation at Site 161B74: (a) Clorox bottle fragment (FS #29) embossed with an "X"; (b) Pepsi Cola bottle fragment (FS #62) embossed with "PEPSI" / "COLA"; and (c) bottle fragment (FS #30) embossed with Owens-Illinois maker's mark and "FL.OZ".

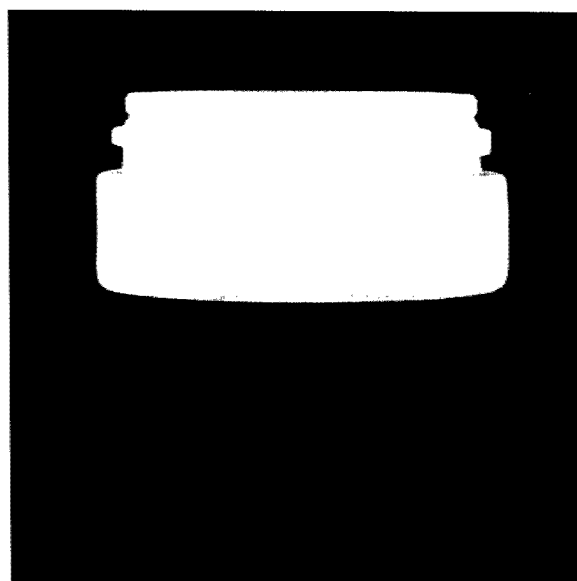


Figure 31. Complete milk glass smudge pot (FS #50) with threaded lip and an Owens scar recovered during shovel test excavation at Site 161B74.

glass bottle shards, a single colorless Pepsi bottle shard (Figure 30), 5 brown textured bottle glass shards, 1 colorless textured bottle glass shard, 1 brown lipping tool finish bottle shard, 1 amethyst patent bottle finish, 1 brown patent finish bottle shard, 1 colorless patent finish bottle shard (Figure 32), 1 complete colorless patent bottle (Figure 33), 1 complete colorless threaded bottle (Figure 34), a single cobalt threaded finish bottle shard, 10 colorless threaded finish bottle shards, a single indeterminate brown bottle base shard with an Owens scar, 1 cobalt bottle base shard with an Owens scar, 6 colorless bottle base shards with an Owens scar, 7 amethyst bottle glass shards, 1 blue bottle glass shard, 54 brown bottle glass shards, 216 colorless bottle glass shards, 5 dark green bottle glass shards, 2 embossed colorless bottle glass shards, 9 green bottle glass shards, 28 light blue bottle glass shards, 6 light green bottle glass shards, 1 purple bottle glass shard, 1 red bottle glass shard, a single yellow bottle glass shard, 1 dark red decorative glass shard, 1 green decorative glass shard, 5 colorless drinking glass shards, 2 embossed colorless unidentified glass shards, 3 green unidentified milk glass shards, a single white milk glass bowl base with "Fire King" mark (Figure 35), 6 white milk glass shards, a single complete colorless glass thumbscrew (Figure 36), 6 colorless unidentified glass shards, 1 opaque white unidentified glass shard, 1 yellow tint unidentified glass shard, and a single unidentified light green glass shard. Glass shards recovered from Stratum II of the shovel tests excavated at Site 16IB74 consisted of a single threaded colorless condiment bottle finish (Figure 37), 1 light green crown finish bottle glass shard, 1 colorless patent finish bottle glass shard, a single threaded colorless finish bottle glass shard, 1 amethyst bottle glass shard, 1 brown bottle glass shard, 13 colorless bottle glass shards, 2 light blue bottle glass shards, a single colorless drinking glass shard, and 2 colorless unidentified glass shards. Finally, 7 glass shards were collected from Stratum III of Site 16IB74. They consisted of 2 colorless bottle glass shards, 3 green bottle glass shards, 1 light blue bottle glass shard, and a single colorless unidentified glass shard.



Figure 32. Selected glass bottle fragments recovered during shovel test excavation at Site 16IB74: (a) unidentified patent bottle fragment (FS #14); (b) unidentified patent bottle fragment (FS #55); (c) unidentified bottle fragment with tooled lip (FS #77); and (d) unidentified amethyst-colored patent bottle fragment (FS #34).



Figure 33. Patent glass bottle (FS #51) with Owens scar and embossed with Owens maker's mark as well as "2" / "FL.OZ" / "3" on base recovered during shovel testing at Site 16IB74.

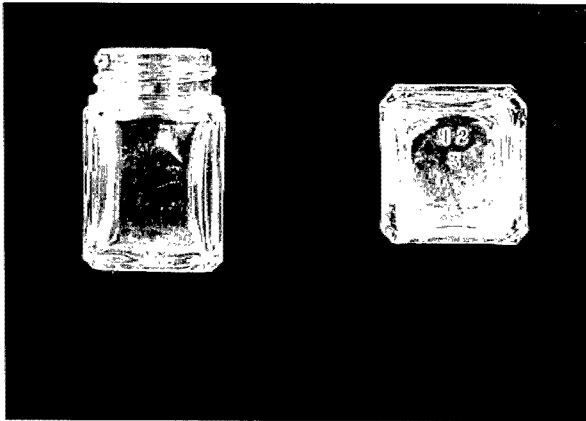


Figure 34. Complete threaded lip glass bottle (FS #5) with Owens scar and embossed with "12" / "3" on base recovered during shovel test excavation at Site 16IB74.

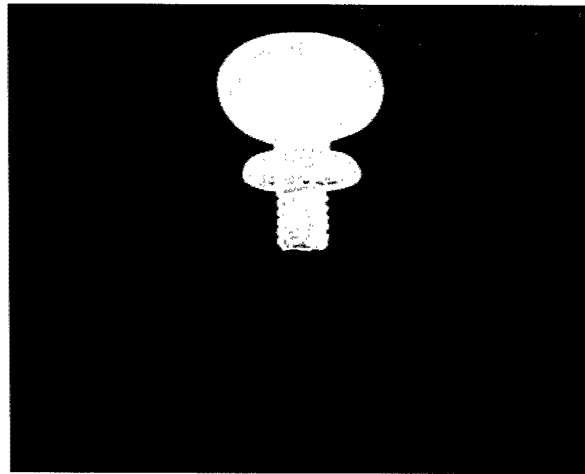


Figure 36. Complete glass fastener (FS #15) embossed with "C&Co" recovered during shovel test excavation at Site 16IB74.

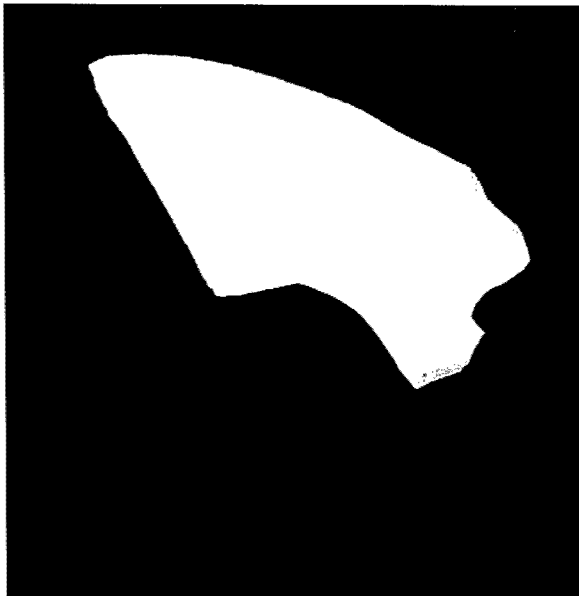


Figure 35. Unidentified milk glass base fragment (FS #51) embossed with "...OVEN" / "[FIRE]-KING" / "[FI]RE" ("Fire-King" by Anchor Hocking) recovered during shovel testing at Site 16IB74.

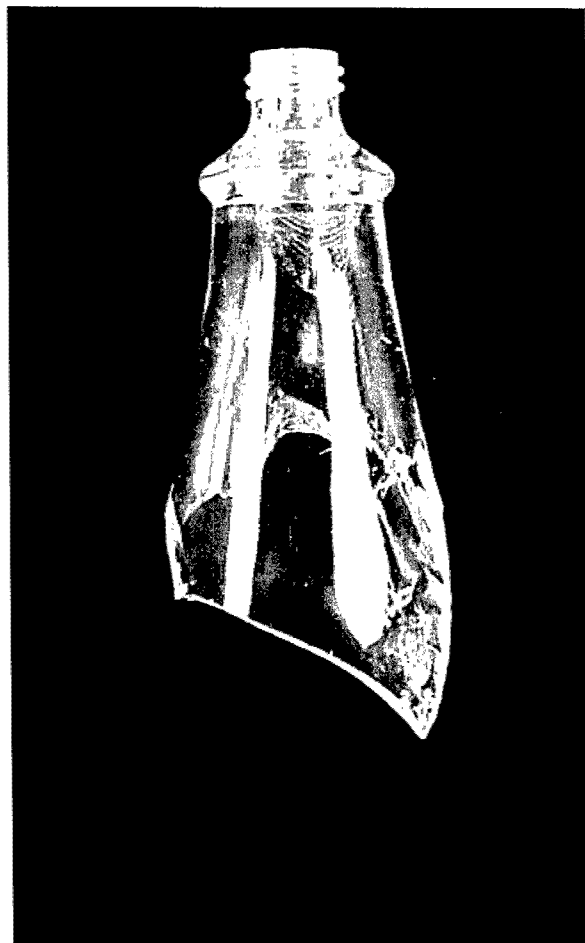


Figure 37. Glass condiment bottle fragment (FS #70) with threaded lip recovered during shovel test excavation at Site 16IB74.

Temporally diagnostic glass artifacts recovered from the site area included machine threaded bottle glass shards dating from post 1919, basal shards exhibiting Owens manufacturing scars dating from post 1904, crown cap bottle glass shards dating from post 1892, basal shards with Owens makers marks dating from ca., 1929 to 1954, smoothed lip tool finishes dating from 1870 to 1920, solarized amethyst glass shards dating from ca., 1880 to 1918, a single embossed glass shard with a "Pepsi Cola" design dating from post 1898, a single Clorox bottle shard dating from ca., 1951 to 1962, and a basal shard of an ovenware dish exhibiting a "Fire King" mark. The latter was manufactured between ca., 1942 and 1976 by the Anchor Hocking Corporation. Thus, glass artifacts recovered from shovel tests suggest that Site 16IB74 was occupied post ca., 1880, with most temporally diagnostic glass artifacts originating from ca., 1940 to 1950.

In addition to the cultural material described above, 149 metal artifacts were recovered from shovel tests excavated at Site 16IB74 (Table 13). Of these, 126 metal artifacts were recovered from Stratum I. They consisted of 4 cut nails, 43 wire nails, 31 unidentified nails, a single nut, 3 wire staples, 2 pieces of wire, a single domestic fastener, 1 piece of kitchen foil, 2 spark plugs, 1 unidentified metal cap, and 37 pieces of unidentified metal. In addition, 23 metal artifacts were recovered from Stratum II of the shovel tests. They consisted of 7 cut nails, 5 wire nails, 7 unidentified nails, a single rivet burr, a single unidentified metal ring, and 2 pieces of unidentified construction-related metal. Temporally diagnostic metal artifacts recovered from shovel tests excavated within the confines of Site 16IB74 included machine cut and wire nails dating from ca., 1820 to 1880 and post 1880, respectively.

Table 13. Historic/modern period metal artifacts recovered from shovel tests at Site 16IB74.

STRATUM	FUNCTION	TYPE	SUBTYPE	PORTION	TOTAL		
Stratum I	Construction	Hardware	Nail, Cut	Complete	3		
				Fragment	1		
			Nail, Unidentified	Complete	8		
				Fragment	23		
			Nail, Wire	Complete	33		
				Fragment	10		
			Nut	Complete	1		
			Wire cloth staple	Complete	2		
				Fragment	1		
			Unidentified	Unidentified	Fragment	6	
			Wire	Barbed	Fragment	1	
				Unidentified	Fragment	1	
			Domestic	Hardware	Fastener	Fragment	1
			Kitchen	Foil	Burnt	Fragment	1
	Mechanical	Hardware	Spark plug	Fragment	2		
	Unidentified	Unidentified	Cap	Complete	1		
Unidentified			Fragment	31			
Stratum I Total					126		
Stratum II	Construction	Hardware	Nail, Cut	Complete	4		
				Fragment	3		
			Nail, Unidentified	Complete	5		
				Fragment	2		
			Nail, Wire	Complete	5		
				Rivet Burr	Complete	1	
			Unidentified	Unidentified	Fragment	2	
			Unidentified	Hardware	Ring	Complete	1
	Stratum II Total					23	
Grand Total					149		

A total of 32 miscellaneous historic artifacts also were recovered from shovel tests excavated throughout the examined portions of Site 16IB74 (Table 14). Objects included in the miscellaneous category included pieces of brick, mortar, and plaster, as well as leather and plastic items. A total of 16 miscellaneous artifacts were recovered from Stratum I of Site 16IB74. They consisted of a single piece of brick; 2 pieces of composite shingle; 1 piece of mortar; 1 partial bakelite toy tire fragment (Figure 29); 3 pieces of indeterminate bakelite; and 8 pieces of plastic, one of which was burned. In

addition, 16 miscellaneous artifacts were recovered from Stratum II. They consisted of 4 pieces of brick, 6 pieces of mortar, 2 pieces of plaster, 1 piece of leather, a single unidentified plastic cap, and 2 pieces of unidentified plastic. Temporally diagnostic miscellaneous artifacts recovered from the shovel tests included the bakelite items, which dated from post 1910, and the unidentified plastic cap, which is modern in origin.

Finally, 13 faunal specimens were recovered from Site 16IB74 during the shovel testing portion of the survey (Table 15). A total of 9 faunal

Table 14. Miscellaneous historic/modern period artifacts recovered from shovel tests at Site 16IB74.

STRATUM	MATERIAL	FUNCTION	TYPE	SUBTYPE	COLOR	PORTION	TOTAL
Stratum I	Brick	Construction	Unidentified	Hard-mud	Red	Fragment	1
	Composite	Construction	Unidentified	Shingle	Indeterminate	Fragment	2
	Mortar	Construction	Unidentified	Unidentified	Indeterminate	Fragment	1
	Plastic	Personal	Toy	Tire	Black	Body	1
		Unidentified	Unidentified	Bakelite	Brown	Rim	1
					Dark Red	Rim	2
				Burnt	Colorless	Fragment	1
				Unidentified	Blue	Fragment	1
					Light Blue	Fragment	1
					White	Complete	1
				Fragment	4		
Stratum I Total							16
Stratum II	Brick	Construction	Unidentified	Hard-mud	Dark Red	Fragment	1
				Soft-mud	Orange	Fragment	3
	Leather	Unidentified	Unidentified	Unidentified	Brown	Fragment	1
	Mortar	Construction	Unidentified	Sand based	White	Fragment	6
	Plaster	Construction	Unidentified	Unidentified	Tan	Fragment	2
	Plastic	Unidentified	Unidentified	Cap	Red	Complete	1
				Unidentified	Brown	Complete	1
					Colorless	Fragment	1
Stratum II Total							16
Grand Total							32

Table 15. Faunal specimens recovered from shovel tests at Site 16IB74.

STRATUM	CLASS	FAMILY	GENUS SPECIES	ELEMENT	MODIFICATION	TOTAL
Stratum I	Bivalvia	Indeterminate	Indeterminate	Shell	Eroded	1
					Indeterminate	3
	Mammalia	Medium/Large	Indeterminate	Long bone shaft	Indeterminate	1
				Indeterminate	Long bone shaft	Indeterminate
		Indeterminate	Indeterminate	Unidentified	Calcined	1
				Cut	1	
Stratum I Total						9
Stratum II	Mammalia	Medium/Large	Indeterminate	Unidentified	Cut	1
		Indeterminate	Indeterminate	Long bone shaft	Indeterminate	2
Stratum II Total						3
Stratum III	Bivalvia	Indeterminate	Indeterminate	Shell	Indeterminate	1
Stratum III Total						1
Grand Total						13

specimens were recovered from Stratum I. They consisted of 4 bivalve shell fragments and 5 pieces of unidentified mammal bone. In addition, 3 unidentified pieces of mammal bone were recovered from Stratum II of the shovel tests. Finally, a single bivalve shell fragment was recovered from Stratum III during shovel testing. Of the recovered faunal specimens, two exhibited evidence of cut marks, while one was calcined.

A typical shovel test excavated at Site 161B74 extended to a depth of 100 cmbs (39.3 inbs) and it exhibited three strata in profile (Figure 38). Stratum I was described as a layer of very dark brown (10YR 2/2) clayey loam that ranged in depth from 0 to 20 cmbs (0 to 7.8 inbs). Stratum I was underlain by Stratum II, a deposit of black (10YR 2/1) clay that extended from 20 to 35 cmbs (7.8 to 13.7 inbs). Stratum III was characterized as a layer of grayish brown (10YR 5/2) clay mottled with strong brown (7.5YR 4/6) clay; it extended from 35 to 100 cmbs (13.7 to 39.3 inbs).

While the description presented above was characteristic of the majority of shovel tests excavated throughout the Area of Potential Effect, a number of atypical profiles were noted during the excavation of shovel tests along Transect 1. These shovel test profiles exhibited disturbance of deposits up to 40 cmbs (15.7 inbs); this disturbance was related to construction of a power line corridor that extended along the eastern edge of the proposed project item, as well as construction of a pipeline corridor that ran from east to west in the vicinity of the Bayou Teche bankline. In addition a number of shovel tests on Transect 4 contained disturbed soil deposits measuring up to 50 cmbs (19.6 inbs) in depth; this area appears to have been altered mechanically in the past. Profiles of atypical shovel tests generally exhibited mottled soil horizons mixed with pieces of gravel and cinder.

In addition to the recovered artifacts, a single cultural feature, designated as Feature 1, was identified during shovel testing of the site area. Feature 1 was described as a structural element, possibly part of a foundation, constructed of brick and mortar; it originally was encountered at 30 cmbs (11.8 inbs) in Shovel Test 8 of Transect 2 (i.e., located approximately 112.5 m [369 ft] north of the southern end of the proposed project area). After discovery, a stainless steel rod was

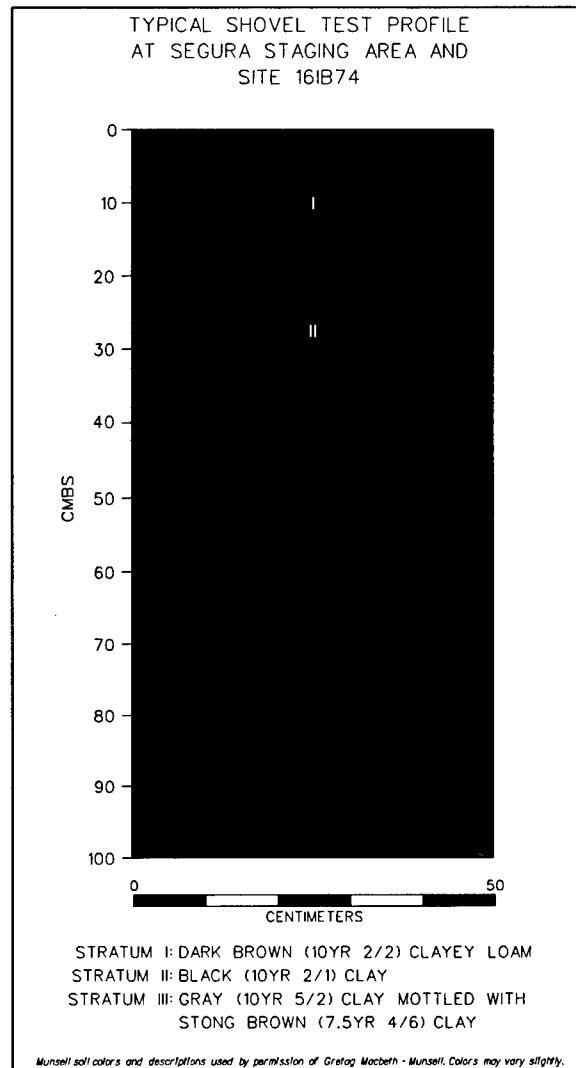


Figure 38. Profile of a typical shovel test excavated within the confines of the proposed staging area.

used to delineate the approximate horizontal dimensions of the feature. The probe was inserted into the ground at 25 cm (9.8 in) intervals in the four cardinal directions in the vicinity of Shovel Test 8 on Transect 2. Probing indicated that Feature 1 measured approximately 4 x 1.2 m (13.1 x 3.9 ft) in size. The long axis of Feature 1 was determined to extend parallel to Darnell Road and perpendicular to the bankline of Bayou Teche. A detailed description of Feature 1 is presented in the unit excavation section of this chapter.

