



SURA, Inc.

(Surveys Unlimited Research Associates, Inc.)

Exhibit JJ. Livingston Industrial Park Phase I Cultural Resources Assessment Report

February 27, 2014

Ms. Pam Breaux
State Historic Preservation Officer
Division of Archaeology
Office of Cultural Development
Department of Culture, Recreation & Tourism
P.O. Box 44247
Baton Rouge, LA 70804

Re: Phase I survey, 93 acres, Walker, La.
Livingston Parish

Dear Ms. Breaux:

I enclose for your review two copies of the negative findings draft report for this project, done for the Baton Rouge Area Chamber (BRAC).

Sincerely,

Malcolm K. Shuman

Cc: Mr. Jim Cavanaugh

Enc. Draft report (2)

**PHASE ONE CULTURAL RESOURCES SURVEY
OF 93 ACRES (37.6 HECTARES)
PROPOSED FOR INDUSTRIAL USE,
WALKER, LIVINGSTON PARISH, LOUISIANA
A Report of Negative Findings
Draft Report**



**for
The Baton Rouge Area Chamber (BRAC)
564 Laurel St.
Baton Rouge, LA 70801**



Since 1986

SURA, Inc.

P.O. Box 14414

Baton Rouge, LA 70898-4414

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OF 93 ACRES (37.6 HECTARES)
PROPOSED FOR INDUSTRIAL USE,
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A Report of Negative Findings**

Draft Report

By

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For

**The Baton Rouge Area Chamber (BRAC)
564 Laurel St.
Baton Rouge, LA 70801**

February 28, 2014

ABSTRACT

From February 13 through February 18, 2014, SURA completed a Phase I cultural resources survey of 93 acres (37.6 hectares) to be certified for industrial use under the Sites Certification Program of the Louisiana Department of Economic Development. The survey area is located near Walker, Livingston Parish, Louisiana. Survey methodology consisted of map research and shovel testing at high probability (HP) and low probability (LP) intervals. A total of 195 transect shovel tests were excavated.

ACKNOWLEDGMENTS

The authors are grateful to many people for assistance during this project. The field crew was led by Ms. Taylor Gabour, and field crew consisted of Brandy Kerr, and Karl Shuman. Dr. Malcolm Shuman, the Principal Investigator, made site visits and wrote the report. Dr. Carl Kuttruff also made a site visit. Margaret Shuman assisted in formatting the report. Mr. Jim Cavanaugh, of BRAC, commissioned the project and Mr. Randy Rogers coordinated it.

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CHAPTER ONE: INTRODUCTION

From February 13 through February 18, 2014, SURA completed a Phase I cultural resources survey of 93 acres (ac) (37.6 hectares [ha]) to be certified for use as an industrial site under the Louisiana Department of Economic Development (LED) Site Certification Program. The area of potential effects (APE) is located near Walker, Livingston Parish, Louisiana (Figure 1). Survey methodology consisted of map research and shovel testing at high probability (HP) and low probability (LP) intervals.

The survey consisted of three persons. A total of 195 transect shovel tests were excavated.