Results of the Excavation of Unit 1 and the Exploratory Trench

During the current Phase I cultural resources survey and archeological inventory, a single 1 x 1 m (3.3 x 3.3 ft) unit and one exploratory trench measuring 0.5 x 1 m (1.64 x 3.3 ft) in size were excavated to delineate the extent and depth of Feature 1. Unit 1 was placed at grid coordinate N1043.5, E1000, while the exploratory trench was excavated immediately north of Unit 1 at grid coordinate N1044.5, E1000 (Figure 27). The unit and the exploratory trench were excavated not only to examine Feature 1 more closely, but also to determine whether Site 16IB74 contained intact cultural deposits, stratigraphic integrity, and research potential.

Excavation of Unit 1 resulted in the recovery of 159 artifacts; all of these artifacts were collected from Stratum I. Of these artifacts, 4 consisted of unmodified chert flakes, indicating that the site contained a minor prehistoric period component. In addition, 148 historic/modern period artifacts and 7 faunal specimens were recovered from Unit 1. All of the faunal specimens were characterized as pieces of unidentified mammal bone; they originated from Stratum I. The remainder of the historic/modern period artifacts is discussed in detail below.

Historic/modern ceramic artifacts recovered from Unit 1 consisted of a single hard paste porcelain insulator sherd and 1 annular decorated yellowware sherd (Figure 39); both artifacts were recovered from Stratum I. The annular decorated yellowware sherd dated from ca., 1840 to 1930. In addition, 97 glass shards were recovered from Stratum I of Site 16IB74 (Table 16). They consisted of a single burnt glass bottle shard, 7 embossed colorless bottle glass shards, a single textured colorless bottle glass shard, 13 colorless threaded finish bottle glass shards (Figure 40), a single amethyst bottle glass shard, 1 blue-green bottle glass shard, 13 brown bottle glass shards, 39 colorless bottle glass shards, 1 dark brown bottle glass shard, 3 dark green bottle glass shards, 5 green bottle glass shards, 3 light blue bottle glass shards, a single burnt unidentified glass shard, 1 pink embossed unidentified glass shard, 2 white milk glass unidentified glass shards, a single colorless unidentified glass shard, 1 swirled glass marble (Figure 40) and a single

swirled blue glass marble (Figure 41). Temporally diagnostic glass artifacts recovered from Unit 1 included machine threaded bottle glass shards dating from post 1919, solarized amethyst glass shards dating from ca., 1880 to 1918, glass marbles dating from post 1880, and a single embossed bottle glass shard with a partial "Duraglass" design. The latter dated from post 1940.

In addition to historic/modern period ceramic and glass artifacts, Stratum I of Unit 1 produced 46 metal artifacts (Table 17). These items consisted of 17 machine cut nails, 14 wire nails, 4 unidentified nails, a single bolt (Figure 41), 1 standard screw (Figure 41), 1 wire staple, 2 pieces of wire, a single metal zipper fragment (Figure 41), 1 bottle cap, 3 pull chain fragments, and a single can fragment. Temporally diagnostic metal artifacts recovered from Unit 1 included machine cut and wire nails dating from ca., 1820 to 1880 and post 1880, respectively. Finally, Stratum I of Unit 1 also produced three plastic artifacts. These artifacts consisted of a single plastic four-hole button (Figure 41) and 2 pieces of unidentified plastic. The synthetic plastic button dated from post 1930.

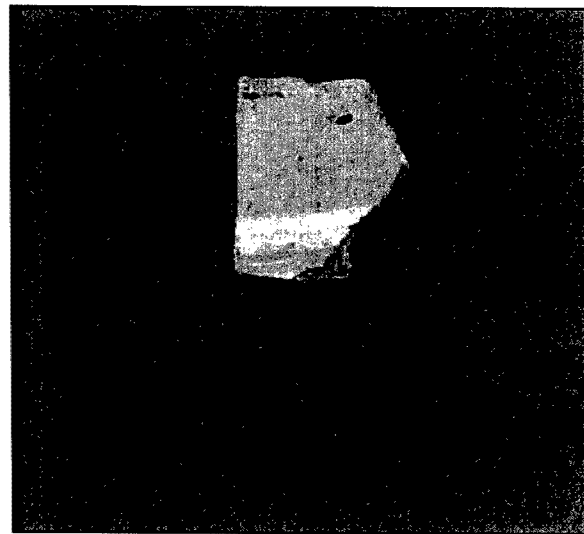


Figure 39. Annular decorated yellowware sherd (FS #81) recovered from Unit 1 excavated at Site 16IB74.

Table 16. Historic/modern period glass recovered from Unit 1 at Site 161B74.

STRATUM	FUNCTION	TYPE	SUBTYPE	FINISH TYPE	BASE TYPE	COLOR	PORTION	TOTAL
Stratum I	Kitchen	Bottle	Burnt	Indeterminate	Indeterminate	Colorless	Body	1
			Embossed	Indeterminate	Indeterminate	Colorless	Base	1
							Body	6
			Textured	Indeterminate	Indeterminate	Colorless	Body	1
			Unidentified	Extract	Indeterminate	Colorless	Finish	1
				Threaded	Indeterminate	Colorless	Finish	13
				Indeterminate	Indeterminate	Amethyst	Body	1
						Blue-green	Body	1
						Brown	Body	13
						Colorless	Body	37
							Finish	2
						Dark Brown	Body	1
						Dark Green	Body	2
							Fragment	1
						Green	Body	5
						Light Blue	Body	3
				Light Green	Body	1		
		Unidentified	Burnt	Indeterminate	Indeterminate	Colorless	Body	1
			Embossed	Indeterminate	Indeterminate	Pink	Body	1
			Milk glass	Indeterminate	Indeterminate	White	Body	1
							Fragment	1
		Unidentified	Indeterminate	Indeterminate	Colorless	Rim	1	
	Personal	Toy	Marble	Indeterminate	Indeterminate	Swirled	Complete	1
						Swirled blue	Complete	1
Stratum I Total								97
Grand Total								97

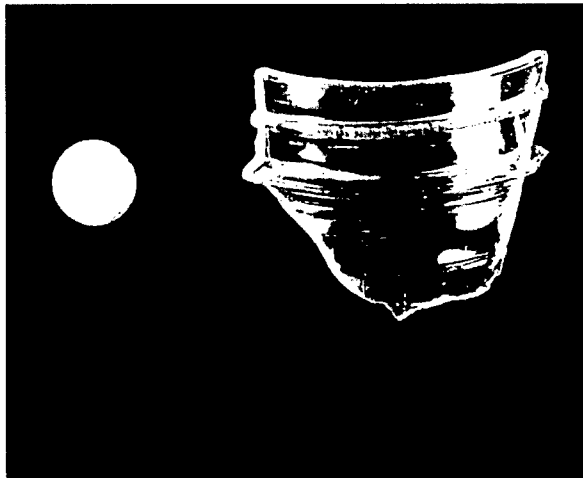


Figure 40. Selected glass artifacts recovered from Unit 1 excavated at Site 161B74: (a) marble (FS #81); and (b) colorless bottle shard with embossed pattern (FS #81).

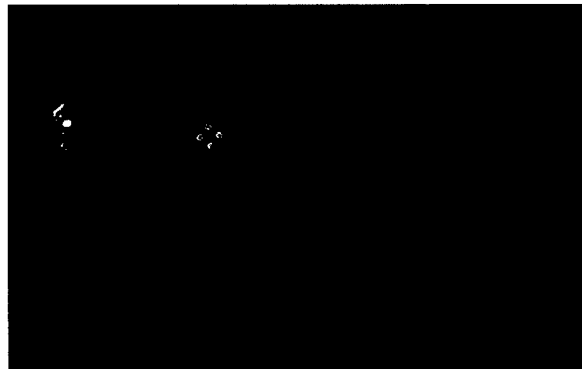


Figure 41. Selected miscellaneous historic artifacts recovered from Unit 1 excavated at Site 161B74: (a) swirled blue glass marble (FS #80); (b) modern plastic button (FS #80); (c) metal zipper fragment (FS #80); (d) metal standard wood screw (FS #80); and (e) metal bolt (FS #80).

Table 17. Historic/modern period metal artifacts recovered from Unit 1 at Site 161B74.

STRATUM	FUNCTION	TYPE	SUBTYPE	COLOR	PORTION	TOTAL
Stratum I	Construction	Hardware	Bolt	Indeterminate	Complete	1
			Nail, Cut	Indeterminate	Complete	7
					Fragment	10
			Nail, Unidentified	Indeterminate	Complete	2
					Fragment	2
			Nail, Wire	Indeterminate	Complete	8
					Fragment	6
			Screw, Standard	Indeterminate	Complete	1
			Wire cloth staple	Indeterminate	Fragment	1
		Wire	Unidentified	Indeterminate	Fragment	2
	Domestic	Hardware	Zipper	Indeterminate	Fragment	1
	Kitchen	Bottle	Lid	Indeterminate	Fragment	1
	Unidentified	Hardware	Pull chain	Indeterminate	Fragment	3
Stratum I Total						46
Grand Total						46

The south wall of Unit 1 exhibited a single stratum in profile; it also contained the uppermost level of Feature 1 in profile (Figures 42 and 43). Stratum I of Unit 1 was described as a layer of brown (10YR 4/3) clayey loam that ranged in depth from 0 to 16 cmbs (0 to 6.3 ins). Stratum I was underlain by Feature 1, a mortared brick structural element, possibly a portion of a foundation. Feature 1 was exposed at 16 cmbs (6.3 ins); it consisted of machine-extruded bricks held together with sand-based, concrete mortar (Figures 44 and 45). The feature covered the entire width of the unit from east to west and it extended from the southern wall to the immediate vicinity of the northern wall of Unit 1. Cleaning of the profile of Feature 1 indicated that the feature terminated at approximately 60 cmbs (23.6 ins) (Figures 46 and 47).

In addition, examination of the feature indicated that it likely contained another course of bricks on its original surface; however, that course of bricks was removed previously by mechanical alterations of the area. Thus, Feature 1 has been impacted in the past, as witnessed by the removed course of bricks, as well as by the broken corners of the feature where it extended into the eastern and western walls of Unit 1. This destruction probably was accomplished with heavy machinery, possibly a bulldozer. Based on the feature's full dimensions of 4 x 1.2 x 0.5 m (13.1

x 3.9 x 1.6 ft), the bricks and mortar appeared to represent a substantial, albeit narrow, structural element of a large barn. An aerial photograph dating from 1938, provided by the U.S. Army Corps of Engineers, New Orleans District, depicts a large barn located in this portion of the Area of Potential Effect (Figure 48).

Furthermore, during cleaning of the profile of Feature 1, an additional feature, designated as Feature 2, was identified. This feature was noted at 30 cmbs (11.8 ins) and it consisted of a dark soil stain containing minor amounts of brick and mortar. Feature 2 extended from the northern edge of Feature 1 into and beyond the north wall of Unit 1. Because of the restricted excavation space in Unit 1, an exploratory trench was excavated adjacent to the north wall of Unit 1 to expose Feature 2. This trench, all cultural material originating from it, and Feature 2 are described in detail below.

The exploratory trench measured 0.5 x 1 m (1.64 x 3.3 ft) in size and it was located at grid coordinate N 1044.5, E 1000 (Figure 27). The trench was excavated to better reveal the profile of Feature 1 and to determine the extent and function of Feature 2. The results of the excavation of the exploratory trench, including a discussion of the artifacts recovered and the possible origin of the feature, are presented below.

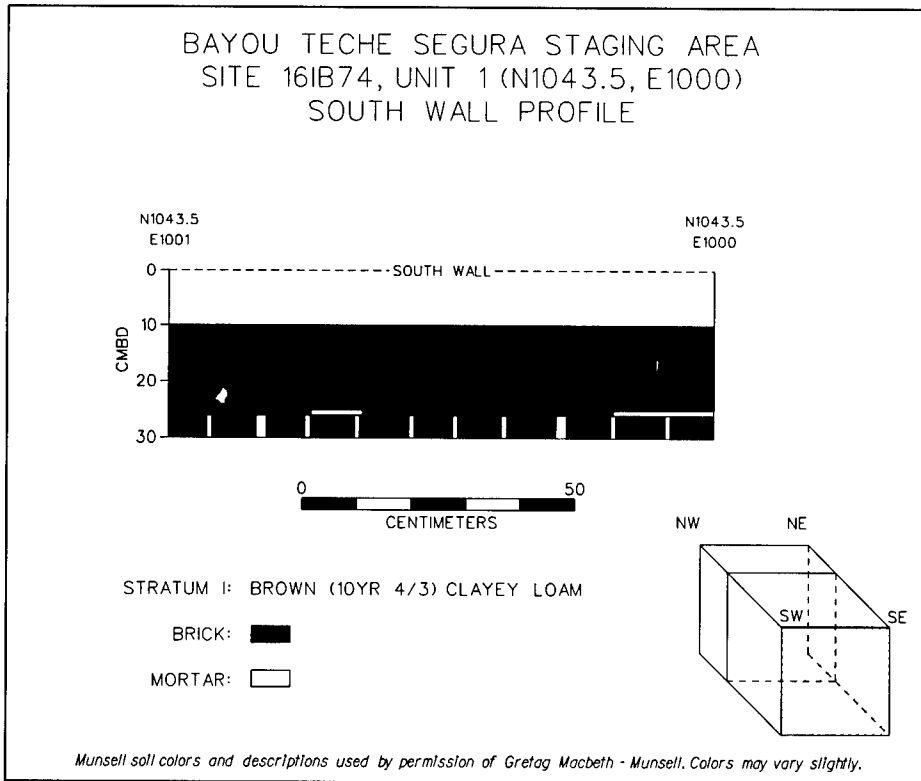


Figure 42. Profile of the south wall of Unit 1.



Figure 43. Overview photo of the south wall of Unit 1, facing south.

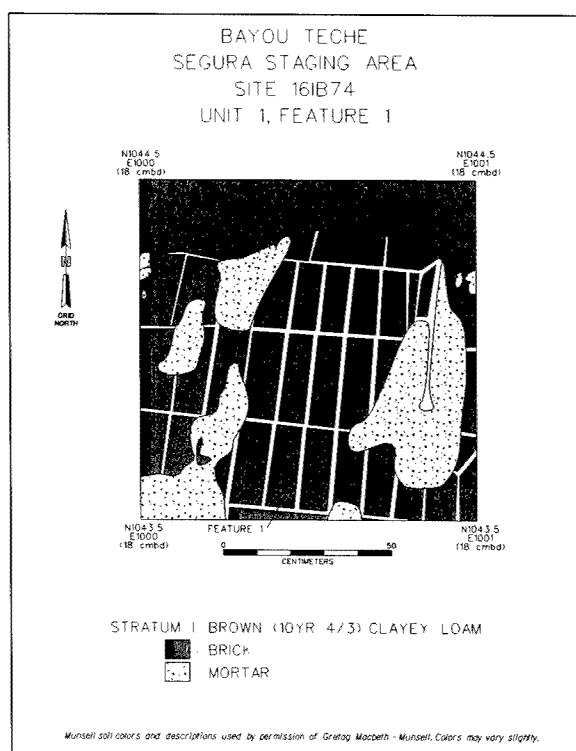


Figure 44. Plan view of Feature 1 depicting bricks and mortar.



Figure 45. Overview photo of the plan view of Feature 1, facing north.

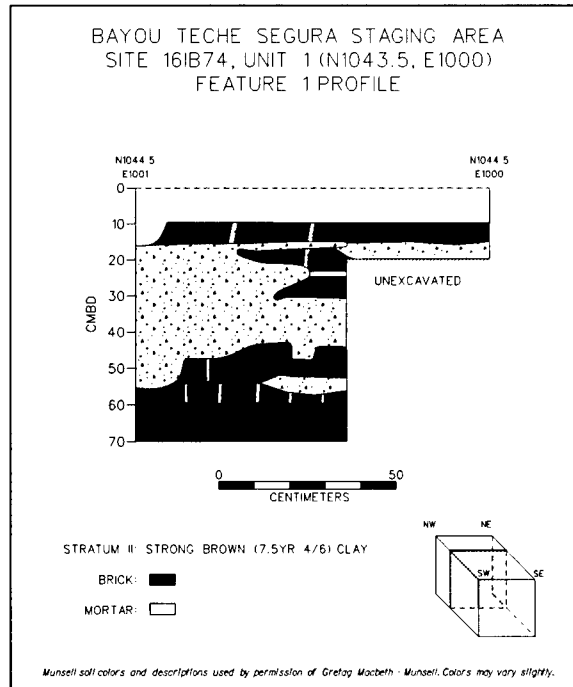


Figure 46. Profile drawing of Feature 1 depicting brick and mortar structural element in profile.



Figure 47. Overview photo of the profile of Feature 1, facing south.

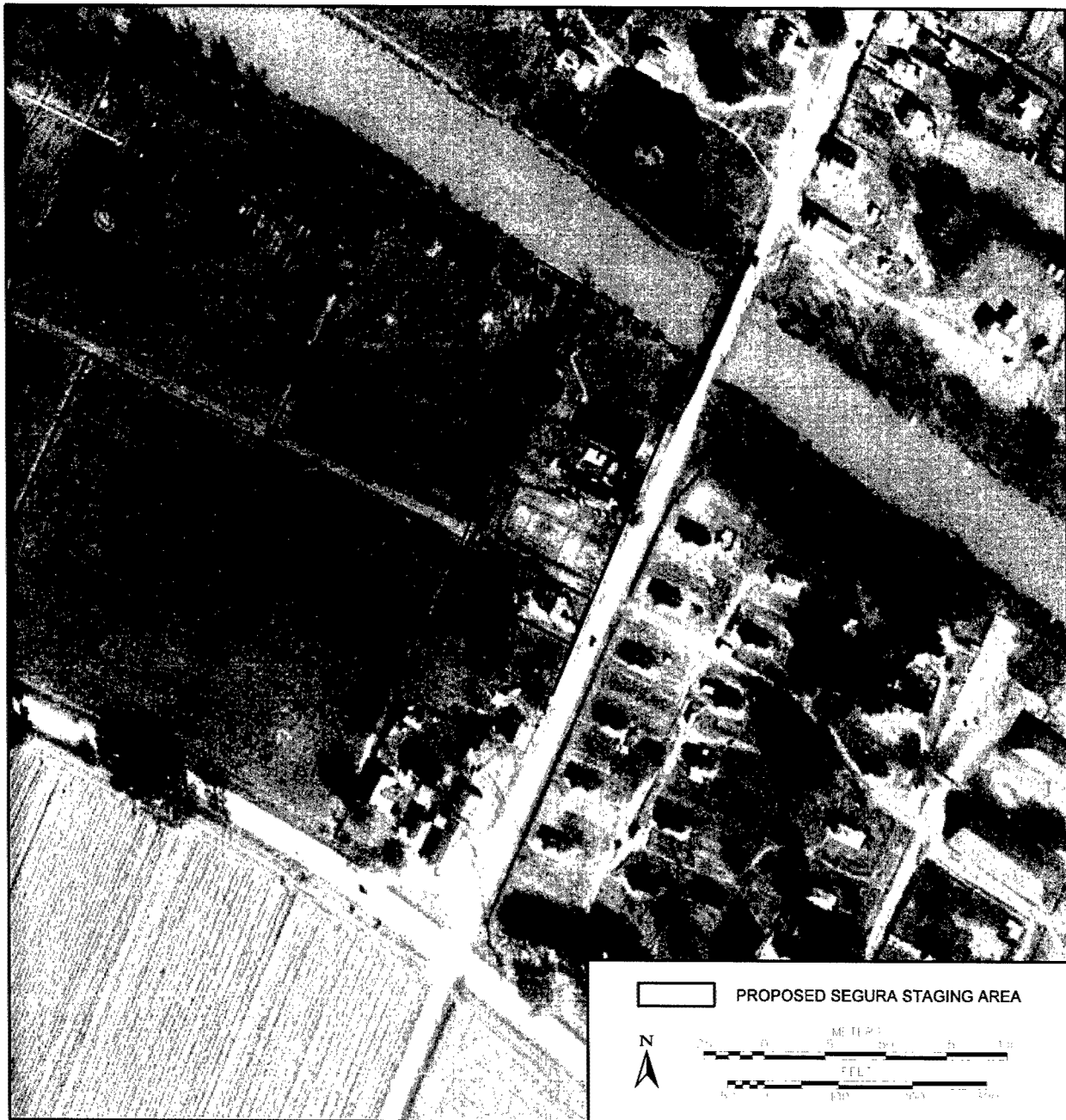


Figure 48. 1938 U.S. Army Corps of Engineers aerial photograph depicting the Segura Staging Area.

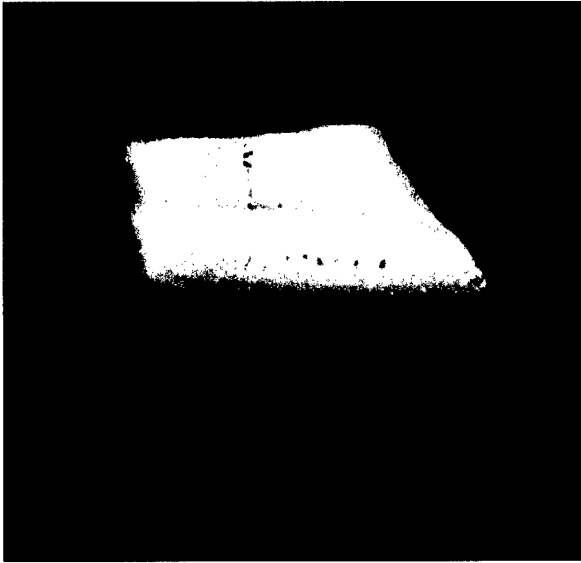


Figure 49. Embossed milk glass lamp shade fragment (FS #89) recovered from exploratory trench excavated at Site 161B74.

A total of 63 historic/modern period artifacts were recovered during excavation of the exploratory trench. Of these, a single historic/modern period ceramic sherd and 1 plain whiteware cup handle were recovered from Stratum I. The cup handle dated from post 1820. In addition, 33 glass shards were recovered from Stratum I and Stratum II of the trench (Table 18). Of these, 32 glass shards were recovered from Stratum I. They consisted of 2 burnt colorless bottle glass shards, 1 brown textured bottle glass shard, a single colorless textured bottle glass shard, 3 brown bottle glass shards, 17 colorless bottle glass shards, 2 light green bottle glass shards, 2 colorless burnt unidentified glass shards, 3 embossed pink unidentified glass shards, and a single embossed milk glass lamp shade shard (Figure 49). The remaining glass shard was collected from Stratum II; it consisted of a single dark green bottle glass shard.

Table 18. Historic/modern period glass recovered from the exploratory trench at Site 161B74.

STRATUM	FUNCTION	TYPE	SUBTYPE	FINISH TYPE	BASE TYPE	COLOR	PORTION	TOTAL
Stratum I	Kitchen	Bottle	Burnt	Indeterminate	Indeterminate	Colorless	Fragment	2
			Textured	Indeterminate	Indeterminate	Brown	Body	1
						Colorless	Body	1
			Unidentified	Indeterminate	Indeterminate	Brown	Body	3
						Colorless	Base	1
							Body	14
							Finish	1
			Unidentified	Indeterminate	Indeterminate	Neck	1	
						Light Green	Body	2
		Colorless				Body	2	
		Embossed	Indeterminate	Indeterminate	Pink	Body	3	
					Milk glass	Indeterminate	Indeterminate	White
Stratum I Total								32
Stratum II	Kitchen	Bottle	Unidentified	Indeterminate	Indeterminate	Dark Green	Body	1
Stratum II Total								1
Grand Total								33

In addition, 28 metal artifacts were recovered from Stratum I of the exploratory trench (Table 19). They consisted of 11 machine cut nails, 13 wire nails, a single can pull top, 1 complete unidentified can, 1 unidentified screen fragment, and a single piece of unidentified metal. Temporally diagnostic metal artifacts recovered during excavation of the exploratory trench included machine cut and wire nails dating ca., 1820 to 1880 and post 1880, respectively.

Finally, Feature 2 was recovered *in toto* after excavation of the exploratory trench was completed. Feature 2 was identified at approximately 30 cmbs (11.8 inbs) in the southern end of the excavated area, and, based on its width, it was thought to represent a builder's trench; however, after it was bisected, it was noted that the exposed profile tapered quickly downward to ovoid shape measuring approximately 25 x 55 cm (9.8 x 21.7 in). At that point, it was thought that Feature 2 possibly represented a posthole situated at the northern end of Feature 1 (Figure 50). The matrix of Feature 2 consisted of a deposit brown (10YR 4/3) clayey loam, which was compacted only moderately. During fieldwork, the entire feature was excavated and found to have rodent tunnels extending through it. As a result, it was determined that Feature 2 was of non-cultural origin; it represented an animal burrow situated adjacent to Feature 1. Despite its non-cultural origin, the feature contained artifacts that were displaced from their original context.

A total of 58 artifacts were recovered from Feature 2. Among these, were two faunal specimens described as a single piece of mammal

tooth enamel and 1 piece of unidentified mammal bone, respectively. In addition, 56 historic/modern artifacts were recovered from Feature 2. They consisted of 17 glass artifacts, 6 metal artifacts, and 33 miscellaneous artifacts comprised of pieces of brick, mortar, leather, plaster, and plastic. These artifacts are described in detail below.

The historic/modern period glass artifacts recovered from Feature 2 consisted of a single light blue glass insulator shard, 3 light bulb shards, 1 colorless drinking glass shard (Figure 51), a single embossed brown bottle glass shard (Figure 51), 1 painted light green bottle glass shard, a single brown bottle glass shard, 5 colorless bottle glass shards, 1 green bottle glass shard, a single light green bottle glass shard, 1 pink unidentified glass fragment and a single unidentified green-blue glass shard (Table 20). Temporally diagnostic glass artifacts collected from Feature 2 included a single basal shard of a drinking glass with an Owens Manufacturing Scar dating from post 1904 and a brown bottle glass shard containing the phrase "No Deposit." The latter dated from post 1948.

Other cultural material recovered from Feature 2 included 1 wire and 4 unidentified nails, a single piece of unidentified metal, and 33 historic/modern miscellaneous artifacts (Tables 21 and 22). The miscellaneous artifacts consisted of 18 pieces of brick, 6 pieces of coal, 8 pieces of mortar, and a single piece of bakelite. While the wire nails dated from post 1880, the bakelite dated from post 1920.

Table 19. Historic/modern period metal artifacts recovered from the exploratory trench 1 at Site 16IB74.

STRATUM	FUNCTION	TYPE	SUBTYPE	PORTION	TOTAL
Stratum I	Construction	Hardware	Nail, Cut	Complete	11
			Nail, Wire	Complete	5
				Fragment	8
	Kitchen	Can	Pull top	Fragment	1
			Unidentified	Complete	1
	Unidentified	Unidentified	Screen	Fragment	1
			Unidentified	Fragment	1
Stratum I Total					28
Grand Total					28

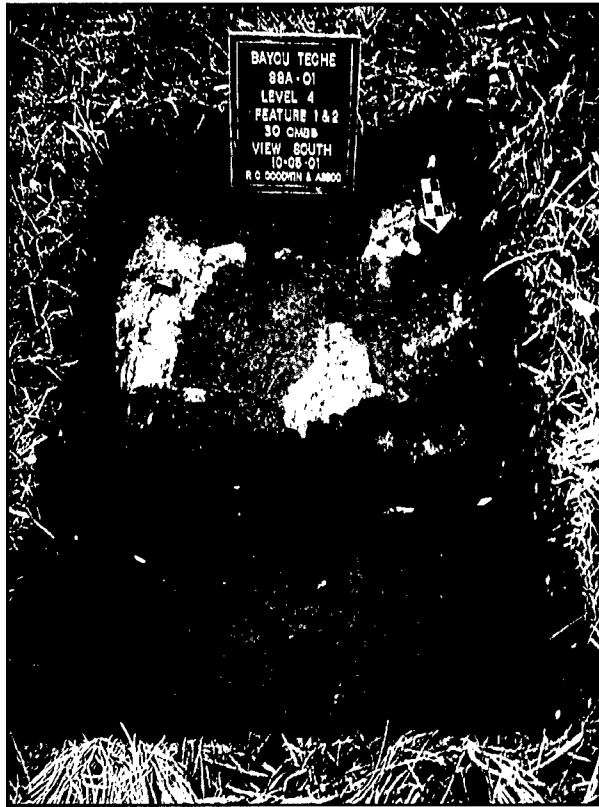


Figure 50. Overview photo depicting the location and configuration of Feature 2 relative to Feature 1, facing south.

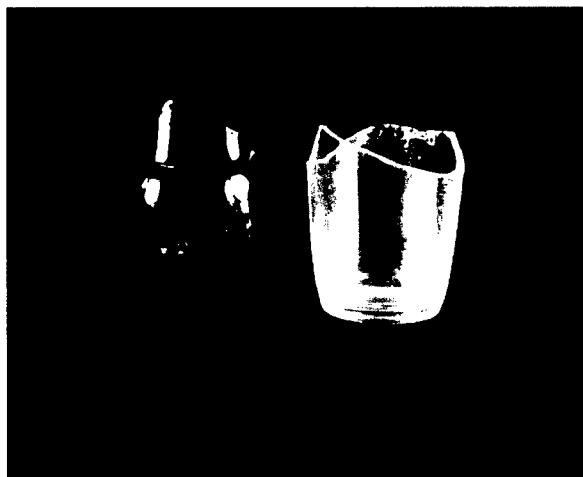


Figure 51. Selected glass artifacts recovered from Feature 2 excavated at Site 161B74: (a) bottle fragment (FS #92) embossed with "NO" / "DEP..."; and (b) drinking glass fragment (FS #92).

Table 20. Historic/modern period glass artifacts recovered from Feature 2 at Site 16IB74.

STRATUM	FUNCTION	TYPE	SUBTYPE	FINISH TYPE	BASE TYPE	COLOR	PORTION	TOTAL
Feature 2	Construction	Unidentified	Insulator	Indeterminate	Indeterminate	Light Blue	Fragment	1
	Domestic	Light bulb	Unidentified	Indeterminate	Indeterminate	Colorless	Body	3
	Kitchen	Bottle	Drinking Glass	Indeterminate	Owens Scar	Colorless	Base	1
			Embossed	Indeterminate	Indeterminate	Brown	Body	1
			Painted	Indeterminate	Indeterminate	Light Green	Body	1
			Unidentified	Indeterminate	Indeterminate	Brown	Body	1
						Colorless	Body	5
						Green	Body	1
						Light Green	Base	1
		Unidentified	Unidentified	Indeterminate	Indeterminate	Pink	Fragment	1
	Unidentified	Unidentified	Unidentified	Indeterminate	Indeterminate	Green-blue	Fragment	1
Feature 2 Total								17
Grand Total								17

Table 21. Historic/modern period metal artifacts recovered from Feature 2 at Site 16IB74.

STRATUM	FUNCTION	TYPE	SUBTYPE	PORTION	TOTAL
Feature 2	Construction	Hardware	Nail, Unidentified	Complete	2
				Fragment	2
			Nail, Wire	Complete	1
	Unidentified	Unidentified	Unidentified	Fragment	1
Feature 2 Total					6
Grand Total					6

Table 22. Miscellaneous historic/modern period artifacts recovered from Feature 2 at Site 16IB74.

STRATUM	MATERIAL	FUNCTION	TYPE	SUBTYPE	COLOR	PORTION	TOTAL
Feature 2	Brick	Construction	Unidentified	Hard-mud	Red	Fragment	3
				Soft-mud	Orange	Fragment	15
	Coal	Unidentified	Unidentified	Unidentified	Black	Fragment	6
	Mortar	Construction	Unidentified	Sand based	Tan	Fragment	8
	Plastic	Unidentified	Unidentified	Bakelite	Brown	Fragment	1
Feature 2 Total							33
Grand Total							33

Summary

Site 16IB74 consists of a multicomponent site with a low density prehistoric lithic subsurface scatter and a dense historic/modern period artifact scatter associated with a partially disturbed subsurface feature. Based on the U.S. Army Corps of Engineers, New Orleans District aerial photograph at least a single barn and two domestic structures have existed in the proposed project area in the last century. The historic/modern period artifacts revealed during survey indicate a late nineteenth to twentieth century domestic occupation. Based on the disturbed soils and the presence of twentieth cen-

tury material in three strata it appears that the removal of all or some of the structures was accomplished using heavy machinery, possibly a bulldozer.

The prehistoric component of Site 16IB74 consists of a subsurface scatter of five lithic artifacts; this component is mixed with historic/modern deposits noted throughout the site area. Due to an absence of depositional integrity and temporally diagnostic artifacts, the prehistoric component of Site 16IB74 lacks research potential; thus, it does not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36

CFR 60.4 [a-d]). No additional work is recommended for the prehistoric period component of Site 16IB74.

The historic/modern component of Site 16IB74 consists of a subsurface scatter of late nineteenth to mid-twentieth century artifacts associated with a domestic occupation of the area. Investigation of this component resulted in the recovery of 981 historic modern period artifacts from three strata, as well as the identification of two features, one of which was of non-cultural origin. The presence of twentieth century artifacts in all three strata demonstrates mixing of deposits and a lack of depositional integrity. Based on the composition of the artifact assemblage and the widespread distribution of material over the staging area, it appears that the site area contained a late nineteenth century domestic structure that was occupied well into the ensuing twentieth century.

The archeological and stratigraphic records of the area suggest that the now-destroyed structure was demolished with heavy equipment at the end of its useful life. The resulting debris

apparently was spread across the proposed project area. Further evidence of disturbance of the area is derived from Feature 1. The feature appears to have been stripped of at least one course of bricks, and the corners were damaged by heavy equipment. The presence of twentieth century artifacts in Feature 2, which is of non-cultural origin, also indicates that the filling of the feature, and probably the spreading of the domestic materials across the site area, occurred in the mid-twentieth century. Despite the presence of a semi-intact brick feature, the use of heavy equipment to spread occupational debris has disturbed heavily the cultural deposits, thereby leaving little, if any, intact archeological deposits and research potential. Thus, because of the lack of research potential, the historic/modern period component of Site 16IB74 does not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional work is recommended for this component of the site.

CHAPTER VIII

SUMMARY AND RECOMMENDATIONS

Between October 1 and October 8, 2001, R. Christopher Goodwin & Associates, Inc., conducted a Phase I cultural resources survey and archeological inventory of the Segura Staging Area on behalf of the U.S. Army Corps of Engineers, New Orleans District. The Area of Potential Effect was rectangular in shape and it measured approximately 0.81 ha (2 ac) in size. The Segura Staging Area was positioned in Irregular Section 41 of Township 12S, Range 7E, in Iberia Parish, Louisiana.

Background research for this project included inspection of documents housed at the Louisiana Department of Culture, Recreation and Tourism, Office of Cultural Development, Divisions of Archaeology and Historic Preservation, in Baton Rouge, as well as all readily available historical documents identified elsewhere in the region. A total of seven previously completed cultural resources surveys and archeological inventories were identified within 8 km (5 mi) of the proposed Segura Staging Area project parcel (see Chapter V of this document). These investigations failed to identify any previously recorded archeological sites within 1.6 km (1 mi) of the currently proposed Area of Potential Effect. A total of 5 previously recorded historic standing structures (23-398, 23-399, 23-400, 23-401, and 23-402) were identified within 1.6 km (1 mi) of the currently proposed Segura Staging Area (see Chapter V); however, none of these are located within or immediately adjacent to the Area of Potential Effect.

Fieldwork conducted as part of the current investigation consisted of pedestrian survey, systematic shovel testing, soil probing with a blunt-

tipped rod in selected portions of the proposed staging area, and unit excavation. During survey, 46 of 48 (96 percent) planned shovel tests were excavated throughout the Area of Potential Effect. This effort resulted in the identification of Site 16IB74. To further assess the significance of Site 16IB74 applying the National Register of Historical Places criteria for evaluation (36 CFR 60.4 [a-d]), soil probing, a single excavation unit measuring 1 x 1 m (3.3 x 3.3 ft) in size, and one narrow exploratory trench covering an area of 0.5 x 1 m (1.64 x 3.3 ft) were placed in the vicinity of a historic cultural feature detected during the shovel testing portion of the fieldwork. The historic feature consisted of a mortared brick foundation that measured approximately 4 x 1.2 x 0.5 m (13.1 x 3.9 x 1.6 ft). The bricks and mortar appeared to represent a substantial, albeit narrow, structural element of a large barn. A 1938 aerial photograph, provided by the U.S. Army Corps of Engineers, New Orleans District depicts a large barn located in this portion of the project area (Figure 48).

A total of 986 artifacts were recovered as part of the shovel testing and unit excavation efforts conducted within the boundaries of Site 16IB74. This material included 5 temporally non-diagnostic prehistoric lithic flakes, 22 non-diagnostic faunal specimens, and 959 historic/modern artifacts, some of which were temporally diagnostic. Recovered historic/modern artifact types included nails, brick, mortar, ceramics, container and bottle glass shards, and pieces of plastic.

Prior disturbance to the Area of Potential Effect was evident. The results of the fieldwork

demonstrated that Site 16IB74 had been impacted by the construction of a natural gas pipeline, a power line, and by prior earthmoving activity.

The prehistoric component of Site 16IB74 produced five lithic artifacts; this material originated from the historic/modern deposits noted throughout the site area. Due to an absence of both depositional integrity and temporally diagnostic artifacts, the prehistoric component of Site 16IB74 lacks research potential. It does not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing of the prehistoric component of Site 16IB74 is recommended.