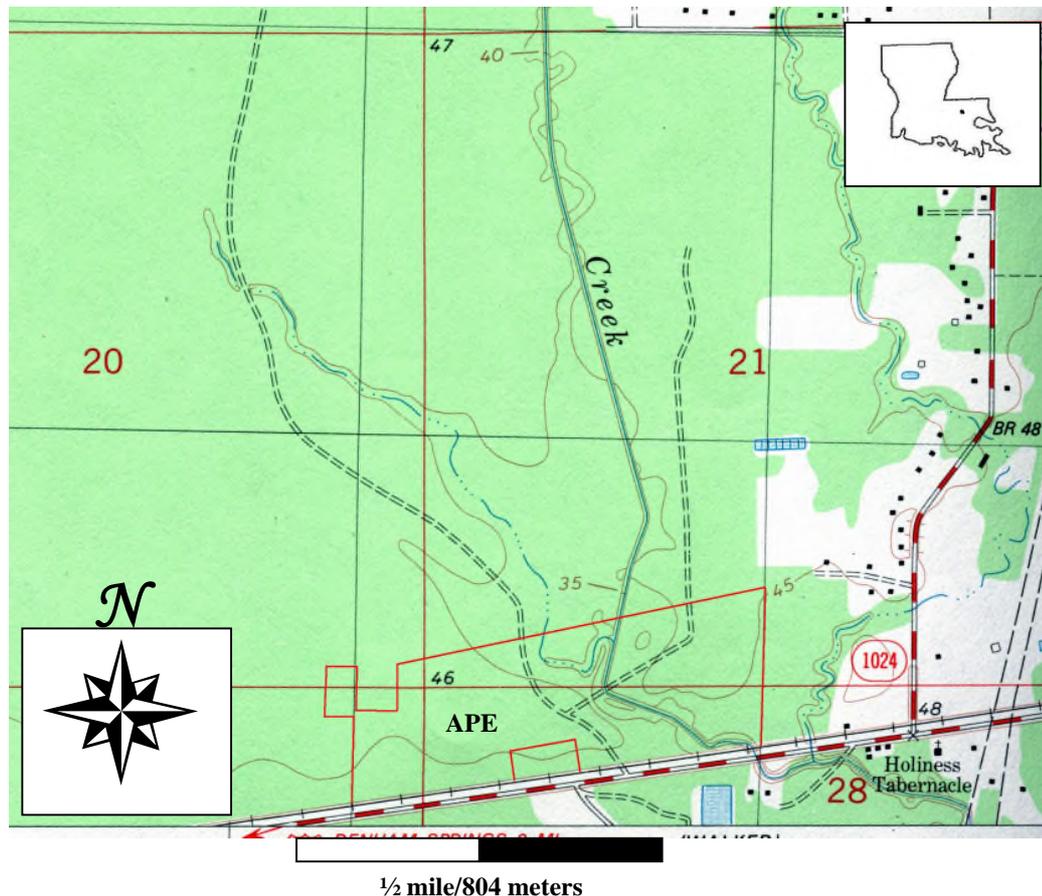


Figure 1. Portion of Satsuma, La. 1980 7.5-minute topographic map showing APE.

CHAPTER TWO: ENVIRONMENT

Geomorphology and Soils

The outstanding surface geomorphological characteristics of Livingston and the other Florida parishes were determined by a series of terraces formed in the Pleistocene geological epoch. In profile, these terraces are arranged like steps that descend from north to south. Since 1900, there has been considerable discussion by geologists about the exact number and proper naming of these terraces. What has been agreed upon, however, is that this terracing was the product of the fluctuations in eustatic sea level, and that over the millennia it has caused rivers in the area to alternately incise and then silt in their floodplains (Saucier 1963).

In addition, the collection of sediment below the lower terraces has caused the upper terraces to be uplifted due to the subcrustal flow of the sediment weight. This uplift of the terraces and downwarping of the deltaic plain has taken place along the hinge line of the Baton Rouge fault, which runs from Baton Rouge to the northern shore of Lake Pontchartrain (Saucier 1963). Such uplifting in the last few centuries has further raised the gradients of many of the streams in the general region. This higher gradient, in turn, has exposed many natural gravel deposits, which were important prehistorically as well as in modern times (Woodward and Gueno 1941).

The geomorphology of this area is further defined by the north-to-south flow of the major streams in the region. The Amite River on the west and the Pearl River on the east geographically bracket streams such as the Tickfaw, Tangipahoa and Tchefuncte rivers and Bayous Lacombe, Natalbany, Bogue Chitto and their tributaries, all of which flow into the Pontchartrain Basin. Because of their high gradients, these streams are deeply incised and have relatively narrow floodplains.

Soils in this part of Livingston Parish are mapped as part of the Calhoun-Olivier association (Figure 2). Calhoun soils have a gray silt loam surface and a gray silty clay loam subsoil. They occur in level depressed areas and comprise about 55% of the association. Olivier soils, which occur on broad, nearly level ridges, have a grayish brown silt loam surface and a yellowish-brown silty clay loam subsoil. They account for 30% of the association. Myatt, Frost and Springfield soils make up the remainder of the association.