The historic/modern component of Site 16IB74 was characterized as a subsurface scatter of late nineteenth to mid twentieth century artifacts associated with a domestic occupation of the site area. Investigation of this component resulted in the recovery 959 historic/modern artifacts from three strata, as well as the identification of two features, one of which was of non-cultural origin. The presence of twentieth century artifacts in all three strata demonstrates mixing of deposits and suggests a lack of depositional integrity. Based on the composition of the artifact assemblage and the widespread distribution of material over the staging area, it appears that the site area once housed a late nineteenth century domestic structure that was occupied well into the ensuing twentieth century. A 1938 U.S. Army Corps of Engineers, New Orleans District aerial photograph (Figure

48) examined as part of this undertaking depicts a large barn in the vicinity of the brick feature, with a house just to the north of this area and another house position within or adjacent to the northern boundary of the proposed staging area.

The archeological and stratigraphic records of the area suggest that these now-destroyed structures were demolished with heavy equipment at the end of their useful life or to facilitate construction of the Olivier Bridge. The resulting debris apparently was spread across the proposed project area. Further evidence of disturbance was derived from Feature 1. The feature appeared to have been stripped of at least one course of bricks, and the corners were damaged by heavy equipment. The presence of twentieth century artifacts in Feature 2, which was of non-cultural origin, also indicated that the filling of the feature, and probably the spreading of the domestic materials across the site area, occurred during the mid twentieth century. Despite the presence of a semi-intact brick feature, the use of heavy equipment to spread occupational debris has disturbed heavily the cultural deposits in the area, thereby leaving the site with little, if any, research potential. The lack of research potential as well as an absence of intact cultural deposits demonstrates that the historic/modern period component no longer retains the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing of this component of Site 16IB74 is recommended.

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APPENDIX I

ARTIFACTS RECOVERED DURING SURVEY

Table 1. Historic material recovered from Site 16IB74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top EI	Bot EI	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
01	1	1	0	ST				I	1	0	10	Ceramic	Kitchen	Hard paste porcelain	Undecorated			White	Body	1		Indeterminate
01	1	1	0	ST				I	1	0	10	Glass	Kitchen	Bottle	Undecorated			Colorless	Body	2		Indeterminate
02	1	1	0	ST				I	2	10	20	Ceramic	Kitchen	Whiteware	Undecorated			White	Rim	1	Probably bowl	ca. 1820-present
02	1	1	0	ST				I	2	10	20	Ceramic	Kitchen	Whiteware	Undecorated			White	Body	2	Refit	ca. 1820-present
02	1	1	0	ST				I	2	10	20	Glass	Construction	Window	2mm			Colorless	Body	1		Indeterminate
02	1	1	0	ST				I	2	10	20	Metal	Construction	Wire	Barbed				Fragment	1		post 1880
03	1	1	0	ST				II	4	30	40	Ceramic	Kitchen	Whiteware	Undecorated			White	Body	1	Refit with two fragments in FS 2	ca. 1820-present
03	1	1	0	ST				II	4	30	40	Glass	Kitchen	Bottle	Undecorated			Colorless	Body	1		Indeterminate
04	1	2	15	ST				I	1	0	10	Ceramic	Kitchen	Whiteware	Undecorated			White	Body	1		ca. 1820-present
04	1	2	15	ST				I	1	0	10	Glass	Kitchen	Bottle	Undecorated			Colorless	Body	1		Indeterminate
04	1	2	15	ST				I	1	0	10	Glass	Kitchen	Bottle	Undecorated			Brown	Body	1		Indeterminate
04	1	2	15	ST				I	1	0	10	Glass	Domestic	Lamp	Lamp glass			Colorless	Body	2		Indeterminate
04	1	2	15	ST				I	1	0	10	Glass	Kitchen	Undecorated	Milk glass			White	Body	1		Indeterminate
05	1	2	15	ST				I	2	10	20	Ceramic	Kitchen	Hard paste porcelain	Undecorated			White	Body	1	Very thin	Indeterminate
05	1	2	15	ST				I	2	10	20	Glass	Kitchen	Bottle	Undecorated	Threaded	Owens Suction Mark	Colorless	Complete	1	Embossed on base. "[12/3]"	ca. 1919-present
05	1	2	15	ST				I	2	10	20	Glass	Kitchen	Bottle	Undecorated			Colorless	Base	1	Very small base fragment	Indeterminate
05	1	2	15	ST				I	2	10	20	Glass	Kitchen	Bottle	Undecorated			Brown	Body	1		Indeterminate
05	1	2	15	ST				I	2	10	20	Glass	Domestic	Lamp	Lamp glass			Colorless	Body	1		Indeterminate
05	1	2	15	ST				I	2	10	20	Plastic	Undecorated	Undecorated	Bakelite			Brown	Rim	1		post 1909
06	1	2	15	ST				II	3	20	30	Ceramic	Personal	Hard paste porcelain	Toy Doll Arm			White	Complete	1		Indeterminate
06	1	2	15	ST				II	3	20	30	Ceramic	Kitchen	Stoneware	Glaze			White	Body	1		Indeterminate
06	1	2	15	ST				II	3	20	30	Glass	Kitchen	Undecorated	Embossed			Colorless	Body	1	Indiscernible design	Indeterminate
06	1	2	15	ST				II	3	20	30	Glass	Kitchen	Bottle	Undecorated			Colorless	Body	6		Indeterminate
06	1	2	15	ST				II	3	20	30	Leather	Undecorated	Undecorated	Undecorated			Brown	Fragment	1	Possibly part of a shoe lining or sole	Indeterminate
06	1	2	15	ST				II	3	20	30	Metal	Undecorated	Hardware	Ring				Complete	1	Probably copper	Indeterminate
06	1	2	15	ST				II	3	20	30	Metal	Construction	Hardware	Nail, Undecorated				Fragment	2	Shaft fragments	Indeterminate
06	1	2	15	ST				II	3	20	30	Metal	Construction	Hardware	Nail, Undecorated				Complete	2	the heads are approximately the same size as Ten-penny nails, but shorter	Indeterminate
06	1	2	15	ST				II	3	20	30	Metal	Construction	Hardware	Nail, Wire				Complete	1		post 1880
06	1	2	15	ST				II	3	20	30	Metal	Construction	Hardware	Rivet Burr				Complete	1		Indeterminate
07	1	2	15	ST				III	4	30	40	Glass	Undecorated	Undecorated	Undecorated			Colorless	Body	1	Small fragment, one flat, possibly window	Indeterminate
07	1	2	15	ST				III	4	30	40	Glass	Kitchen	Bottle	Undecorated			Green	Body	3		Indeterminate
07	1	2	15	ST				III	4	30	40	Glass	Kitchen	Bottle	Undecorated			Light Blue	Body	1		Indeterminate

Table 1. Historic material recovered from Site 161B74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top	Bot	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
07	1	2	15	ST				III	4	30	40	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1		Indeterminate
08	1	3	30	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1	The edges of two embossed lines visible	Indeterminate
08	1	3	30	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Light Green	Body	1		Indeterminate
08	1	3	30	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Light Blue	Body	2		Indeterminate
08	1	3	30	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	10		Indeterminate
08	1	3	30	ST				I	1	0	10	Glass	Construction	Window	2mm			Colorless	Body	1		Indeterminate
08	1	3	30	ST				I	1	0	10	Metal	Construction	Hardware	Nail, Wire				Complete	2	Refit	post 1880
08	1	3	30	ST				I	1	0	10	Plastic	Unidentified	Unidentified	Unidentified			White	Complete	1	Possibly part of a fastener/furniture button	Indeterminate
09	1	3	30	ST				I	2	10	20	Glass	Kitchen	Bottle	Unidentified			Light Blue	Body	2		Indeterminate
09	1	3	30	ST				I	2	10	20	Glass	Kitchen	Bottle	Unidentified			Light Green	Body	1		Indeterminate
09	1	3	30	ST				I	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	2		Indeterminate
09	1	3	30	ST				I	2	10	20	Glass	Kitchen	Drinking glass	Undecorated			Colorless	Rim	1		Indeterminate
09	1	3	30	ST				I	2	10	20	Glass	Domestic	Lamp	Lamp glass			Colorless	Body	2		Indeterminate
09	1	3	30	ST				I	2	10	20	Metal	Construction	Hardware	Nail, Unidentified				Fragment	3	Two large wire nails, shorter than ten pennies (2 fragments refit)	Indeterminate
09	1	3	30	ST				I	2	10	20	Metal	Construction	Hardware	Nail, Wire				Complete	3		post 1880
09	1	3	30	ST				I	2	10	20	Metal	Construction	Hardware	Nail, Wire				Fragment	3		post 1880
09	1	3	30	ST				I	2	10	20	Plastic	Unidentified	Unidentified	Unidentified			Light Blue	Fragment	1	Vinyl covering, thin, textured	Modern
10	1	3	30	ST				II	3	20	30	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1		Indeterminate
10	1	3	30	ST				II	3	20	30	Glass	Kitchen	Drinking glass	Undecorated			Colorless	Body	1		Indeterminate
10	1	3	30	ST				II	3	20	30	Metal	Construction	Hardware	Nail, Unidentified				Complete	1		Indeterminate
10	1	3	30	ST				II	3	20	30	Metal	Construction	Hardware	Nail, Wire				Complete	2		post 1880
11	2	1	7.5	ST				I	1	0	10	Brick	Construction	Unidentified	Hard-mud			Red	Fragment	1		Indeterminate
11	2	1	7.5	ST				I	1	0	10	Ceramic	Kitchen	Whiteware	Undecorated			White	Rim	2	Refit	ca. 1820-present
11	2	1	7.5	ST				I	1	0	10	Glass	Kitchen	Unidentified	Embossed			Colorless	Body	1	Embossed texture	Indeterminate
11	2	1	7.5	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	1		Indeterminate
11	2	1	7.5	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	2		Indeterminate
11	2	1	7.5	ST				I	1	0	10	Metal	Construction	Hardware	Nail, Wire				Complete	1	7 1/4" nail	post 1880
11	2	1	7.5	ST				I	1	0	10	Metal	Construction	Unidentified	Unidentified				Fragment	2	Wire, wire cloth staple, or nail shafts	Indeterminate
12	2	1	7.5	ST				I	2	10	20	Ceramic	Kitchen	Stoneware	Undecorated			White	Base	1	Fragment of base and body of utilitarian vessel	Indeterminate

Table 1. Historic material recovered from Site 161B74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top	Bot	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
12	2	1	7.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified		Owens Scar	Colorless	Base	1	'18'	post 1904
12	2	1	7.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Base	1	Part of makers mark, but indistinguishable	Indeterminate
12	2	1	7.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	2		Indeterminate
12	2	1	7.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Purple	Body	1		Indeterminate
12	2	1	7.5	ST				1	2	10	20	Metal	Construction	Hardware	Nail, Wire				Fragment	1	Shaft fragment	post 1880
13	2	2	22.5	ST				1	1	0	10	Ceramic	Kitchen	Hard paste porcelain	Undecorated			White	Body	1	Split fragment	Indeterminate
13	2	2	22.5	ST				1	1	0	10	Ceramic	Kitchen	Yellowware	Spongware			Blue/yellow	Body	1		ca. 1830-present
13	2	2	22.5	ST				1	1	0	10	Glass	Kitchen	Drinking glass	Undecorated			Colorless	Body	1		Indeterminate
13	2	2	22.5	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Unidentified				Complete	2	Refit	Indeterminate
13	2	2	22.5	ST				1	1	0	10	Metal	Unidentified	Unidentified	Unidentified				Fragment	3		Indeterminate
14	2	3	37.5	ST				1	2	10	20	Ceramic	Kitchen	Whiteware	Undecorated			White	Base	1	Possibly the edge of a footring	ca. 1820-present
14	2	3	37.5	ST				1	2	10	20	Ceramic	Kitchen	Whiteware	Undecorated			White	Body	2	Refit, modern break	ca. 1820-present
14	2	3	37.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified	Patent		Colorless	Finish	1	Very slight collar around base of neck of bottle	Indeterminate
14	2	3	37.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	2		Indeterminate
14	2	3	37.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Brown	Body	2		Indeterminate
14	2	3	37.5	ST				1	2	10	20	Glass	Construction	Window	2mm			Light Blue	Fragment	1		Indeterminate
14	2	3	37.5	ST				1	2	10	20	Metal	Domestic	Hardware	Fastener				Fragment	1	Oval turning fastener	Indeterminate
14	2	3	37.5	ST				1	2	10	20	Metal	Unidentified	Unidentified	Unidentified				Fragment	1		Indeterminate
15	2	3	37.5	ST				1	1	0	10	Ceramic	Kitchen	Stoneware	Albany glaze			Brown/Grey	Body	1	Albany glaze interior/ Clear glaze exterior	Indeterminate
15	2	3	37.5	ST				1	1	0	10	Ceramic	Kitchen	Whiteware	Undecorated			White	Base	1	Very small fragment, part of foot ring	ca. 1820-present
15	2	3	37.5	ST				1	1	0	10	Ceramic	Kitchen	Whiteware	Undecorated			White	Body	2	Very thick	ca. 1820-present
15	2	3	37.5	ST				1	1	0	10	Ceramic	Kitchen	Hard paste porcelain	Undecorated			White	Body	2		Indeterminate
15	2	3	37.5	ST				1	1	0	10	Ceramic	Kitchen	Whiteware	Undecorated			White	Rim	1		ca. 1820-present
15	2	3	37.5	ST				1	1	0	10	Glass	Kitchen	Unidentified	Thumbscrew			Colorless	Complete	1	Possibly a cork adornment or perfume bottle closure, '[C&CO]'	Indeterminate
15	2	3	37.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Embossed			Colorless	Neck	1	Ridges around neck are the same as those on fragment in FS81	Indeterminate
15	2	3	37.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Light Blue	Body	1		Indeterminate
15	2	3	37.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	8		Indeterminate
15	2	3	37.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	21		Indeterminate
15	2	3	37.5	ST				1	1	0	10	Glass	Domestic	Lamp	Lamp glass			Colorless	Body	1		Indeterminate
15	2	3	37.5	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Wire				Complete	2	Refit	post 1880
15	2	3	37.5	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Unidentified				Fragment	6	Very corroded	Indeterminate

Table 1. Historic material recovered from Site 161B74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top	Bot	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
15	2	3	37.5	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Cut				Complete	1		ca. 1820-1880
15	2	3	37.5	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Unidentified				Complete	1		Indeterminate
16	2	4	52.5	ST				1	1	0	10	Ceramic	Kitchen	White ware	Undecorated			White	Base	1	Small portion of the foot ring	ca. 1820-present
16	2	4	52.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	2		Indeterminate
17	2	4	52.5	ST				1	2	10	20	Ceramic	Kitchen	Iron ware	Decal decorated			Multicolored	Body	1	Pink and green flower decoration	ca. 1890-present
17	2	4	52.5	ST				1	2	10	20	Ceramic	Kitchen	White ware	Undecorated			White	Body	2		ca. 1820-present
17	2	4	52.5	ST				1	2	10	20	Ceramic	Kitchen	White ware	Undecorated			White	Base	1		ca. 1820-present
17	2	4	52.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Embossed			Colorless	Body	1	Embossed star on side	Indeterminate
17	2	4	52.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Amethyst	Body	1	Very light amethyst color	ca. 1880-1918
17	2	4	52.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	3		Indeterminate
17	2	4	52.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Brown	Body	2		Indeterminate
17	2	4	52.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Light Blue	Body	10		Indeterminate
17	2	4	52.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Light Green	Body	1		Indeterminate
17	2	4	52.5	ST				1	2	10	20	Metal	Unidentified	Unidentified	Unidentified				Fragment	1	Flat metal fragment	Indeterminate
17	2	4	52.5	ST				1	2	10	20	Metal	Construction	Hardware	Nail, Unidentified				Fragment	2	Shaft fragments	Indeterminate
17	2	4	52.5	ST				1	2	10	20	Metal	Construction	Hardware	Nail, Wire				Complete	1	Wide head finishing nail	post 1880
18	2	6	82.5	ST				1	2	10	20	Metal	Construction	Hardware	Nail, Cut				Complete	1	Similar to a horseshoe nail	ca. 1820-1880
18	2	6	82.5	ST				1	2	10	20	Metal	Construction	Hardware	Nail, Wire				Fragment	1	Two wire nails corroded together	post 1880
19	2	7	97.5	ST				1	1	0	10	Ceramic	Kitchen	Hard paste porcelain	Undecorated			White	Base	1	Very thin, [MADE...DIAPAN]	Indeterminate
19	2	7	97.5	ST				1	1	0	10	Ceramic	Kitchen	White ware	Undecorated			White	Rim	1		ca. 1820-present
19	2	7	97.5	ST				1	1	0	10	Ceramic	Kitchen	White ware	Undecorated			White	Body	4		ca. 1820-present
19	2	7	97.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Embossed			Colorless	Body	1	Embossed ridges	Indeterminate
19	2	7	97.5	ST				1	1	0	10	Glass	Kitchen	Unidentified	Unidentified			Colorless	Base	1	Possibly the base for a large bowl	Indeterminate
19	2	7	97.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified		Owens Scar	Colorless	Base	2	Refit, Embossing on edge and base, Base: [DESPATENT 11402...], edge: [NET CONTENTS 7FL...]	post 1904
19	2	7	97.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Textured			Brown	Body	1		Indeterminate
19	2	7	97.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	5		Indeterminate
19	2	7	97.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Green	Body	4		Indeterminate
19	2	7	97.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	28		Indeterminate
19	2	7	97.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Red	Body	1		Indeterminate
19	2	7	97.5	ST				1	1	0	10	Glass	Kitchen	Unidentified	Unidentified			Opaque white	Body	1		Indeterminate
19	2	7	97.5	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Unidentified				Complete	3	Possibly finishing nails or tacks	Indeterminate
19	2	7	97.5	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Cut				Complete	1		ca. 1820-1880
19	2	7	97.5	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Wire				Complete	11		post 1880
20	2	8	112.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Yellow	Body	1		Indeterminate