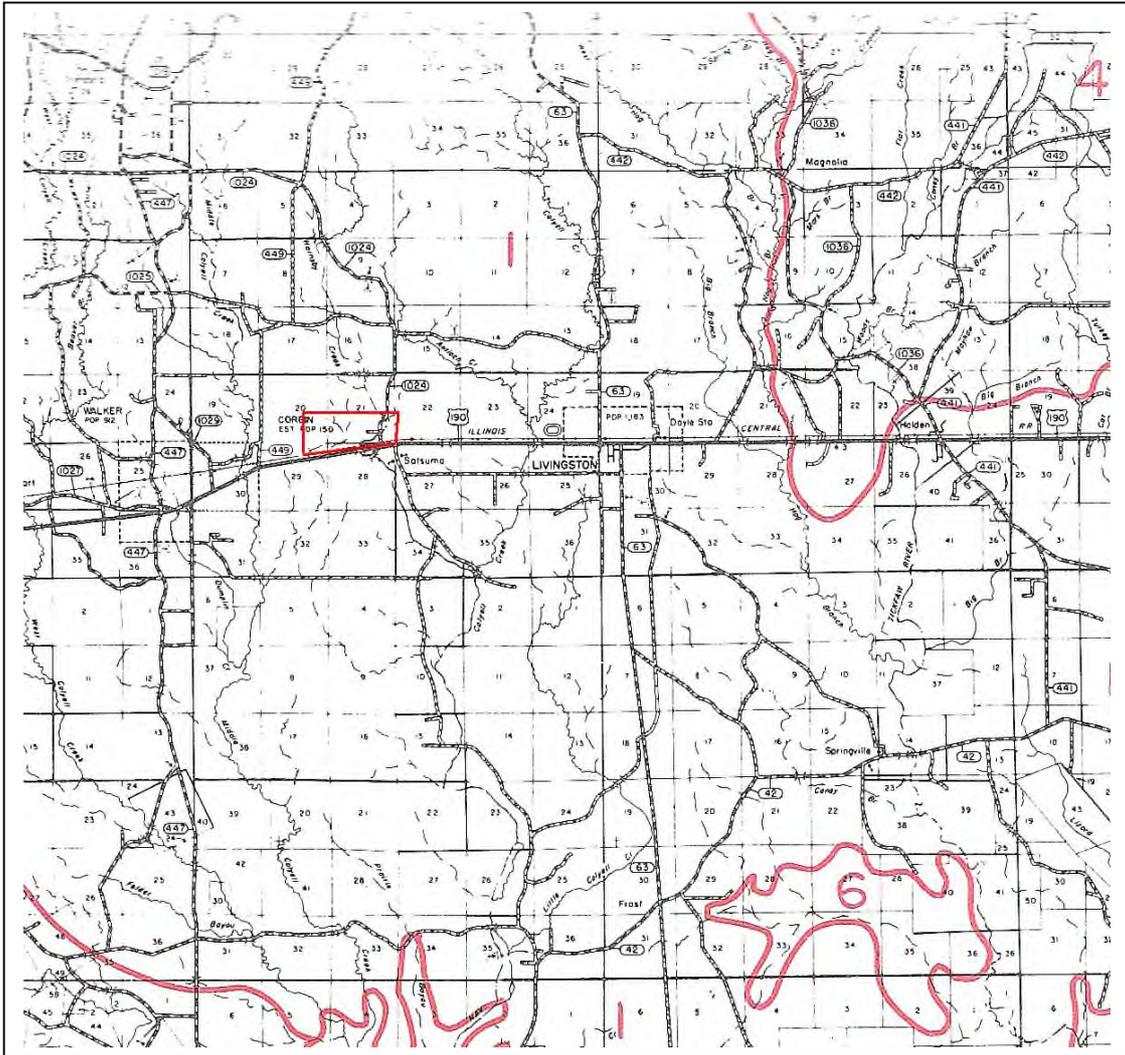


Figure 2. Soils areas for the APE (Source: USDA 1971).

Flora and Fauna

Low, poorly-drained areas support water oak (*Quercus nigra*) and sweetgum (*Liquidambar styraciflua*) and better-drained areas support loblolly pine (*Pinus taeda*) (USDA 1971).

Animal life is likewise diverse and most of the 62 mammal species found in Louisiana may at one time have been found within the area. These include white-tail deer (*Odocoileus virginianus*), cottontail rabbit (*Sylvilagus floridanus*), gray squirrel (*Sciurus carolinensis*), fox squirrel (*Sciurus niger*), skunk (*Mephitis mephitis*), black bear (*Euarctos*

americanus), raccoon (*Procyon lotor*), mink (*Mustela vison*), beaver (*Castor canadensis*), opossum (*Didelphus virginiana*), bobcat (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*) and red fox (*Vulpes fulva*) (Lowery 1974). Birds include such predators as the great horned owl (*Bubo virginianus*), barred owl (*Strix platypterus*), and many others. Non-predatory types include woodcocks (*Philohela minor*), bobwhite quail (*Colinus virginianus*), and mourning doves (*Zenaidura macroura*) (Lowery 1955).

Reptile life is particularly diverse, owing to the heterogeneity of habitats in the area. Included are several species of snakes, including the cotton mouth (*Agkistrodon contortrix*), and varied species of lizards and turtles. Amphibians include species of salamanders, frogs, and toads (Dundee and Rossman 1989).

Fish life is very prolific in this part of Louisiana and no doubt was likewise prehistorically. Prominent fish species are gar (*Lepisosteus spp*), largemouth bass (*Micropterus salmoides*), and bluegill (*Lepomis macrochirus*), among many others.

From the above, it seems possible that cultural deposits could date as far back as the late Pleistocene (ca. 10,000 B.P.) or early Holocene (ca. 9,000 B.P.).

CHAPTER THREE: PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Previous archaeological projects in/near the Area of Potential Effects (APE)

Livingston Parish has not received the amount of archaeological attention that many parishes have. A review of SHPO files shows only four archaeological projects to have taken place within a 3 mile (5 km) radius of the current APE (Figure 3). One of those, R. Christopher Goodwin & Associates' research design for the Amite River and tributaries, was primarily a literature search and was conducted 23 years ago (Hinks et al. 1990), though some fieldwork was undertaken, as will be seen. The second was a sewer improvements survey for the town of Walker, by Byrd, undertaken in 1978, before archaeological standards were as formalized as they are currently (Byrd 1978). She reported no cultural properties in her APE. The closest project to the current APE was that of McIntire (1981), who surveyed a proposed pipeline route from Weeks Island to the Mississippi border. He recorded no sites within or near the current APE. The most recent project of the three was a 1993 survey for the LIGO facility, by archaeologists from GEC, Inc. It involved systematic shovel tests and recorded no cultural items (Shuman et al. 1993).

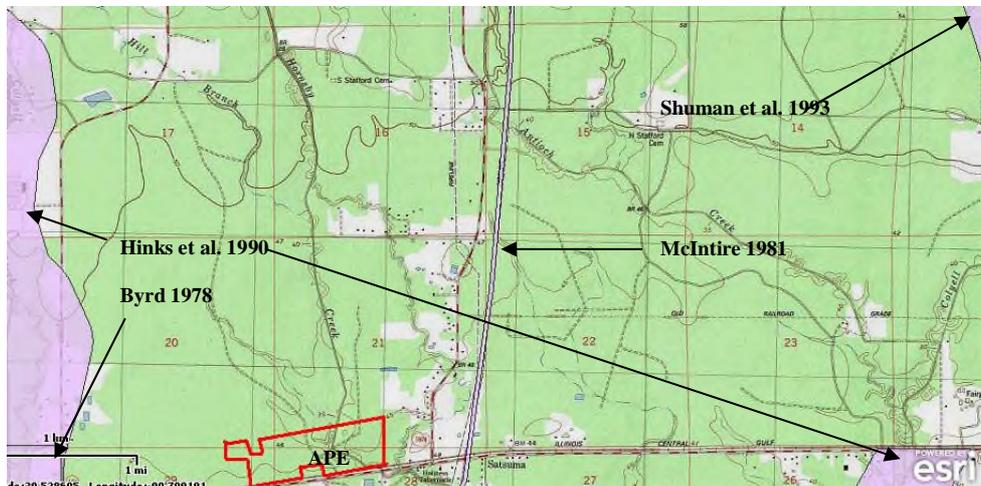


Figure 3 LDOA map of surveyed areas near APE (Source: LDOA)

Previously recorded archaeological sites in/near the APE

No archaeological sites have been recorded within the APE. In fact, only two archaeological sites have been recorded within 3 miles (5 km) of the APE; most of the sites in Livingston Parish are along the Amite River, or in the swamp south of French Settlement. The two sites in point are 16LV33 and 16LV81 (Figure 4).

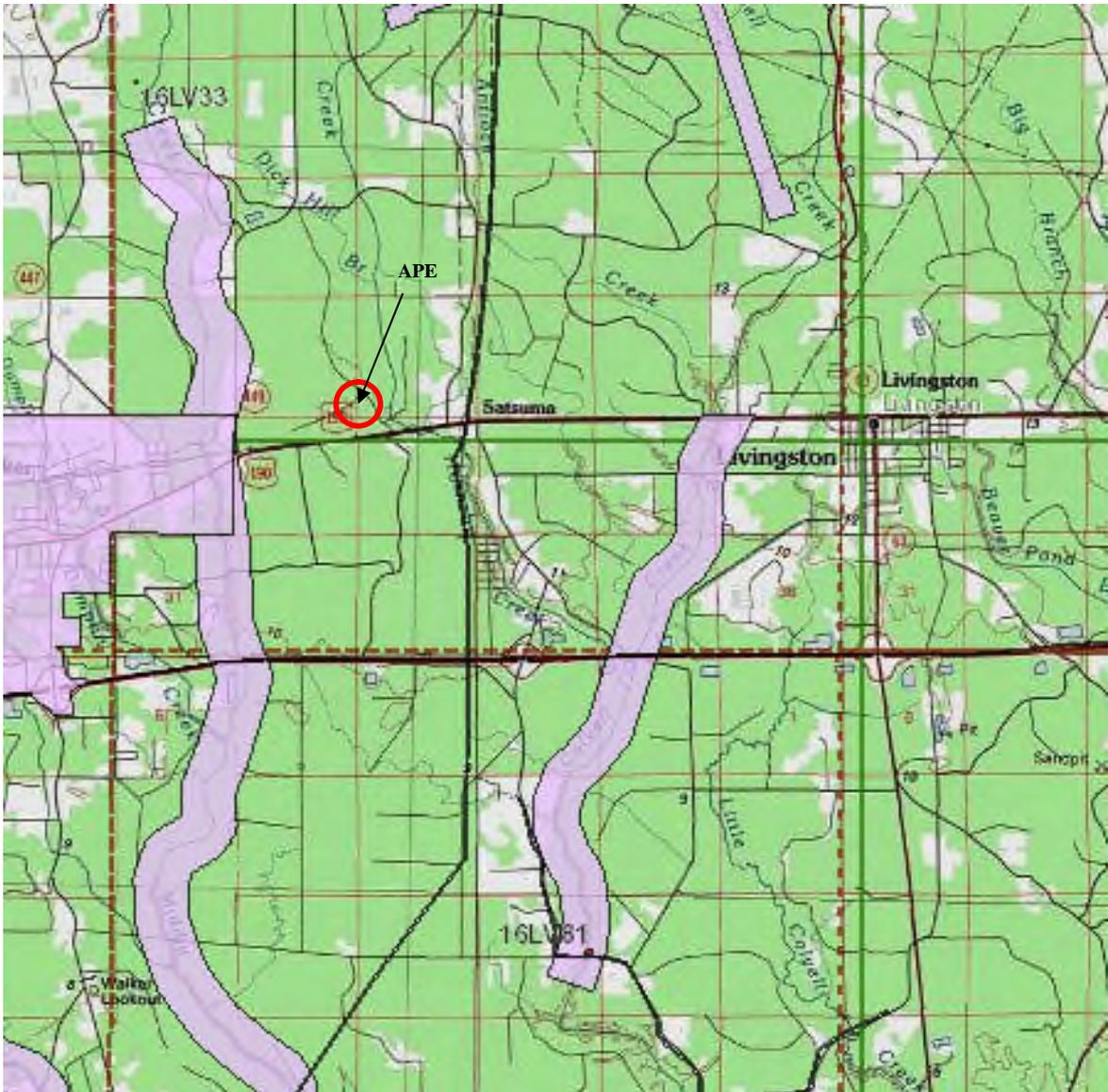


Figure 4. LDOA map of recorded sites near APE (Source: LDOA)

The first is the Hall site (16LV33), a scatter of primarily prehistoric materials about 2.5 mi (ca. 4 km) northwest of the current APE. It was recorded by Hinks et al. (1990) as part of the Amite River research plan mentioned above. On the site form, the authors note, “The site is in the approximate location of a ca. 1860 Choctaw village depicted on an untitled map of East Baton Rouge and Livingston parishes” (LDOA site form 1989). The archaeologists considered this site potentially eligible for the National Register of Historic Places (NRHP).