Table 1. Historic material recovered from Site 16IB74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top EI	Bot EI	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
20	2	8	112.5	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Green	Body	2		Indeterminate
20	2	8	112.5	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	2		Indeterminate
20	2	8	112.5	ST				I	1	0	10	Metal	Unidentified	Unidentified	Unidentified				Fragment	1	Probably a can seam	Indeterminate
20	2	8	112.5	ST				I	1	0	10	Metal	Construction	Hardware	Nail, Wire				Complete	2		post 1880
21	2	8	112.5	ST				II	2	10	20	Metal	Construction	Hardware	Nail, Cut				Fragment	2	Heads and part of shafts	ca. 1820-1880
22	2	8	112.5	ST				II	3	20	30	Metal	Construction	Hardware	Nail, Cut				Complete	4		ca. 1820-1880
23	2	8	112.5	ST				II	2/3	10	30	Brick	Construction	Unidentified	Hard-mud			Dark Red	Fragment	1	169.56g	Indeterminate
23	2	8	112.5	ST				II	2/3	10	30	Brick	Construction	Unidentified	Soft-mud			Orange	Fragment	3	399.26g	Indeterminate
23	2	8	112.5	ST				II	2/3	10	30	Mortar	Construction	Unidentified	Sand based			White	Fragment	6	105.65g	Indeterminate
23	2	8	112.5	ST				II	2/3	10	30	Plaster	Construction	Unidentified	Unidentified			Tan	Fragment	2	18.87g	Indeterminate
24	2	10	142.5	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified	Threaded		Colorless	Finish	2		ca. 1919-present
24	2	10	142.5	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified	Unidentified		Light Green	Body	1		Indeterminate
24	2	10	142.5	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified	Unidentified		Green	Body	1		Indeterminate
24	2	10	142.5	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified	Unidentified		Colorless	Body	15		Indeterminate
24	2	10	142.5	ST				I	1	0	10	Glass	Kitchen	Unidentified	Milk glass			Green	Body	3		Indeterminate
24	2	10	142.5	ST				I	1	0	10	Metal	Construction	Hardware	Nail, Wire				Fragment	1	Small shaft fragment	post 1880
25	2	10	142.5	ST				I	3	20	30	Ceramic	Kitchen	Earthenware	Black glaze			Black	Body	1		Indeterminate
25	2	10	142.5	ST				I	3	20	30	Glass	Kitchen	Bottle	Unidentified	Unidentified		Colorless	Body	1	half of writing in script, "ONE... leads a..."	Indeterminate
25	2	10	142.5	ST				I	3	20	30	Glass	Kitchen	Bottle	Unidentified	Unidentified		Colorless	Body	2		Indeterminate
25	2	10	142.5	ST				I	3	20	30	Metal	Construction	Hardware	Nail				Complete	2	Refit	Indeterminate
25	2	10	142.5	ST				I	3	20	30	Metal	Unidentified	Unidentified	Unidentified				Fragment	2		Indeterminate
26	1	4	45	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified	Unidentified		Colorless	Body	2		Indeterminate
26	1	4	45	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified	Unidentified		Brown	Body	1		Indeterminate
27	1	4	45	ST				I	2	10	20	Ceramic	Kitchen	Hard paste porcelain	Undecorated			White	Handle	1	Part of a decorative handle	Indeterminate
27	1	4	45	ST				I	2	10	20	Glass	Kitchen	Bottle	Unidentified	Unidentified		Dark Green	Body	2		Indeterminate
27	1	4	45	ST				I	2	10	20	Glass	Kitchen	Bottle	Unidentified	Unidentified		Colorless	Body	1		Indeterminate
27	1	4	45	ST				I	2	10	20	Glass	Kitchen	Drinking glass	Undecorated			Colorless	Body	2		Indeterminate
27	1	4	45	ST				I	2	10	20	Glass	Kitchen	Unidentified	Unidentified				Fragment	1	Metal bar, slightly bent at a 135 degree angle	Indeterminate
28	1	4	45	ST				II	3	20	30	Metal	Construction	Hardware	Nail, Wire				Complete	1	Very eroded	post 1880
29	1	5	60	ST				I	1	0	10	Glass	Kitchen	Bottle	Cloxx			Brown	Body	1	Embossed letter "X" not solid	ca. 1951-1962
29	1	5	60	ST				I	1	0	10	Glass	Kitchen	Unidentified	Unidentified			Yellow tint	Body	1	Thin, possibly drinking glass	Indeterminate

Table 1. Historic material recovered from Site 161B74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top EI	Bot EI	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
29	1	5	60	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	2		Indeterminate
29	1	5	60	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Blue	Body	1		Indeterminate
29	1	5	60	ST				1	2	10	20	Ceramic	Kitchen	Whiteware	Undecorated			White	Rim	1		ca. 1820-present
30	1	5	60	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Base	1		Maker's mark for Owens-Illinois, 'IFL OZ'
30	1	5	60	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1		Indeterminate
30	1	5	60	ST				1	2	10	20	Metal	Unidentified	Unidentified					Fragment	3		Refit, possibly edge to a can or just twisted metal
30	1	5	60	ST				1	2	10	20	Mortar	Construction	Unidentified	Unidentified				Fragment	1		gravel/sand based mortar
31	1	5	60	ST				III	4	30	40	Glass	Kitchen	Bottle	Unidentified			Colorless	Base	1		'ID-11...658'
32	1	6	75	ST				1	1	0	10	Ceramic	Kitchen	Whiteware	Embossed			White	Rim	1		Very slight embossing around edge
32	1	6	75	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	2		Indeterminate
32	1	6	75	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	1		Indeterminate
33	1	7	90	ST				1	1	0	10	Glass	Kitchen	Unidentified	Unidentified			Colorless	Handle	1		Small glass handle
33	1	7	90	ST				1	1	0	10	Glass	Kitchen	Drinking glass	Unidentified			Colorless	Body	1		Indeterminate
33	1	7	90	ST				1	1	0	10	Glass	Construction	Window	2mm			Colorless	Body	3		Indeterminate
33	1	7	90	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Wire				Complete	1		Very recent
34	1	7	90	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified	Patent		Amethyst	Finish	1		ca. 1880-1918
34	1	7	90	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Amethyst	Body	6		ca. 1880-1918
34	1	7	90	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Light Green	Body	2		Indeterminate
34	1	7	90	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	2		Indeterminate
34	1	7	90	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Light Blue	Complete	1		A small metal cap
34	1	7	90	ST				1	2	10	20	Metal	Unidentified	Unidentified	Cap			Black	Body	1		Modern
34	1	7	90	ST				1	2	10	20	Plastic	Personal	Toy	Tire			Brown	Body	1		Indeterminate
35	1	10	135	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	2		Indeterminate
35	1	10	135	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	2		Indeterminate
35	1	10	135	ST				1	1	0	10	Metal	Unidentified	Unidentified	Unidentified				Fragment	1		Indeterminate
36	1	10	135	ST				1	2	10	20	Glass	Kitchen	Bottle	Liquor			Colorless	Body	1		Same type of bottle as FS81, writing on side part of Federal warning prohibiting sale or reuse, '...SALE...LE'
36	1	10	135	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Base	1		Some slipping around base, small fragment
36	1	10	135	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1		Indeterminate
37	1	11	150	ST				1	1	0	10	Plastic	Unidentified	Unidentified	Unidentified			White	Fragment	2		Thin flexible plastic
38	1	11	150	ST				II	3	20	30	Ceramic	Kitchen	Whiteware	Undecorated			White	Body	1		Modern
39	4	1	7.5	ST				1	1	0	10	Ceramic	Kitchen	Whiteware	Undecorated			White	Body	1		ca. 1820-present
39	4	1	7.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1		Indeterminate
39	4	1	7.5	ST				1	1	0	10	Plastic	Unidentified	Unidentified	Burnt			Colorless	Fragment	1		Modern
40	4	1	7.5	ST				1	2	10	20	Ceramic	Kitchen	Whiteware	Burnt			Gray	Base	1		ca. 1820-present

Table 1. Historic material recovered from Site 16IB74 during the current investigation.

Table 1. Historic material recovered from Site 10B174 during the current investigation.																						
FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top EI	Bot EI	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
40	4	1	7.5	ST				1	2	10	20	Metal	Kitchen	Foil	Burnt				Fragment	1		Indeterminate
40	4	1	7.5	ST				1	2	10	20	Metal	Unidentified	Unidentified	Unidentified				Fragment	1		Indeterminate
41	4	1	7.5	ST				1	3	20	30	Ceramic	Kitchen	White ware	Undecorated			White	Body	1		ca. 1820-present
42	4	2	22.5	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Unidentified				Fragment	2	Two corroded shaft fragments	Indeterminate
44	4	3	37.5	ST				1	1	0	10	Ceramic	Kitchen	Ironware	Undecorated			White	Body	1		Indeterminate
44	4	3	37.5	ST				1	1	0	10	Ceramic	Kitchen	Stoneware	Glaze			Grey	Body	1		Indeterminate
44	4	3	37.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified	Threaded		Colorless	Finish	4	Refit	ca. 1919-present
44	4	3	37.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Finish	1	Wide diameter mouth	Indeterminate
44	4	3	37.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified	Threaded		Colorless	Finish	1		ca. 1919-present
44	4	3	37.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Light Blue	Body	1		Indeterminate
44	4	3	37.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	2		Indeterminate
44	4	3	37.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	7		Indeterminate
44	4	3	37.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Green	Body	1		Indeterminate
45	4	4	52.5	ST				1	1	0	10	Ceramic	Kitchen	Hard paste porcelain	Undecorated			White	Body	1		Indeterminate
45	4	4	52.5	ST				1	1	0	10	Ceramic	Kitchen	White ware	Undecorated			White	Rim	2		ca. 1820-present
45	4	4	52.5	ST				1	1	0	10	Composite	Construction	Unidentified	Shingle				Fragment	2		Indeterminate
45	4	4	52.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Milk glass			White	Body	1		Indeterminate
45	4	4	52.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Textured			Colorless	Body	1		Indeterminate
45	4	4	52.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Textured			Brown	Body	1		Indeterminate
45	4	4	52.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	3		Indeterminate
45	4	4	52.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	11		Indeterminate
45	4	4	52.5	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Cut				Fragment	1	Head and part of shaft	ca. 1820-1880
46	4	4	52.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Brown	Body	1		Indeterminate
46	4	4	52.5	ST				1	2	10	20	Metal	Unidentified	Unidentified	Unidentified				Fragment	5		Indeterminate
47	4	5	67.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Embossed			Brown	Body	1	[NO...]	Indeterminate
47	4	5	67.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified	Threaded		Cobalt	Finish	1	Very small fragment	ca. 1919-present
47	4	5	67.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified	Patent		Brown	Finish	1	Wide diameter mouth	Indeterminate
47	4	5	67.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	9		Indeterminate
47	4	5	67.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	3		Indeterminate
47	4	5	67.5	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Unidentified				Fragment	2		Indeterminate
47	4	5	67.5	ST				1	1	0	10	Metal	Unidentified	Unidentified	Unidentified				Fragment	1		Indeterminate
48	4	5	67.5	ST				1	2	10	20	Ceramic	Kitchen	Hard paste porcelain	Undecorated			White	Rim	1	Probably from a drinking glass very thin	Indeterminate
49	4	6	82.5	ST				1	3	20	30	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1		Indeterminate
49	4	6	82.5	ST				1	3	20	30	Glass	Kitchen	Bottle	Unidentified			Green	Body	1		Indeterminate
49	4	6	82.5	ST				1	3	20	30	Glass	Construction	Window	2mm			Colorless	Fragment	1		Indeterminate
49	4	6	82.5	ST				1	3	20	30	Metal	Construction	Hardware	Nail, Unidentified				Fragment	1	Shaft fragment	Indeterminate
50	4	6	82.5	ST				1	4	30	40	Ceramic	Kitchen	Ironware	Undecorated			White	Base	2	Probably plate	Indeterminate

Table 1. Historic material recovered from Site 161B74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lew	Top EI	Bot EI	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
50	4	6	82.5	ST				1	4	30	40	Glass	Kitchen	Bottle	Embossed			Brown	Body	1	[...ETUF...]	Indeterminate
50	4	6	82.5	ST				1	4	30	40	Glass	Kitchen	Bottle	Unidentified		Owens Scar	Brown	Base	1	Owens-Illinois Maker's mark and part of Duraglass mark, most likely a Clorox bottle, '[15/54/8/...las]'	post 1954
50	4	6	82.5	ST				1	4	30	40	Glass	Kitchen	Unidentified	Unidentified			Colorless	Rim	1	Slightly flattened rim	Indeterminate
50	4	6	82.5	ST				1	4	30	40	Glass	Kitchen	Bottle	Milk glass	Threaded	Owens Scar	White	Complete	1	Smudge pot	ca. 1919-present
50	4	6	82.5	ST				1	4	30	40	Glass	Kitchen	Bottle	Textured			Brown	Body	1		Indeterminate
50	4	6	82.5	ST				1	4	30	40	Glass	Kitchen	Bottle	Unidentified	Unidentified		Colorless	Body	5	2 Refit	Indeterminate
50	4	6	82.5	ST				1	4	30	40	Glass	Kitchen	Bottle	Unidentified	Unidentified		Brown	Body	4		Indeterminate
50	4	6	82.5	ST				1	4	30	40	Metal	Construction	Hardware	Nail, Wire				Complete	2	4" nail	post 1880
50	4	6	82.5	ST				1	4	30	40	Metal	Construction	Unidentified	Unidentified				Fragment	3	possibly wire or wire nail shafts	Indeterminate
50	4	6	82.5	ST				1	4	30	40	Metal	Construction	Hardware	Wire cloth staple				Complete	2		Indeterminate
51	4	6	82.5	ST				1	5	40	50	Glass	Kitchen	Unidentified	Milk glass			White	Base	1	"Fire-King" by Anchor Hocking, "TOVEN/...King/...RE]"	ca. 1948-1976
51	4	6	82.5	ST				1	5	40	50	Glass	Kitchen	Bottle	Unidentified	Patent (wide mouth)		Brown	Body	1	[2 FL. OZ/3]"	Indeterminate
51	4	6	82.5	ST				1	5	40	50	Glass	Kitchen	Bottle	Unidentified	Unidentified	Owens Scar	Colorless	Complete	1	Owens-Illinois Maker's mark	post 1954
51	4	6	82.5	ST				1	5	40	50	Glass	Kitchen	Bottle	Embossed			Brown	Body	1	Some texturing on shard, edge of Duraglass mark, "[D...]"	post 1940
51	4	6	82.5	ST				1	5	40	50	Glass	Kitchen	Bottle	Unidentified	Unidentified		Colorless	Neck	1	Very small portion of finish as well, possibly threaded, '[53]"	Indeterminate
52	3	1	0	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified	Unidentified	Owens Scar	Cobalt	Base	1	Edge of a circle from a makers mark	post 1904
52	3	1	0	ST				1	1	0	10	Glass	Kitchen	Decorative	Embossed			Green	Body	1	Embossed texture on exterior	Indeterminate
52	3	1	0	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified	Unidentified		Colorless	Body	2		Indeterminate
52	3	1	0	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Wire				Complete	1		post 1880
52	3	1	0	ST				1	1	0	10	Metal	Mechanical	Hardware	Spark plug				Fragment	1		Indeterminate
52	3	1	0	ST				1	1	0	10	Metal	Construction	Hardware	Wire cloth staple				Fragment	1		Indeterminate
53	3	1	0	ST				1	2	10	20	Ceramic	Kitchen	White ware	Decal decorated			Multicolored	Body	1	Embossed on exterior	ca. 1890-present
53	3	1	0	ST				1	2	10	20	Ceramic	Kitchen	White ware	Decal decorated			Multicolored	Body	1	Pink, yellow, and green flower decals	ca. 1890-present
53	3	1	0	ST				1	2	10	20	Ceramic	Kitchen	White ware	Undecorated			White	Base	1		ca. 1820-present
53	3	1	0	ST				1	2	10	20	Metal	Construction	Hardware	Nail, Glaze				Fragment	3		Indeterminate
54	3	1	0	ST				1	3	20	30	Ceramic	Kitchen	Unidentified	Unidentified			Green	Body	2	Possibly part of tea cup	Indeterminate
54	3	1	0	ST				1	3	20	30	Ceramic	Kitchen	Ironware	Undecorated			White	Rim	2	Refit	Indeterminate
54	3	1	0	ST				1	3	20	30	Ceramic	Kitchen	Hard paste porcelain	Undecorated			White	Body	1		Indeterminate
54	3	1	0	ST				1	3	20	30	Glass	Kitchen	Bottle	Unidentified			Light Blue	Body	1		Indeterminate
54	3	1	0	ST				1	3	20	30	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	3		Indeterminate
54	3	1	0	ST				1	3	20	30	Glass	Construction	Window	2mm			Light Green	Fragment	1		Indeterminate

Table 1. Historic material recovered from Site 161B74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top	Bot	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
54	3	1	0	ST				I	3	20	30	Metal	Construction	Hardware	Nail, Wire				Fragment	1	Head and part of shaft	post 1880
54	3	1	0	ST				I	3	20	30	Metal	Construction	Hardware	Nail, Unidentified				Fragment	2	Shaft fragments	Indeterminate
54	3	1	0	ST				I	3	20	30	Metal	Unidentified	Unidentified	Unidentified				Fragment	2	Two small flat fragments of unrust metal	Indeterminate
54	3	1	0	ST				I	3	20	30	Metal	Unidentified	Unidentified	Unidentified				Fragment	2		Indeterminate
55	3	1	0	ST				II	4	30	40	Ceramic	Kitchen	Hard paste porcelain	Decal decorated			Pink	Body	1	Flower decoration	ca. 1890-present
55	3	1	0	ST				II	4	30	40	Ceramic	Kitchen	White ware	Hand painted			Multicolored	Body	1	Flower decoration	ca. 1820-present
55	3	1	0	ST				II	4	30	40	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1		Indeterminate
55	3	1	0	ST				II	4	30	40	Glass	Kitchen	Bottle	Unidentified	Patent		Colorless	Finish	1		Indeterminate
55	3	1	0	ST				II	4	30	40	Metal	Construction	Hardware	Nail, Wire				Complete	1	Large nail, 4"	post 1880
55	3	1	0	ST				II	4	30	40	Metal	Construction	Unidentified	Unidentified				Fragment	2	Possibly wire fragments or nail shafts	Indeterminate
56	3	2	15	ST				I	1	0	10	Glass	Kitchen	Decorative	Embossed			Dark Red	Body	1	Embossed design on plate glass	Indeterminate
56	3	2	15	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	10		Indeterminate
56	3	2	15	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Dark Green	Body	2		Indeterminate
56	3	2	15	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Light Blue	Body	1		Indeterminate
56	3	2	15	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	6		Indeterminate
57	3	2	15	ST				II	3	20	30	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1		Indeterminate
58	3	3	30	ST				I	1	0	10	Glass	Kitchen	Bottle	Embossed		Owens Scar	Colorless	Base	1	Part of Owens Illinois Makers mark, "L...S"	ca. 1929-1954
58	3	3	30	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	1		Indeterminate
58	3	3	30	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	4		Indeterminate
58	3	3	30	ST				I	1	0	10	Metal	Construction	Hardware	Nail, Wire				Fragment	2		post 1880
58	3	3	30	ST				I	1	0	10	Plastic	Unidentified	Unidentified	Bakelite			Dark Red	Rim	2	Possibly part of a flower pot	post 1909
58	3	3	30	ST				I	1	0	10	Glass	Kitchen	Unidentified	Milk glass			White	Fragment	1		Indeterminate
59	3	3	30	ST				II	2	10	20	Glass	Kitchen	Bottle	Unidentified			Light Blue	Body	2		Indeterminate
59	3	3	30	ST				II	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1		Indeterminate
60	3	4	45	ST				I	1	0	10	Ceramic	Kitchen	Ironware	Embossed			White	Rim	2	Reft, Embossed design around edge, one fragment discolored probably from fire	Indeterminate
60	3	4	45	ST				I	1	0	10	Ceramic	Kitchen	White ware	Undecorated			White	Body	1		ca. 1820-present
60	3	4	45	ST				I	1	0	10	Glass	Kitchen	Unidentified	Unidentified			Colorless	Rim	1	Possibly drinking glass	Indeterminate
60	3	4	45	ST				I	1	0	10	Glass	Kitchen	Bottle	Milk glass			White	Body	1		Indeterminate
60	3	4	45	ST				I	1	0	10	Glass	Kitchen	Bottle	Textured			Brown	Body	1		Indeterminate
60	3	4	45	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	6		Indeterminate

Table 1. Historic material recovered from Site 161B74 during the current investigation.