The second site is the Midway Baptist Church Mound (16LV81), about 2.5 mi (ca. 4 km) southeast of the current APE. It was recorded in 1991, by Susan Wurtzburg, then Southeast Regional Archaeologist. She stated the mound had been destroyed when the church was built, and a subsequent visit by DOTD archaeologists seemed to confirm this (LDOA site form n.d.). No artifacts were collected by either team.

CHAPTER FOUR: METHODOLOGY

The APE is predominantly Pleistocene terrace, a formation that typically supports pine forest and has shallow soils, not adapted to agriculture. Generally, prehistoric use of such areas was limited to hunting and gathering, rather than long-term settlement. In historic times lumbering was the most fruitful industry, along with stock farming (McIntire 1981:4-8). On the other hand, the waterways, such as Hornsby Creek, would have offered more to prehistoric peoples, who used waterways not only for fishing and for their water source, but for travel.

In recent years, there has been a recognition that prehistoric mounds may date as far back as the Archaic period (6,000 B.C.-2,000 B.C.) (Gibson 1994; Russo 1994; Saunders 1994) and there have been investigations of several such purported mounds in Livingston Parish (Jones and Shuman 1988; Vasbinder 2005; Brignac 2010). Of particular note is the Hornsby Mound (16SH21), in nearby St. Helena Parish, recorded in 1977 by the late Joe Manuel. Radiocarbon dates suggest an Archaic age for this site (Manuel 1979; 1987; Jones and Shuman 1988:110). Consequently, the possibility of ancient prehistoric mounds in this area should be taken into account.

Therefore, the following procedure was followed:

In areas within 100 ft (30.8 m) of watercourses and between watercourses (i.e., near a confluence) where the topographic maps show possible man-made features, survey should be conducted at High Probability (HP) intervals. In HP zones, shovel tests will be excavated at 98.4 ft (30 m) intervals. All other areas within the APE will be designated Low Probability (LP) and shovel tests will be excavated at 164 ft (50 m) intervals, with transects spaced at 164 ft (50 m). Figures 5 and 6 show the zones considered HP and LP. Excavated material is screened using ¼" hardware cloth, except in cases where the soil is too wet or contains too much clay content to permit screening. In those cases, the excavated material is broken up by hand or trowel and visually examined. No shovel tests are excavated in areas of standing water or where there is obvious surface disturbance (i.e., areas where the topsoil has been removed). All archaeological sites are defined using standard site definition methodology; that is, shovel tests are excavated along a grid oriented to the cardinal directions (or, in cases where the topography renders this not feasible, oriented to grid north) and excavation of shovel tests continues until two successive shovel tests are negative or a natural barrier (e.g., a water course or a steep hillside or an area of disturbance) intervenes. Shovel test intervals are 32.8 ft (10 m), except that in the case of sites 164 ft (50 m) or more in lateral extent, shovel tests may be excavated at 65.6 ft (20 m) intervals. Sites are mapped using tape and compass and photographed. Material recovered is taken to the SURA offices for cleaning and analysis.

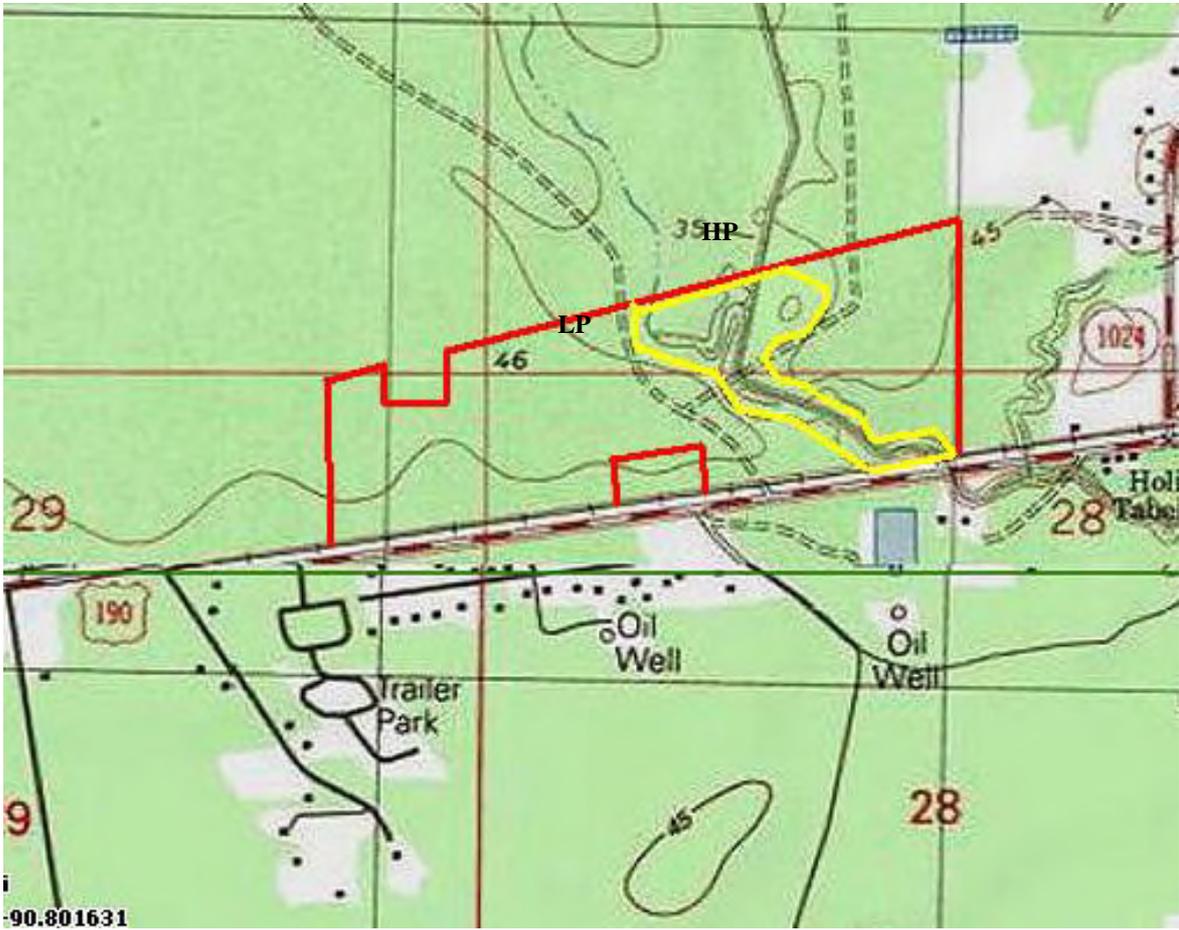


Figure 5. Map of APE showing HP (yellow) and LP zones (red).



Figure 6. Aerial photo of APE showing HP (yellow) and LP zones (red).

Curation Statement

All artifacts collected are returned to the SURA laboratory, washed, analyzed and catalogued. They, as well as documents pertaining to the survey, are then deposited with the Louisiana Division of Archaeology for curation at:

LDOA Curation/CRT
Central Plant North Building 2nd Floor
1835 North Third St.
Baton Rouge, LA 70802

CHAPTER FIVE: RESULTS

Historic Topographic Maps

Historic topographic maps from the Louisiana State University Cartographic Information Center (LSUCIC) were examined. These include the 1941 Satsuma, La. 15-minute sheet (Figure 7) and the Satsuma, La. 1980 7.5-minute sheet (Figure 8).