Table 1. Historic material recovered from Site 16B/74 during the current investigation.																								
FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top	Bot	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date		
60	3	4	45	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified				Light Blue	Body	2		Indeterminate	
60	3	4	45	ST				I	1	0	10	Glass	Construction	Window	2mm				Light Blue	Body	1		Indeterminate	
60	3	4	45	ST				I	1	0	10	Metal	Construction	Hardware	Nail, Unidentified					Fragment	2		Shaft fragments, probably wire	Indeterminate
61	3	5	60	ST				I	1	0	10	Ceramic	Kitchen	Ironware	Undecorated				White	Body	1		Indeterminate	
61	3	5	60	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified				Colorless	Base	1		Very small fragment, possibly edge of a makers mark	Indeterminate
61	3	5	60	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified		Threaded		Colorless	Finish	2		ca. 1919-present	
61	3	5	60	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified				Colorless	Body	5		Indeterminate	
62	3	5	60	ST				I	2	10	20	Glass	Kitchen	Bottle	Pepsi				Colorless	Body	1		Embossed design around label, "PEPSI COLA"	post 1898
63	3	7	90	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified				Colorless	Body	3		Indeterminate	
63	3	7	90	ST				I	1	0	10	Metal	Construction	Hardware	Nail, Wire					Complete	1		4 1/2" nail	post 1880
64	3	8	105	ST				I	1	0	10	Glass	Kitchen	Bottle	Embossed				Colorless	Body	1		Some embossed spots	Indeterminate
64	3	8	105	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified				Colorless	Body	1		Indeterminate	
65	3	8	105	ST				II	2	10	20	Glass	Kitchen	Bottle	Unidentified				Brown	Body	1		Indeterminate	
65	3	8	105	ST				II	2	10	20	Metal	Construction	Hardware	Nail, Cut					Fragment	1		ca. 1820-1880	
66	3	9	120	ST				I	1	0	10	Ceramic	Kitchen	Hard paste porcelain	Undecorated				White	Body	1		Indeterminate	
66	3	9	120	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified				Colorless	Base	1		Small edge of base, some stippling around edge	Indeterminate
66	3	9	120	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified				Colorless	Body	1		Indeterminate	
66	3	9	120	ST				I	1	0	10	Metal	Mechanical	Hardware	Spark plug					Fragment	1		Indeterminate	
67	3	9	120	ST				II	2	10	20	Ceramic	Kitchen	Stoneware	Glaze				Grey	Fragment	1		Either pat of a foot ring, handle, or rim	Indeterminate
67	3	9	120	ST				II	2	10	20	Glass	Kitchen	Bottle	Unidentified				Colorless	Body	1		Thin glass bottle	Indeterminate
68	3	10	135	ST				I	1	0	10	Glass	Kitchen	Unidentified	Embossed				Colorless	Body	1		Indeterminate	
68	3	10	135	ST				I	1	0	10	Glass	Kitchen	Unidentified	Unidentified				Colorless	Body	1		Indeterminate	
68	3	10	135	ST				I	1	0	10	Plastic	Unidentified	Unidentified	Unidentified				Blue	Fragment	1		Modern	
69	3	10	135	ST				II	2	10	20	Glass	Kitchen	Bottle	Unidentified				Amethyst	Rim	1		Rim of a lid or bowl	ca. 1880-1918
69	3	10	135	ST				II	2	10	20	Metal	Construction	Hardware	Nail, Unidentified					Complete	1		Indeterminate	
70	3	11	150	ST				II	3	20	30	Glass	Kitchen	Bottle	Condiment	Threaded			Colorless	Finish	1		Thin top, widens towards base	ca. 1919-present
70	3	11	150	ST				II	3	20	30	Plastic	Unidentified	Unidentified	Unidentified				Brown	Complete	1		Possibly a game piece, writing on both sides, "OJES.T"	Modern
70	3	11	150	ST				II	3	20	30	Plastic	Unidentified	Unidentified	Unidentified				Colorless	Fragment	1		Thin slightly melted plastic	Modern
71	3	11	150	ST				II	4	30	40	Glass	Kitchen	Unidentified	Unidentified				Colorless	Body	1		Possibly a thin bottle or drinking glass	Indeterminate
72	4	7	97.5	ST				I	1	0	10	Glass	Kitchen	Bottle	Unidentified				Colorless	Body	1		Indeterminate	
73	4	7	97.5	ST				I	2	10	20	Ceramic	Kitchen	Whiteware	Undecorated				White	Body	1		ca. 1820-present	

Table 1. Historic material recovered from Site 161B74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top EI	Bot EI	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
73	4	7	97.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	6		Indeterminate
73	4	7	97.5	ST				1	2	10	20	Metal	Construction	Hardware	Nail, Wire				Complete	2		post 1880
73	4	7	97.5	ST				1	2	10	20	Metal	Construction	Hardware	Nut				Complete	1		Indeterminate
74	4	8	112.5	ST				1	1	0	10	Ceramic	Kitchen	White ware	Undecorated			White	Body	1		ca. 1820-present
74	4	8	112.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1		Indeterminate
74	4	8	112.5	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Wire				Fragment	1		post 1880
75	4	9	127.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Light Blue	Body	1	Corner fragment, could be two sides or a side and a base	Indeterminate
75	4	9	127.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Light Blue	Body	6		Indeterminate
75	4	9	127.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	8		Indeterminate
75	4	9	127.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Light Green Brown	Body	2		Indeterminate
75	4	9	127.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	1		Indeterminate
75	4	9	127.5	ST				1	1	0	10	Metal	Construction	Hardware	Nail, Wire				Complete	3		post 1880
76	4	10	142.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1	Small part of collar on fragment	Indeterminate
76	4	10	142.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Textured			Brown	Body	1		Indeterminate
76	4	10	142.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Light Blue	Body	1		Indeterminate
76	4	10	142.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	5		Indeterminate
76	4	10	142.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	1		Indeterminate
76	4	10	142.5	ST				1	1	0	10	Glass	Kitchen	Bottle	Unidentified			White	Fragment	1		Indeterminate
77	4	10	142.5	ST				1	2	10	20	Ceramic	Kitchen	Ironware	Undecorated			White	Rim	1		Indeterminate
77	4	10	142.5	ST				1	2	10	20	Glass	Kitchen	Unidentified	Unidentified			Colorless	Rim	1	Very thin rim, thin glass, possibly drinking glass	Indeterminate
77	4	10	142.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified	Lipping Tool		Brown	Finish	1		ca. 1870-1920
77	4	10	142.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Brown	Body	4		Indeterminate
77	4	10	142.5	ST				1	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	3		Indeterminate
78	4	10	142.5	ST				1	3	20	30	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	2		Indeterminate
78	4	10	142.5	ST				1	3	20	30	Glass	Kitchen	Bottle	Unidentified			Brown	Body	1		Indeterminate
78	4	10	142.5	ST				1	3	20	30	Metal	Unidentified	Unidentified	Unidentified				Fragment	7	Probably nail fragments, very corroded	Indeterminate
79	5	1	0	ST				11	1	0	10	Glass	Kitchen	Bottle	Unidentified	Crown		Light Green	Finish	1	Small portion of finish	ca. 1892-present
80					1	1043.5	1000		1	0	10	Glass	Kitchen	Bottle	Embossed			Colorless	Body	1	{...urag...}	post 1940
80					1	1043.5	1000		1	0	10	Glass	Kitchen	Bottle	Embossed			Colorless	Body	2	Checkerboard design	Indeterminate
80					1	1043.5	1000		1	0	10	Glass	Kitchen	Bottle	Embossed			Colorless	Body	1	Embossed design	Indeterminate
80					1	1043.5	1000		1	0	10	Glass	Kitchen	Bottle	Embossed			Colorless	Base	1	Embossed dots on base	Indeterminate
80					1	1043.5	1000		1	0	10	Glass	Kitchen	Bottle	Burnt			Colorless	Body	1		Indeterminate

Table 1. Historic material recovered from Site 161B74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top	Bot	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
80				1	1043.5	1000		1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	23		Indeterminate
80				1	1043.5	1000		1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Green	Body	3		Indeterminate
80				1	1043.5	1000		1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	8		Indeterminate
80				1	1043.5	1000		1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Light Green	Body	1		Indeterminate
80				1	1043.5	1000		1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Dark Brown	Body	1		Indeterminate
80				1	1043.5	1000		1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Blue-green	Body	1		Indeterminate
80				1	1043.5	1000		1	1	0	10	Glass	Personal	Toy	Marble			Swirled blue	Complete	1		post 1880
80				1	1043.5	1000		1	1	0	10	Glass	Kitchen	Unidentified	Milk glass			White	Body	1		Indeterminate
80				1	1043.5	1000		1	1	0	10	Metal	Domestic	Hardware	Zipper				Fragment	1	Body of zipper pull	Indeterminate
80				1	1043.5	1000		1	1	0	10	Metal	Unidentified	Unidentified	Can				Fragment	1	Seam	Indeterminate
80				1	1043.5	1000		1	1	0	10	Metal	Construction	Hardware	Bolt				Complete	1		Indeterminate
80				1	1043.5	1000		1	1	0	10	Metal	Construction	Hardware	Nail, Cut				Complete	4		ca. 1820-1880
80				1	1043.5	1000		1	1	0	10	Metal	Construction	Hardware	Nail, Wire				Complete	8		post 1880
80				1	1043.5	1000		1	1	0	10	Metal	Construction	Hardware	Screw, Standard				Complete	1		Indeterminate
80				1	1043.5	1000		1	1	0	10	Metal	Construction	Hardware	Wire cloth staple				Fragment	1		Indeterminate
80				1	1043.5	1000		1	1	0	10	Metal	Construction	Wire	Unidentified				Fragment	2		Indeterminate
80				1	1043.5	1000		1	1	0	10	Plastic	Unidentified	Unidentified	Engraved			Black	Body	1	'[K]...[S]...'	Indeterminate
80				1	1043.5	1000		1	1	0	10	Plastic	Unidentified	Unidentified	Unidentified			Blue	Fragment	1	Crinkly thin plastic	Indeterminate
80				1	1043.5	1000		1	1	0	10	Plastic	Domestic	Bulb	4-hole			Brown	Complete	1		Modern
81				1	1043.5	1000		1	2	10	18	Ceramic	Unidentified	Hard paste porcelain	Embossed			White	Body	1	Embossed rings around, probably an electrical insulator	Indeterminate
81				1	1043.5	1000		1	2	10	18	Ceramic	Kitchen	Yellowware	Annular decorated			Yellow/white	Body	1		ca. 1840-1930
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Bottle	Textured			Colorless	Body	1	Edge of a collar and body of bottle textured	Indeterminate
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Unidentified	Embossed			Pink	Body	1	Possibly decorative or a drinking glass	Indeterminate
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Unidentified	Unidentified			Colorless	Rim	1	Possibly the rim of a drinking glass	Indeterminate
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Bottle	Unidentified			Green	Body	2	Refit	Indeterminate
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Bottle	Unidentified	Threaded		Colorless	Finish	11	Refit, finish and part of upper body embossed with checkboard pattern	ca. 1919-present
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1	ridges embossed on part of the shard	Indeterminate
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Bottle	Embossed			Colorless	Body	1	Same as bottle in FS36, '14/5/QUAR...'	Indeterminate
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Unidentified	Milk glass			White	Fragment	1	Textured fragment with leather pattern	Indeterminate
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Bottle	Unidentified			Dark Green	Fragment	1	Two fragments melted into one	Indeterminate
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Bottle	Unidentified			Colorless	Finish	2	Various small fragments of unidentifiable finishes	Indeterminate

Table 1. Historic material recovered from Site 161B74 during the current investigation.

Table 1. Historic material recovered from Site 161B/4 during the current investigation.																							
FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top EI	Bot EI	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date	
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Bottle	Unidentified			Amethyst	Body	1		ca. 1880-1918	
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Bottle	Unidentified	Extract		Colorless	Finish	1		Indeterminate	
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	11		Indeterminate	
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Bottle	Unidentified			Dark Green	Body	2		Indeterminate	
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Bottle	Unidentified			Brown	Body	5		Indeterminate	
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Bottle	Unidentified			Light Blue	Body	3		Indeterminate	
81				1	1043.5	1000		1	2	10	18	Glass	Personal	Toy	Marble			Swirled	Complete	1		Indeterminate	
81				1	1043.5	1000		1	2	10	18	Glass	Kitchen	Unidentified	Burnt			Colorless	Body	1		Indeterminate	
81				1	1043.5	1000		1	2	10	18	Metal	Kitchen	Bottle	Lid				Fragment	1		Indeterminate	
81				1	1043.5	1000		1	2	10	18	Metal	Construction	Hardware	Nail, Cut				Fragment	8		ca. 1820-1880	
81				1	1043.5	1000		1	2	10	18	Metal	Construction	Hardware	Nail				Fragment	1		Indeterminate	
81				1	1043.5	1000		1	2	10	18	Metal	Construction	Hardware	Unidentified				Fragment	6		post 1880	
81				1	1043.5	1000		1	2	10	18	Metal	Construction	Hardware	Nail, Wire				Fragment	2		Indeterminate	
82				1	1043.5	1000		1	3	18	30	Glass	Kitchen	Bottle	Embossed			Colorless	Body	1	Checkerboard pattern embossed in stripe around bottle	Indeterminate	
82				1	1043.5	1000		1	3	18	30	Glass	Kitchen	Bottle	Unidentified	Threaded		Colorless	Finish	2		ca. 1919-present	
82				1	1043.5	1000		1	3	18	30	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	3		Indeterminate	
82				1	1043.5	1000		1	3	18	30	Metal	Construction	Hardware	Nail, Cut				Fragment	2	Shaft fragments	ca. 1820-1880	
82				1	1043.5	1000		1	3	18	30	Metal	Construction	Hardware	Nail, Unidentified				Complete	2	Very corroded	Indeterminate	
82				1	1043.5	1000		1	3	18	30	Metal	Construction	Hardware	Nail, Cut				Complete	3		ca. 1820-1880	
83				ST	1041.5	1002		1	1	0	10	Ceramic	Kitchen	Whiteware	Undecorated			White	Body	1		ca. 1820-present	
83				ST	1041.5	1002		1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	2		Indeterminate	
83				ST	1041.5	1002		1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Dark Green	Body	1		Indeterminate	
84				ST	1038.5	1000		1	1	0	10	Glass	Kitchen	Bottle	Unidentified	Threaded			Colorless	Finish	1	Small fragment of finish, wide diameter at mouth, possibly canning jar	ca. 1919-present
84				ST	1038.5	1000		1	1	0	10	Metal	Construction	Wire	Unidentified				Fragment	1		Indeterminate	
85				ST	1038.5	1000		1	2	10	20	Glass	Kitchen	Unidentified	Milk glass			White	Body	5	Flat, textured piece of milk glass	Indeterminate	
86				ST	1045.5	1000		1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1		Indeterminate	
86				ST	1045.5	1000		1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	1		Indeterminate	
86				ST	1045.5	1000		1	1	0	10	Metal	Construction	Hardware	Nail, Wire				Complete	1		post 1880	
87				ST	1041.5	998		1	1	0	10	Glass	Kitchen	Bottle	Unidentified		Owens Scar	Colorless	Base	1	Probably part of base in this FS	post 1904	
87				ST	1041.5	998		1	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Base	4	Refit	Indeterminate	

Table 1. Historic material recovered from Site 161B74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top EI	Bot EI	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
87				ST	1041.5	998		I	1	0	10	Glass	Kitchen	Bottle	Unidentified		Owens Scar	Colorless	Body	2		post 1904
87				ST	1041.5	998		I	1	0	10	Glass	Kitchen	Bottle	Embossed			Brown	Body	1		Indeterminate
87				ST	1041.5	998		I	1	0	10	Glass	Construction	Window	2mm			Light Green	Fragment	1		Indeterminate
88				ST	1041.5	998		II	2	10	20	Glass	Kitchen	Bottle	Unidentified	Threaded		Colorless	Finish	1	Wide diameter mouth	ca. 1919-present
88				ST	1041.5	998		II	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	1		Indeterminate
88				ST	1041.5	998		II	2	10	20	Metal	Construction	Hardware	Nail, Unidentified				Complete	1	Large nail, possibly ten penny, probably wire	Indeterminate
88				ST	1041.5	998		II	2	10	20	Plastic	Unidentified	Unidentified	Cap			Red	Complete	1	Plastic red cap, threaded inside	Modern
89				ET	1044.5	1000		I	1	0	10	Ceramic	Kitchen	Whiteware	Undecorated			White	Handle	1	Probably to a teacup	ca. 1820-present
89				ET	1044.5	1000		I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Neck	2	Refit. Possibly part of a collared patent finish	Indeterminate
89				ET	1044.5	1000		I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Finish	1	Small fragment, possibly a threaded finish	Indeterminate
89				ET	1044.5	1000		I	1	0	10	Glass	Kitchen	Unidentified	Embossed			Pink	Body	1	Some embossed ridges	Indeterminate
89				ET	1044.5	1000		I	1	0	10	Glass	Kitchen	Unidentified	Milk glass			White	Fragment	1	Textured fragment with a feather pattern	Indeterminate
89				ET	1044.5	1000		I	1	0	10	Glass	Kitchen	Bottle	Burnt			Colorless	Fragment	3		Indeterminate
89				ET	1044.5	1000		I	1	0	10	Glass	Kitchen	Bottle	Textured			Colorless	Body	1		Indeterminate
89				ET	1044.5	1000		I	1	0	10	Glass	Kitchen	Bottle	Textured			Brown	Body	1		Indeterminate
89				ET	1044.5	1000		I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Light Green	Body	2		Indeterminate
89				ET	1044.5	1000		I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	12		Indeterminate
89				ET	1044.5	1000		I	1	0	10	Glass	Kitchen	Bottle	Unidentified			Brown	Body	3		Indeterminate
89				ET	1044.5	1000		I	1	0	10	Metal	Unidentified	Unidentified	Screen				Fragment	1	1/8th inch mesh	Indeterminate
89				ET	1044.5	1000		I	1	0	10	Metal	Kitchen	Can	Unidentified				Complete	1	Smashed, folded seam, probably some kind of canned meat, thick metal	Indeterminate
89				ET	1044.5	1000		I	1	0	10	Metal	Kitchen	Can	Pull top				Fragment	1		Indeterminate
89				ET	1044.5	1000		I	1	0	10	Metal	Construction	Hardware	Nail, Cut				Complete	4		ca. 1820-1880
89				ET	1044.5	1000		I	1	0	10	Metal	Construction	Hardware	Nail, Wire				Fragment	8		post 1880
89				ET	1044.5	1000		I	1	0	10	Metal	Unidentified	Unidentified	Unidentified				Fragment	1		Indeterminate
90				ET	1044.5	1000		I	2	10	20	Glass	Kitchen	Unidentified	Embossed			Pink	Body	2	Embossed ribbing, possibly table glass, drinking glass, or even a bottle	Indeterminate
90				ET	1044.5	1000		I	2	10	20	Glass	Kitchen	Bottle	Unidentified			Colorless	Base	1	Very small fragment of base	Indeterminate
90				ET	1044.5	1000		I	2	10	20	Glass	Kitchen	Unidentified	Burnt			Colorless	Body	2		Indeterminate
90				ET	1044.5	1000		I	2	10	20	Metal	Construction	Hardware	Nail, Cut				Complete	7		ca. 1820-1880
90				ET	1044.5	1000		I	2	10	20	Metal	Construction	Hardware	Nail, Wire				Complete	5		post 1880
90				ET	1044.5	1000		I	2	10	20	Plastic	Unidentified	Unidentified	Unidentified			Red	Fragment	2	Possibly part of switch, refit, 'INALTEX/AUSTIN TEXAS'	post 1946

Table 1. Historic material recovered from Site 161B74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top	Bot	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
91				ET	1044.5	1000		II	3	20	30	Glass	Kitchen	Bottle	Unidentified			Dark Green	Body	1		Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Brick	Construction	Unidentified	Hard-mud			Red	Fragment	3	81.69g Discarded	Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Brick	Construction	Unidentified	Soft-mud			Orange	Fragment	15	88.02g Discarded	Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Coal	Unidentified	Unidentified	Unidentified				Fragment	6	10.81g Discarded	Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Glass	Kitchen	Bottle	Unidentified			Brown	Body	1	'[NO DEP...]'	post 1948
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Glass	Kitchen	Unidentified	Unidentified			Pink	Fragment	1	Possibly foot ring of cut glass dish	Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Glass	Kitchen	Bottle	Painted			Light Green	Body	1	Red and yellow paint	Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Glass	Kitchen	Drinking Glass	Decorated			Colorless	Base	1	Shadow of worn off design barely visible, probably gold or silver decal	Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Glass	Kitchen	Bottle	Unidentified			Light Green	Base	1	Stippled based, '[5]'	Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Glass	Kitchen	Bottle	Embossed			Brown	Body	1		Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Glass	Kitchen	Bottle	Unidentified			Colorless	Body	5		Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Glass	Kitchen	Bottle	Unidentified			Green	Body	1		Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Glass	Domestic	Light bulb	Unidentified			Colorless	Body	3		Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Glass	Construction	Unidentified	Insulator			Light Blue	Fragment	1		Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Glass	Unidentified	Unidentified	Unidentified			Green-blue	Fragment	1		Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Metal	Unidentified	Unidentified	Unidentified				Fragment	1	Possibly part of a light switch plate	Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Metal	Construction	Hardware	Nail, Unidentified				Complete	2		Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Metal	Construction	Hardware	Nail, Unidentified				Fragment	2		Indeterminate
92				1/ET	1044.7	1000.5	Featu re 2			20	45	Metal	Construction	Hardware	Nail, Wire				Complete	1		post 1880

Table 1. Historic material recovered from Site 16IB74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Fea	STR	Lev	Top EI	Bot EI	Material	Function	Type	Subtype	Finish Type	Base Type	Color	Portion	CT	Comments	Possible Date
92				1/ET	1044.7	1000.5		Featu re 2	20	45	Mortar	Construction	Unidentified	Sand based				Tan	Fragment	8	31.81g Discarded	Indeterminate
92				1/ET	1044.7	1000.5		Featu re 2	20	45	Plastic	Unidentified	Unidentified	Bakelite				Brown	Fragment	1		post 1909

Table 2. Lithic material recovered from Site 16IB74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Strat	Level	Top El	Bot El	Material	Type	Subtype	Count	Thermal Alteration
20	2	8	112.5				I	1	0	10	Chert	Block/ Shatter	Tertiary	1	Absent
80				1	1043.5	1000	I	1	0	10	Chert	Flake	Tertiary	3	Absent
81				1	1043.5	1000	I	2	10	18	Chert	Flake	Tertiary	1	Absent

Table 3. Faunal material recovered from Site 161B74 during the current investigation.