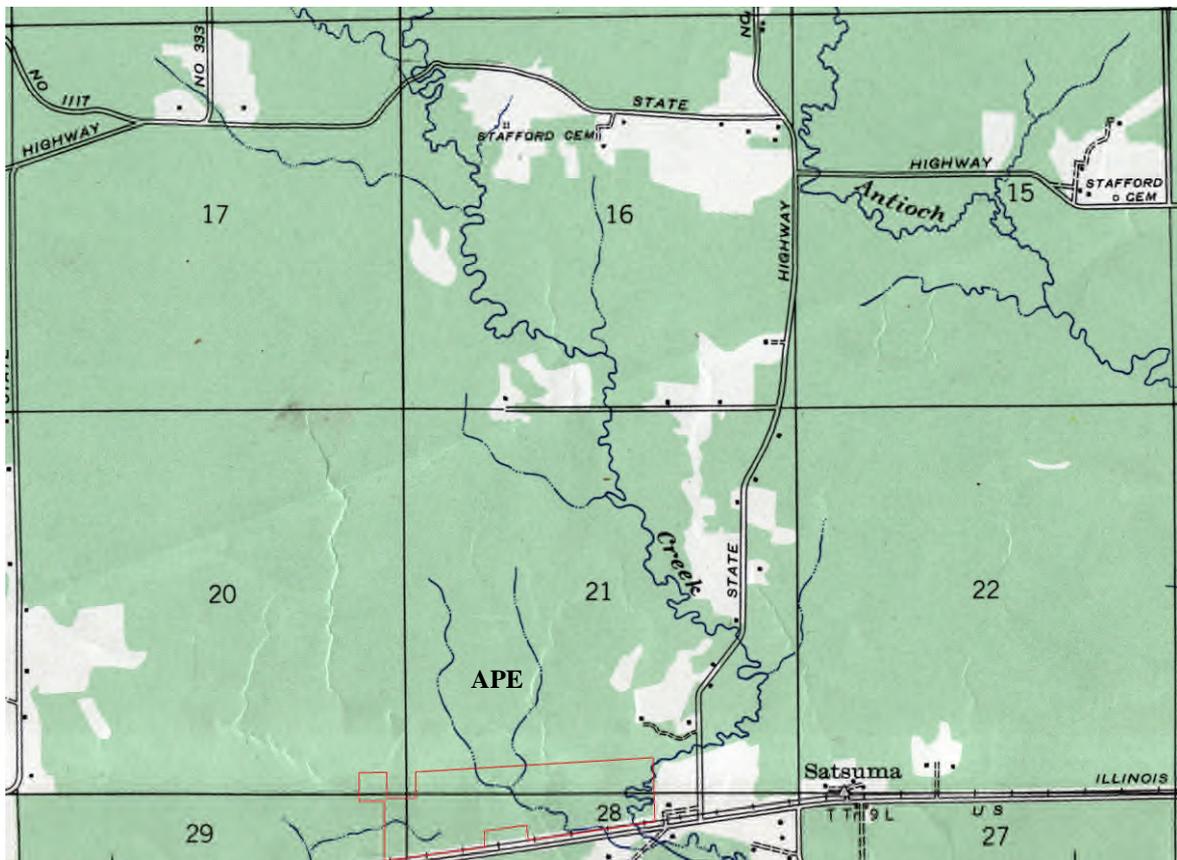


Figure 7. Portion of Satsuma, La. 1941 15-minute topographic sheet showing APE (Source: LSUCIC).

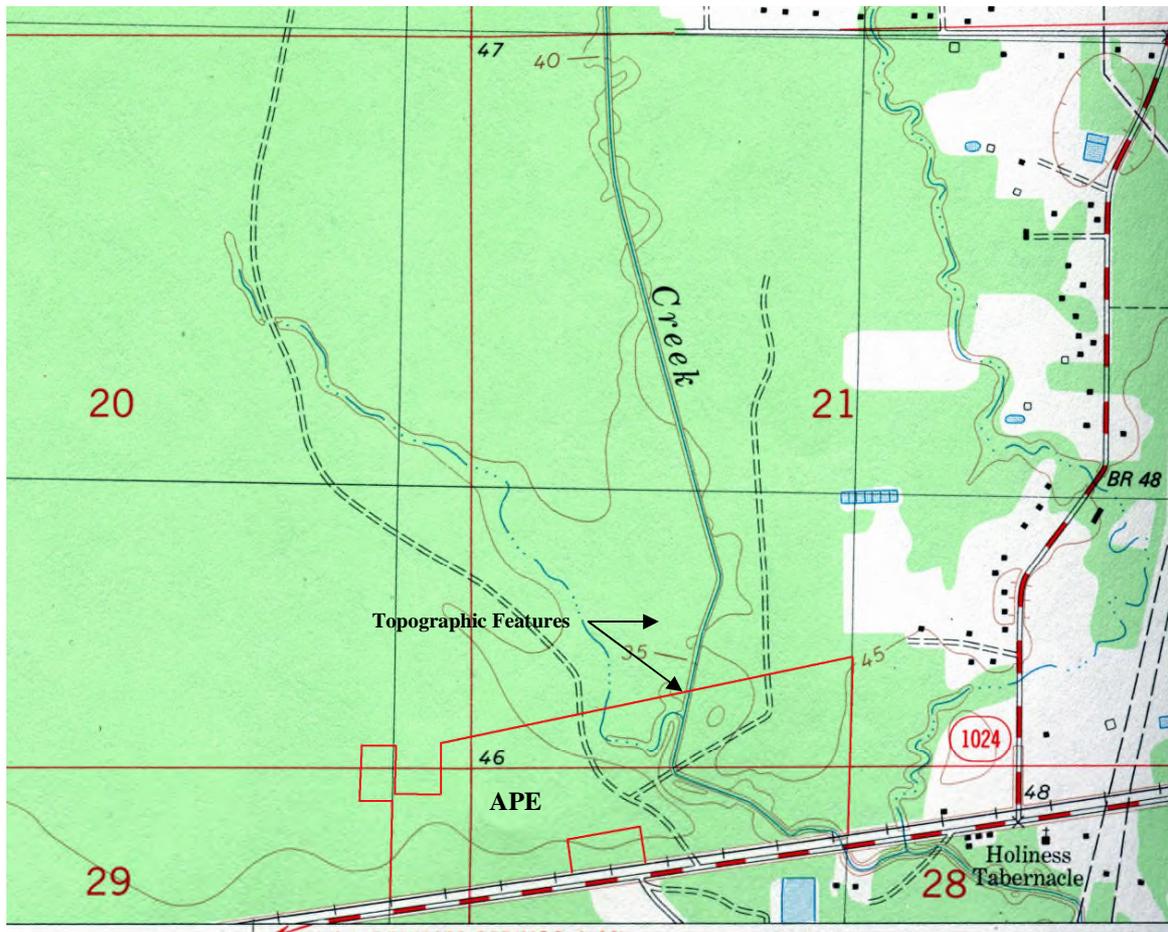


Figure 8. Portion of Satsuma, La. 1980 7.5-minute topographic sheet showing APE (Source: LSUCIC).

It is impossible to say from the map whether these topographic features are Indian mounds, pimple mounds, or spoil. Their position near the confluence of two watercourses, however, is suggestive of a possible prehistoric site.

Fieldwork

The APE varied from two cleared, pasture-like lots in the western part of the project area to forested areas over the remainder of the tract. The forested area consisted largely of wetlands, with considerable numbers of palmettos and other wetland-type vegetation present. Figures 9-12 show examples of the topography encountered.