FS	TR	ST	Meter	Unit	North	East	Strat Level	Fea	Top EI	Bot EI	Element	% Complete	Modification	Count	Class	Family	Genus sp	Comments
04	1	2	15	ST			I	1	0	10	Shell	50%	Eroded	1	Bivalvia			
06	1	2	15	ST			II	3	20	30	Long bone shaft	<25%		2	Mammalia			Refit
07	1	2	15	ST			III	4	30	40	Shell	50%		1	Bivalvia			
08	1	3	30	ST			I	1	0	10	Shell	25%		2	Bivalvia			
09	1	3	30	ST			I	2	10	20	Shell	25%		1	Bivalvia			
17	2	4	52.5	ST			I	2	10	20	Long bone shaft	<25%		1	Mammalia			Probably a mandible fragment
20	2	8	112.5	ST			I	1	0	10	Unidentified	<25%	Cut	1	Mammalia			
43	4	2	22.5	ST			I	2	10	20	Long bone shaft	<25%		1	Mammalia			
47	4	5	67.5	ST			I	1	0	10	Unidentified	<25%	Calcined	1	Mammalia			
80				1	1043.5	1000	I	1	0	10	Long bone shaft	<25%		1	Mammalia			
81				1	1043.5	1000	I	2	10	18	Long bone shaft	<25%		5	Mammalia			
82				1	1043.5	1000	I	3	18	30	Unidentified	<25%		1	Mammalia			
84				ST	1038.5	1000	I	1	0	10	Long bone shaft	<25%		1	Mammalia	Medium/Large		
88				ST	1041.5	998	II	2	10	20	Unidentified	<25%	Cut	1	Mammalia	Medium/Large		Cuts in multiple directions on surface of bone Possibly Sus sp.
92				1/ET	1044.7	1000.5	I		2	20	Tooth enamel	<25%		1	Mammalia			
92				1/ET	1044.7	1000.5	I		2	20	Unidentified	<25%		1	Mammalia			

APPENDIX II

**STATE OF LOUISIANA SITE FORM
FOR SITE 16IB74**

**STATE OF LOUISIANA
SITE RECORD FORM**

LOCATIONAL DATA

SITE NAME: N/A

STATE SURVEY NO.: 16IB74

OTHER SITE DESIGNATIONS: SSA-01

SITE LOCATION AND APPROACH: The site is located in Iberia Parish, Louisiana. The site is bounded by Bayou Teche on the north and by State Highway 320 on the east.

PARISH: Iberia

$\frac{1}{4}$ of the $\frac{1}{4}$ of Section 41 (Irregular) Township 12S Range 7E

USGS QUADRANGLE: New Iberia South, Louisiana

UTM COORDINATES: Zone 15 N 3316840, E 620160

GEOGRAPHICAL COORDINATES:

PHYSICAL SETTING

LANDFORM: Natural levee

GEOMORPHIC PROCESSES: Soil deposition due to inundation of Bayou Teche floodplain.

ELEVATION AND RELIEF: 1.5-4.5 m (5-15 ft) AMSL

NEAREST WATER: Bayou Teche forms the northern border of the site.

POSITION WITH RESPECT TO TERRAIN: The site is located on top of the levee and it extends south into the floodplain.

SOIL CHARACTERISTICS: Clay loam, clay

FLORAL COMMUNITIES: Cultivated fields with some pecan trees

FAUNAL COMMUNITIES: Domestic horses, various waterfowl, rodents

NEAREST KNOWN SITE: 16IB101

SITE DESCRIPTION

SITE DESCRIPTION: Between October 1 and October 8, 2001, R. Christopher Goodwin & Associates, Inc., conducted a Phase I cultural resources survey and archeological inventory of the Segura Staging Area on behalf of the U.S. Army Corps of Engineers, New Orleans District. The Area of Potential Effect was rectangular in shape and it measures approximately 0.81 ha (2 ac) in size. The Segura Staging Area is positioned in Irregular Section 41 of Township 12S, Range 7E, in Iberia Parish, Louisiana. Fieldwork conducted during the current investigation consisted of pedestrian survey, systematic shovel testing, soil probing with a blunt-tipped rod in selected portions of the proposed staging area, and unit excavation. [Continued]

SITE SIZE: 170 x 45 m, ca. 1.9 ac

CONFIGURATION: Irregular shape

DENSITY OF CULTURAL MATERIALS: Artifact density at site 16IB74 is medium to high, with 17.1 artifacts per shovel test.

DEPTH OF DEPOSIT/STRATIGRAPHY: A typical shovel test excavated within the Site 16IB74 area extended to a depth of 100 cmbs (39.3 inbs) and it exhibited three strata in profile. Stratum I was described as a layer of very dark brown (10YR 2/2) clayey loam that ranged in depth from 0 to 20 cmbs (0 to 7.8 inbs). Stratum I was underlain by Stratum II, a deposit of black (10YR 2/1) clay that extended from 20 to 35 cmbs (7.8 to 13.7 inbs). Stratum III was characterized as a layer of grayish brown (10YR 5/2) clay mottled with strong brown (7.5YR 4/6) clay; it extended from 35 to 100 cmbs (13.7 to 39.3 inbs).

A number of atypical profiles also were noted during the excavation of shovel tests at Site 16IB74. These shovel test profiles exhibited disturbance of deposits up to 40 cmbs (15.7 inbs); this disturbance was related to construction of a power line corridor that extended along the eastern edge of the proposed project item, as well as construction of a pipeline corridor that ran from east to west in the vicinity of the Bayou Teche bankline. In addition a number of shovel tests contained disturbed soil deposits measuring up to 50 cmbs (19.6 inbs) in depth. Profiles of shovel tests in all of these areas exhibited mottled soil horizons mixed with pieces of gravel and cinder.

FEATURES: Feature 1 consisted of a mortared brick foundation measuring approximately 4 x 1.2 x 0.5 m (13.1 x 3.9 x 1.6 ft). The bricks and mortar appeared to represent a substantial, albeit narrow, structural element of a large building. Feature 2 was non-cultural in origin, and it consisted of a rodent burrow containing historic/modern artifacts.

DATING/CULTURAL AFFILIATION: This site possesses a prehistoric component of unknown cultural origin and a 19th/20th century historic component.

PRESENT CONDITION/PRESERVATION: The site has been disturbed heavily by pipeline construction, power line construction, and the use of heavy machinery to remove structures within and near the site area.

PRESENT USE: Horse pasture

PRESENT AND FUTURE IMPACTS: Current construction plans call for this portion of Bayou Teche to be subjected to maintenance dredging by the U.S. Army Corps of Engineers, New Orleans District. The Segura Staging Area will be used as an equipment storage area, as well as for deposition of sediment dredged from the bottom of Bayou Teche.

COLLECTIONS

SURVEY/EXCAVATION METHOD: The site was investigated using pedestrian survey, systematic shovel testing, probing with a steel rod, excavation of a single unit and one exploratory trench. All soil was screened through 0.635 cm (0.25 in) wire mesh.

DESCRIPTION OF MATERIAL: Stratum I yielded 5 chert flakes, 4 pieces of bivalve shell, 12 mammalian bone fragments, 1 bolt, 32 cut nails, 70 wire nails, 35 unidentified nails, 1 nut, 1 standard screw, 4 wire cloth staples, 2 shingle fragments, 10 window glass shards, 1 barbed wire fragment, 3 wire fragments, 1 button, 1 zipper, 1 unidentified fastener, 6 shards of lamp glass, 492 bottle glass shards, 40 unidentified glass shards, 1 glass thumbscrew, 1 metal can pull top, 2 metal can fragments, 32 pieces of unidentified metal, 1 earthenware sherd, 1 fragment of tin foil, 11 hard paste porcelain sherds, 1 decal decorated ironware sherd, 2 embossed ironware sherds, 7 plain ironware sherds, 1 Albany glazed stoneware, 1 glazed stoneware, 1 plain stoneware, 34 plain whiteware, 2 decal decorated whiteware sherds, 1 embossed whiteware sherd, 1 annular decorated yellowware sherd, 1 spongeware decorated yellowware sherd, 2 spark plugs, 2 glass marbles, 1 plastic toy truck tire, 1 unidentified hard paste porcelain sherd, 3 pull chain fragments, 3 pieces of bakelite, 11 pieces of plastic, 1 metal cap, 1 fragment of metal screen, 8 pieces of brick, and 2 unidentified glass shards. The assemblage recovered from Stratum II was comprised of 7 cut nails, 5 wire nails, 7 unidentified nails, 1 rivet burr, 4 pieces of brick, 6 pieces of mortar, 2 pieces of plaster, 2 unidentified pieces of metal, 22 bottle glass shards, 1 drinking glass shard, 2 unidentified glass shards, 2 glazed stoneware sherd, 1 decal decorated hard paste porcelain sherd, 1 hand painted whiteware sherd, 2 undecorated whiteware sherds, 1 porcelain doll arm, 1 large metal ring, 1 plastic cap, 3 pieces of unidentified plastic, 3 mammalian bone fragments, 6 bottle glass shards, 1 unidentified glass shard, and 1 piece of bivalve shell were recovered from Stratum III. Feature 2 yielded 10 pieces of brick, 6 pieces of coal, 1 glass insulator fragment, 3 light bulb fragments, 11 bottle glass shards, 2 unidentified glass shards, 1 wire nail, 4 unidentified nails, 1 piece of unidentified metal, 1 piece of mortar, 1 piece of bakelite, and 2 mammalian bone fragments.

SITE EVALUATION

RESEARCH POTENTIAL: This site lacks research potential

STATE OR NATIONAL REGISTER ELIGIBILITY: Not significant

RECOMMENDATIONS: No additional testing of the site is recommended.

RECORDS

OWNER/TENANT AND ADDRESS: Unknown

INFORMANTS: N/A

PREVIOUS INVESTIGATIONS: Surveys 22-217;22-210;22-489;22-364;22-905;22-105;22-1151;22-1053;22-1494

COLLECTIONS AND AVAILABILITY: To be curated with Louisiana Department of Culture, Recreation, and Tourism, Office of Cultural Development, Division of Archaeology, Baton Rouge, Louisiana.

PHOTOGRAPHS AND MAPS: To be curated with Louisiana Department of Culture, Recreation, and Tourism, Office of Cultural Development, Division of Archaeology, Baton Rouge, Louisiana.

REFERENCES: Coughlin et al. 2002 *Phase I Cultural Resources Survey and Archeological Inventory of the 1.2 ha (3 ac) Segura Staging Area on Bayou Teche, Iberia Parish, Louisiana*. Submitted to the U.S. Army Corps of Engineers, New Orleans District.

RECORDED BY: Sean Coughlin
Assistant Project Manager
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309 Jefferson Highway, Suite A
New Orleans, LA 70121

DATE: January 30, 2002

**STATE OF LOUISIANA
CONTINUATION FORM**

SITE NAME: N/A

STATE SURVEY NO.: 16IB74

During survey, 46 of 48 (96 percent) planned shovel tests were excavated throughout the Area of Potential Effect. To further assess a historic/modern period brick feature identified during soil probing, a single unit measuring 1 x 1 m (3.3 x 3.3 ft) in size and one narrow exploratory trench covering an area of 0.5 x 1 m (1.64 x 3.3 ft) were excavated. The historic period feature consisted of a mortared brick foundation measuring approximately 4 x 1.2 x 0.5 m (13.1 x 3.9 x 1.6 ft). The bricks and mortar appeared to represent a substantial, albeit narrow, structural element of a large building.

A total of 986 artifacts were recovered during shovel testing and unit excavation conducted within the confines of Site 16IB74. Of the recovered artifacts, 5 consisted of temporally non-diagnostic prehistoric lithic flakes, 22 were described as non-diagnostic faunal specimens, and the remainder (n=959 [97 percent]) included historic/modern period artifacts, some of which were temporally diagnostic. Recovered historic/modern period artifacts types include nails, brick, mortar, ceramics, container and bottle glass shards, and pieces of plastic.

The prehistoric component of Site 16IB74 consists of a subsurface scatter of five lithic artifacts; this component is mixed with historic/modern deposits noted throughout the site area. Due to an absence of depositional integrity and temporally diagnostic artifacts, the prehistoric component of Site 16IB74 lacks research potential. Thus, it does not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional work is recommended for the prehistoric period component of Site 16IB74.

The historic/modern component of Site 16IB74 consists of a subsurface scatter of late to mid twentieth century artifacts associated with a domestic occupation of the area. Investigation of this component resulted in the recovery 959 historic modern period artifacts and 22 faunal specimens from three strata, as well as the identification of two features, one of which was of non-cultural origin. The presence of twentieth century artifacts in all three strata demonstrates mixing of deposits and a lack of depositional integrity. Based on the composition of the artifact assemblage and the widespread distribution of material over the staging area, it appears that the site area contained a late nineteenth century domestic structure that was occupied well into the ensuing twentieth century. A 1938 U.S. Army Corps of Engineers, New Orleans District aerial photograph of the area depicts a large barn in the vicinity of the brick feature, a house just to the north of this feature and a second residence positioned within or adjacent to northern boundary of the proposed staging area.

The archeological and stratigraphic records of the area suggest that these now-destroyed structures were demolished with heavy equipment at the end of their useful life or to facilitate bridge construction. The resulting debris was spread across the proposed project area. Despite the presence of a partially intact brick feature, the use of heavy equipment to spread occupational debris has disturbed the cultural deposits in the area, thereby leaving the site with little, if any, research potential. Thus, the historic/modern component of Site 16IB74 no longer retains the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional work is recommended for this component of the site.

CAD CODING SHEET

Landform (1 Entry)

kn Knoll	sd Salt dome	bea Beach	nrs Nat. Relic Scar
rid Ridge	swa Swamp	udw Underwater	bat Batture
bn Bench	bsw Backswamp	nal Natural Levee	ot Other, see form
pm Pimple Mound	msh Marsh	chr Chenier	

Soil Area (1 Entry)

cp Coastal Plain	fw Flatwoods	ral Recent Alluvium	cpr Coastal Prairies
cmr Coastal Marsh	mtl Miss. Terrace, Loessial Hills		

Soil Series Number _____

Cultural Features (4 Entries)

sar Single Artifact	psc Prehistoric Scatter	ls Lithic Scatter
md1 Mound/Earthwork	hsc Historic Scatter	bu Burials
md2 Mounds/Earthwork	hst Hist. Sheet Midden	ss Standing Structures
her Hist. Earthwork	shm Shell Midden	du Dump
ote Other Earthwork	erm Earth Midden	hr Historic ruins
sw Shipwreck		

Remarks (C.F.) Feature 1 is a brick foundation remnant. Feature 2 non-cultural rodent burrow.

Cultural Affiliation (7 Entries)

pu Prehis. (Unk.)	tc Tchefuncte	ms Mississippian
hu Historic (Unk.)	mar Marksville	cad Caddo
ph Pre./Hist. (Unk.)	is Issaquena	hi Hist. Indian Contact
pal Paleo-Indian	ba Baytown	ex Hist. Explr. 1541-1803
mi Meso-Indian/Archaic	tro Troyville	ant Antebellum 1803-1860
ni Neo-Indian (Unk.)	cc Coles Creek	war War & Aftm 1860-1890
po Poverty Point	pq Plaquemine	in Indust. & Modern 1890-

Remarks (C.A.) _____

Site Function (3 Entries)

pu Prehist. (Unk.) Cen.	fa Farm/Rural res.	ci Commercial/Service
hu Historic (Unk.)	wt Watercraft P&H	it Institut. (Rel. & Ed.)
ch Chipping Station	pt Plantation	gv Governmental
cam Camp	hs Hist. Town/Vill.	id Industrial
el Extraction Locale	ur Urban	du Dump
ha Preh. Hamlet/Vill.	cr Cemetery (Mort.)	ml Military
cer Ceremonial Center	ht Hist. Transport.	

Remarks (S.F.) Historic domestic rural occupation and probably agricultural outbuildings

Description of Material (6 Entries)**cra** Ceramics, Aborig.**hc** Ceramics, Hist.

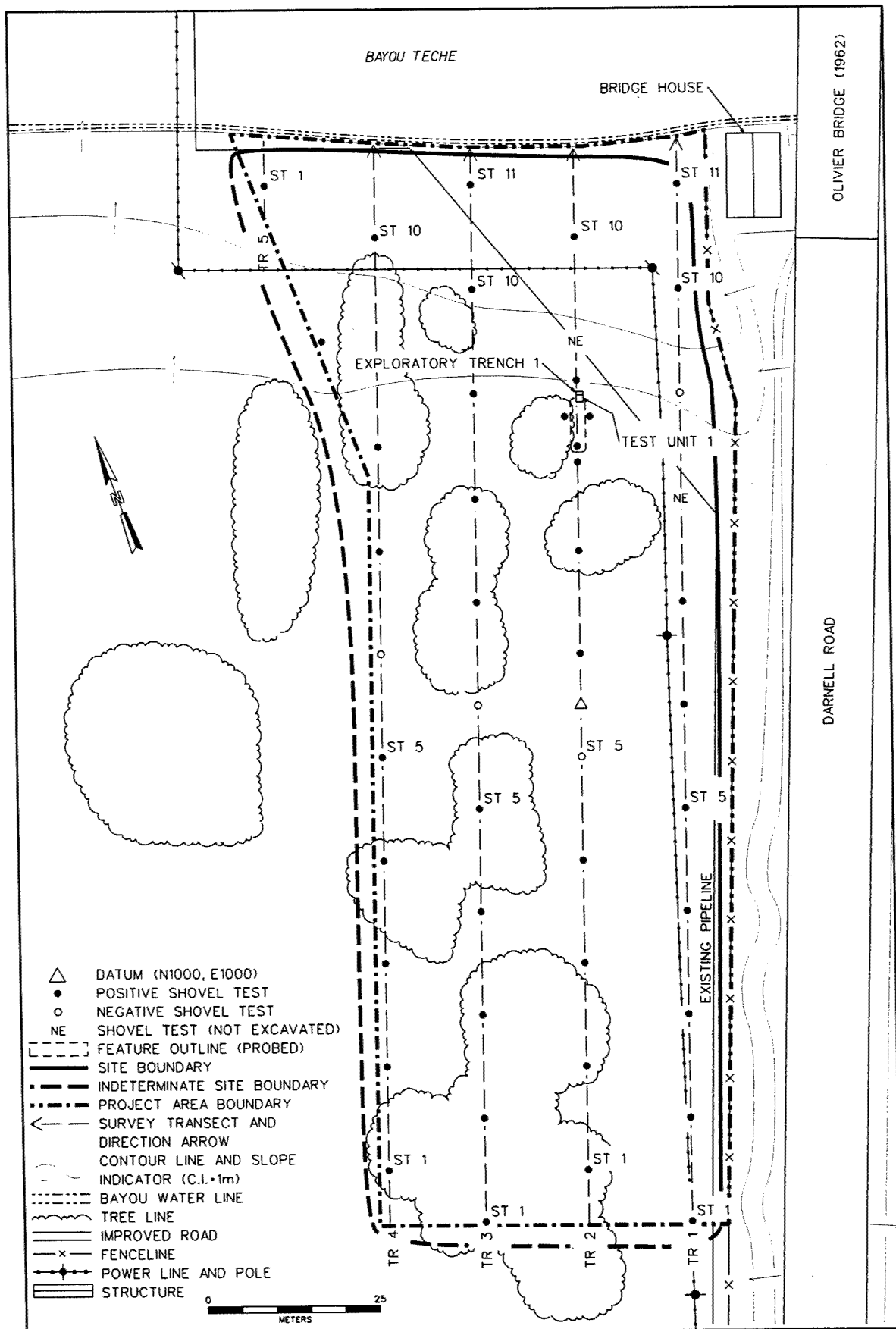
Fauna)

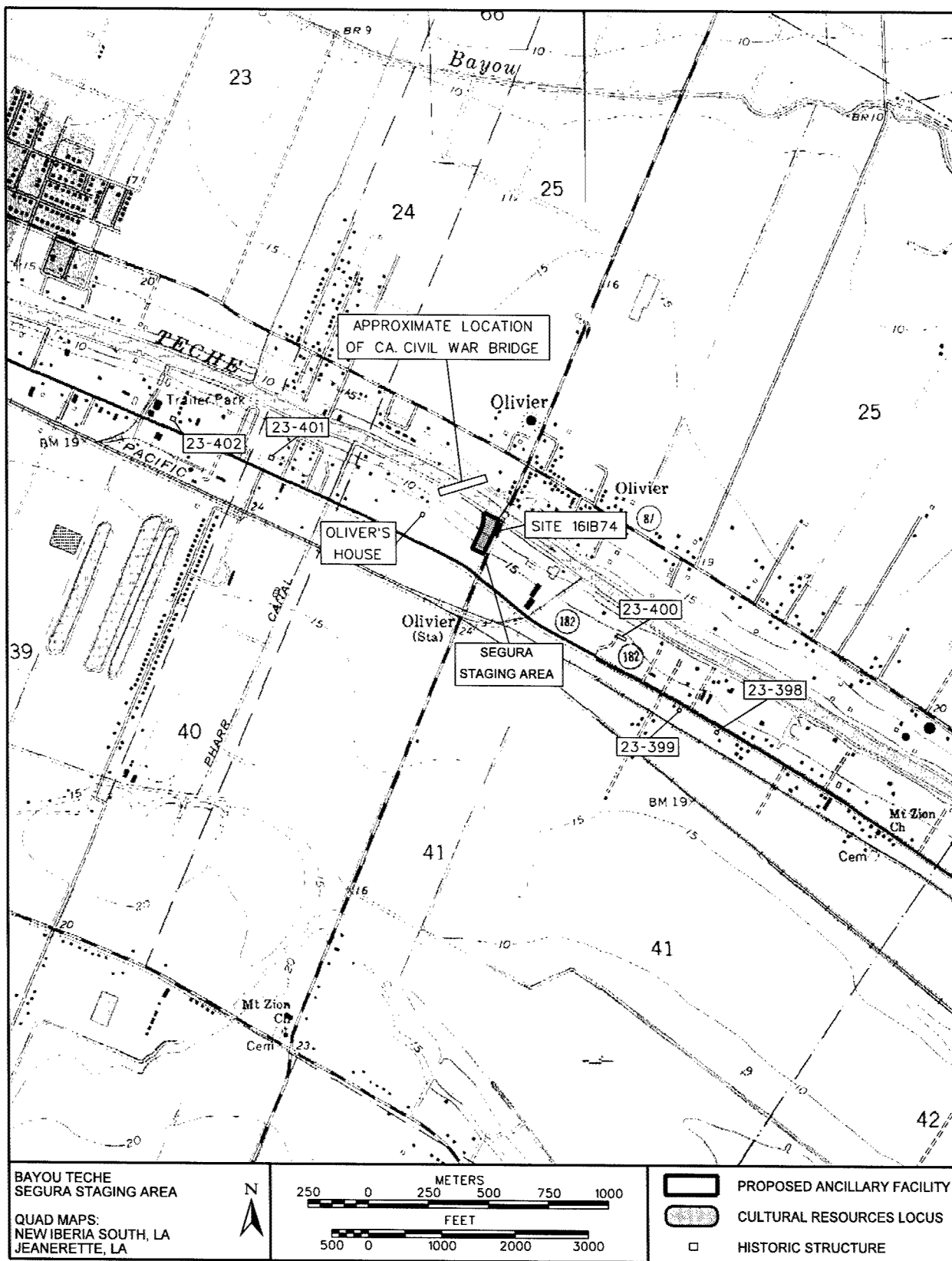
cs Chipped Stone**pp** Projectile Pts.**gs** Ground Stone**she** Shell**ppo** PPO's**gl** Glass**me** Metal**cmt** Construct. Material
(Brick, Wattle & Daub)**wb** Worked Bone**ub** Unmodified Bone**fl** Flora**wo** Wood**Method of Investigation at Site**

(3 Entries)

gra Grab Surface Col.**sv** Systematic Col.**sht** Shovel Testing**au** Auger Testing**tu** Test Units**exc** Excavation**rs** Remote Sensing**dv** Diver Investigation**Disturbance Agent/Present Use (3 Entries)****unk** Unknown**pd** Potted**nn** None**ag** Agricultr (Plowing)**ti** Timber Industry**nat** Natural**di** Urban Develop.**ot** Other, see site form**cw** Construction, Water**cto** Construction, Other**uw** Underwater**Disturbance Degree (1 Entry)****unk** Unknown**nn** None**mp** Minor Impact**mj** Major Impact**dt** Destroyed**iu** Inundated**National Register Status (1 Entry)****unk** Unknown**ne** Not Eligible**ld** Listed**de** Declared Elig.**ps** Potent. Signif.**nd** National Landmark**References (4 Entries)**

1) _____ 2) _____ 3) _____ 4) _____





APPENDIX III

SCOPE OF WORK

SCOPE OF WORK

CULTURAL RESOURCES SURVEY OF PROPOSED NEW STAGING AND STOCKPILING AREA BAYOU TECHE MAINTENANCE DREDGING NEW IBERIA, LOUISIANA

I. LOCATION, OBJECTIVE, PURPOSE AND AUTHORITY

1.1 Location: The study area is located in New Iberia, Iberia Parish, on the right descending bank of Bayou Teche (Attachment I). The project consists of the establishment of a temporary staging and stockpiling area for dredging of Bayou Teche. The proposed location is currently a horse pasture with sparse tree cover including a number of large live oaks. The area to be studied is an irregularly shaped rhomboid of approximately 3 acres in size, with a maximum length of 450 feet and a maximum width of 300 feet. Attachment II illustrates the site plans of the study area.

1.2 Objective: Conduct historical literature search and records review to determine the following: 1) the location of known cultural resource sites; 2) the location of high potential areas for cultural resources; and 3) past and present ground disturbance. All available geomorphologic literature should be evaluated and incorporated into the development of an applicable field strategy. Upon completion of the literature search and records review, the contractor will conduct a terrestrial cultural resource inventory survey to identify any potentially significant cultural resources with the proposed pipeline alignment. The survey will consist of a pedestrian survey including surface examination and shovel tests and auger borings to identify buried cultural resource sites and determine their approximate horizontal and vertical dimensions. In addition, a sweep of the survey area should be made using a metal detector in order to identify possible historic artifacts. Following completion of the field investigations, a scientific/technical report will be produced. The report will document the findings of the cultural resource investigation and provide recommendations for future investigations.

Upon completion of the literature review and cultural resource survey, the contractor will first provide a management summary to the Corps of Engineers (COE). Following the management summary, the contractor will produce a cultural resources report. The cultural resource report will be utilized by COE personnel to assess project impacts and develop realistic cost estimates for future investigations if needed.

1.3 Purpose: To obtain the professional services, labor, materials and equipment necessary to complete above noted objective.

1.4 Authority: The U.S. Army Corps of Engineers (COE) is obligated under the National Historic Preservation Act (NHPA), and National Environmental Policy Act (NEPA) to take into account the effect its undertakings have upon cultural resources within a given project area. Under these laws and regulations, the COE assumes responsibility for the identification and evaluation of all cultural resources within the project boundaries. In addition, the COE must afford the State Historic Preservation Officer (SHPO), and on occasion the Advisory Council on Historic Preservation (ACHP), the opportunity to review and comment upon proposed undertakings and associated cultural resource investigations.

II. **SERVICES**: The contractor shall perform all work required providing the following services and products:

2.1 Cultural Resource Literature Search and Records Review

(Task I): The Contractor will conduct a comprehensive literature search and records review prior to the start of the field investigations. This will include, but may not be limited to the following: 1) review of all available historic maps and aerial photos; 2) examination of local and regional historic archives and public records; 3) a review of the State of Louisiana's cultural resource site and standing structure files; 4) a review of the National Register of Historic Places; 5) a review of geomorphologic data and reports; 6) a review of past cultural resource reports and records; and 7) interviews with local informants and collectors.

The literature search and records review will determine the location of known cultural resources and the potential for such resources within the project area. The analysis of historic maps and aerial photos will be essential in the determination and identification of high potential cultural resource areas and the location of possible historic sites including cemeteries. Following completion of the literature search and records review, the Contractor will adjust his field methodology if necessary, in order to properly cover high probability areas, such as increasing shovel test density or depth. Use of the 2000 report entitled "Phase I Cultural Resources Survey and Archaeological Inventory of the Proposed 19.3 km (12 mi) Long Stretch of Bayou Teche, Iberia Parish, Louisiana" is encouraged in order to expedite the process and reduce project cost.

2.2 Terrestrial Cultural Resource Survey and Testing (Task II):
Field investigations will begin following the completion of Task I. Field methodology and techniques will follow acceptable professional standards (see Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, Federal Register, September 29, 1983). Project specific services are as follows:

A. The Contractor will physically survey/test all land areas to be impacted by the proposed project. The pedestrian survey/testing will be conducted utilizing a grid system with test holes spaced no greater than 15 meters apart. Subsurface testing will be conducted using shovel tests and/or auger tests depending on the ground conditions. Shovel and auger tests should be to a depth sufficient to ensure that no deeply buried archaeological deposits remain undetected (based on literature background study of the local geology). Back-dirt from subsurface tests should be hand sorted and/or screened through 1/4 inch or finer hardware cloth for cultural evidence. Soil characteristics and stratigraphic associations will be described and recorded in field notebooks or field forms. The vertical location of recovered cultural materials should be indicated on profiles. In addition, the survey area should be examined using a terrestrial hand-held metal detector(s). The metal detector will be used in order to identify possible historic period artifacts. Anomaly locations should be flagged. Examination/excavation of the anomaly locations should be conducted using shovels and screens. Positive anomaly locations should be recorded and mapped in the same manner as positive shovel tests.

B. All measurements shall be made in the metric system.

C. Where applicable, surface collections will be conducted in a systematic fashion. Collections can be made along transects and/or within established grid units. A representative sample of all artifact/ecofact categories will be made.

D. A site map will be prepared for each cultural resource site. The map will document the horizontal locations of all shovel/auger tests, collection units, diagnostic cultural materials/features and the approximate horizontal limits of the deposit. A permanent site datum should be selected or established and marked on map.

E. Radiocarbon samples will be collected wherever possible.

F. All human remains and/or burials and associated artifacts shall be left undisturbed. Upon discovery, the COE will be contacted immediately.

G. All test holes shall be back-filled upon completion.

H. All cultural resource sites will be recorded on the appropriate State of Louisiana site forms and clearly delineated on USGS topographic maps (1:24,000 scale). This delineation should be conducted using a standard 10 meter interval grid system requiring two negative tests to determine site limits in at minimum the four cardinal directions.

I. All sites discovered should be evaluated to the fullest possible extent given the allotted field time. This can include determination of National Register of Historic Places eligibility. The excavation of two 1x1 meter test units is authorized in the event that a site is located in the project area. These test units are to be placed in the most advantageous area in order to better determine site integrity and potential significance. Test units should be dug in either arbitrary 10 cm levels or by natural zones, at the discretion of the project manager.

2.3 Laboratory Analysis and Cultural Resource Report (Task III): All cultural material, reports, drawings, maps, photographs, notes, and other work developed in the performance of this contract shall be and remain the responsibility and/or sole property of the Government and may be used on any other work without additional compensation to the Contractor. The Contractor agrees not to assert any rights and not to establish any claims with respect thereto. The Contractor agrees to furnish and provide access to all retained materials at the request of the COE.

A. Laboratory analysis and curation will be conducted in accordance with the following:

(1) All recovered archeological materials and artifacts shall be washed, preserved/stabilized and cataloged. All cultural materials shall be properly stored and secured from vandalism and extremes in temperature and humidity.

(2) Laboratory techniques and artifact analysis should meet acceptable professional standards. Faunal and floral remains will be identified according to standard zooarchaeological procedures.

(3) Following completion of this contract, all cultural materials and records will be turned over to the State of Louisiana, Division of Archeology, Office of Cultural Development. Thus, all cultural materials and records will be cataloged according to the Division of Archeology's standards. The contractor shall work with the Louisiana Division of Archeology and the COE to coordinate the transfer of all archeological materials and records

B. Following completion of the field work, a management summary should be completed for the project. This summary should contain sufficient information for the COE to proceed with necessary coordination activities with the SHPO. Three copies of this summary should be sent to the COE within 7 days of completion of the field work. Following completion of the management summary, a draft report shall be prepared. The draft cultural resource report is expected to be a polished product and accurate representation of the final report with two exceptions: 1) the draft report will be double spaced and 2) photographs may be photo-copied rather than being in publishable form. Report style shall follow acceptable professional standards as established by American Antiquity. The Cultural Resource Report shall contain, but not be limited to the following:

- (1) Discussion of proposed Federal action/project.
- (2) Overview of regional prehistory, history and previous cultural resource investigations.
- (3) Research methodology and detailed discussion of field and laboratory techniques.
- (4) Local geology and environment.
- (5) Discussion of cultural resource sites within project area. Cultural resource site locations, horizontal/vertical provenience and site integrity will be discussed. Detailed site maps and soil profiles will be prepared to accompany discussions.
- (6) Artifact description and analysis accompanied by tables and illustrations.
- (7) Comparison of cultural resource sites, materials and associated data with local and regional chronologies.
- (8) If possible, a determination of cultural resource site significance and National Register Eligibility (see Revised 1991, National Register Bulletin 15, "How to Apply the National Register Criteria for Evaluation", Published by the National Park Service).
- (9) Discussion of project impacts and recommendations for future investigations.
- (10) In order to preclude vandalism, the draft and final reports shall not contain specific locations of archeological sites.

C. Once the draft report has been reviewed and accepted by the COE, a preliminary final report shall be prepared. Following inspection and acceptance of the preliminary final report, the final report will be prepared and 40 copies forwarded to the COE. The final report shall follow the format set forth in MIL-STD-847A with the following exceptions: (1) separate, soft, durable, wrap-around covers will be used instead of self covers; (2) page size shall be 8-1/2 x 11 inches with 1 inch margins; (3) the reference format and report style will be analogous to American Antiquity. Spelling shall be in accordance with the U.S. Government Printing Office Style Manual dated January 1973. The cover of the report shall conform to the New Orleans District Cultural Resource Report Series standards and specifications. The COR will prepare a letter to the reader that will appear behind the Report Documentation Page at the beginning of the report.

III. CONTRACTING OFFICER AND CONTRACTING OFFICERS REPRESENTATIVE

3.1 The COR for this project will be Joan Exnicios, CEMVN-PM-RN, (504) 862-1760.

3.2 The Contracting Officer (CO), and COR may at all reasonable times inspect or otherwise evaluate the work being performed. All inspections and evaluations will be performed in such a manner as will not unduly delay progress of the work. It is necessary that close coordination between the contractor and Government be maintained throughout all contract periods to ensure satisfactory completion.

IV. CONTRACT SCHEDULE

4.1 Contract proposal and estimate shall be submitted within 7 days of receipt of delivery order package.

4.2 The Government shall review the proposal within 5 days of receipt.

4.3 The contractor shall begin Task I no later than 14 days following award of delivery order.

4.4 The contractor shall complete a management summary within 7 days of following completion of the fieldwork.

4.5 The Contractor shall complete Task III (completion of the draft technical report) 8 weeks following award of the contract. Two copies of the draft reports will be submitted to the COE for review. The COE will review the draft reports and forward comments to the contractor 10 days following their receipt. The

Contractor will make the required changes and forward the pre-final reports (1 copy each) to the COE within 10 days of receipt of the review comments. The COE will inspect the pre-final report and notify the contractor of its acceptance no later than 5 days following its receipt. The contractor will prepare the final reports and forward the final copies within 5 days of their acceptance. A reproducible master (both hard-copy and computer diskette) and associated GIS/CAD computer data should accompany the final reports. All graphic overlays and GIS files shall meet the current COE metadata standards.

4.6 A brief, one page monthly progress report will be submitted along with each monthly billing voucher. The progress report will cover the billing period noted on the voucher. Each report will discuss project status, work performed, logistical problems and difficulties, if any, in meeting the contract schedule. Cost breakdowns should be grouped according to specific "Tasks".