Figure 9. Open lot in western part of APE, facing north.



Figure 10. Wet area in northern portion of APE, facing north.



Figure 11. Hornsby Creek, facing north.



Figure 12. Portion of APE, as seen from trail west of Hornsby Creek, facing NW.

Survey transects are provided in Figure 13.



Figure 13. Survey transects (in red) (Source: Google Earth).

The land on the west side of Hornsby Creek, for about 400 m north of US 190 south to approximately the railroad tracks, showed the effects of past dredging/straightening of the creek, in the form of a series of linearly arrayed spoil piles (Figure 14). These spoil piles were shovel tested but there was no indication that they were other than relatively recent byproducts of the dredge process. These formations were exclusively on the west side of the creek and the growth atop them appeared about 40-50 years old.



Figure 14. Spoil-pile “mound”, west side of Hornsby Creek, facing south.

The area between Hornsby Creek and an unnamed tributary, as shown in Figure 15, was covered with small humps similar to but distinct from classical pimple mounds. These humps were probably the result of drainage and/or the accumulation of soil around the debris of tree falls. Again, these formations were extensively shovel tested but no cultural materials were encountered.



Figure 15. Small “mounds,” facing east, between Hornsby Creek and unnamed tributary

All shovel tests were negative, including shovel tests in and around areas that, on the topographic maps (i.e., Figure 8), appeared to have potential for containing cultural materials. Typical shovel test profiles are presented in Figure 16.



Figure 16. Representative soil profiles.

Discussion

The APE was devoid of cultural resources, at least insofar as the survey procedure was concerned. What had been considered possible aboriginal features during examination of the topographic maps proved to be natural features, while some large mounds in the southern part of the APE, along the west side of Hornsby Creek, were almost certainly dredge spoil, probably from the 1940s-1960s.

**CHAPTER SIX:
CONCLUSIONS AND RECOMMENDATIONS**

In February, 2014, SURA, Inc., conducted a cultural resources survey of 93 ac (37.6 ha) near Walker, in Livingston Parish, Louisiana. A total of 195 shovel tests were excavated. Rigorous sampling involving shovel tests at both HP and LP intervals failed to reveal the presence of cultural resources other than contemporary trash in the APE. Locations that had appeared to have high potential on topographic maps were field tested and found to be culturally sterile.

It is recommended that the tract be certified for industrial development.

REFERENCES CITED

Brignac, Harry G., Jr.

- 2010 *Further Investigations into the King George Islands Mound site (16LV22)*. Unpublished M.A. thesis in anthropology, Louisiana State University, Baton Rouge.

Byrd, Kathleen M.

- 1977 *An Archaeological Survey of the Proposed Sewer Improvements, Walker, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.

Dundee, Harold A. and Douglas A. Rossman

- 1989 *The Amphibians and Reptiles of Louisiana*. Louisiana State University Press, Baton Rouge.

Gibson, Jon L.

- 1994 Before Their Time? Early Mounds in the Lower Mississippi Valley. *Southeastern Archaeology* 13:162–186.

Hinks, Stephen, William P. Athens, Lawrence L. Hewitt, and William A. Morgan

- 1990 *Literature Search and Research Design Amite River and Tributaries Project, Ascension, East Baton Rouge, and Livingston Parishes, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.

Jones, Dennis C. and Malcolm K. Shuman

- 1988 *Archaeological Atlas and Report of Prehistoric Indian Mounds in Louisiana. Vol. III: Livingston, St. Helena, St. Tammany, Tangipahoa, Washington Parishes*. Report submitted to the Louisiana Division of Archaeology and on file in that office.

LDOA (Louisiana Division of Archaeology)

- n.d. *Site and Project Files*. Baton Rouge.

Lowery, George

- 1955 *Louisiana Birds*. Louisiana State University Press, Baton Rouge.

- 1974 *The Mammals of Louisiana and Its Adjacent Waters*. Louisiana State University Press, Baton Rouge.

- LSUCIC (Louisiana State University Cartographic Information Center)
 n.d. *Historic Map Files*. Department of Geography & Anthropology, Louisiana State University, Baton Rouge.
- McIntire, William G.
 1981 *Cultural Resource Survey Louisiana Section of Proposed Pipeline Corridor from Weeks Island to Mississippi Border*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.
- Manuel, Joe
 1979 A Radiocarbon Date from the Hornsby Site-16SG21. *Newsletter of the Louisiana Archaeological Society* 8:9–22.
 1987 *The Antiquity of the Hornsby Mound, a Delta Project 1977–78*. Paper presented at the annual meeting of the Louisiana Archaeological Society.
- Russo, Michael
 1994 A Brief Introduction to the Study of Archaic Mounds in the Southeast. *Southeastern Archaeology* 13:89–92.
- Saucier, Roger T.
 1963 *Recent Geomorphic History of the Pontchartrain Basin*. Louisiana State University Studies, Coastal Studies Series 9.
- Saunders, Rebecca
 1994 The Case for Archaic Period Mounds in the Southeast. *Southeastern Archaeology* 13:118–133.
- Shuman, Malcolm K., Dennis C. Jones and Melissa Wiedenfeld
 1993 *Cultural Resources Survey of the Proposed LIGO Facility in Livingston Parish, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.
- USDA (United States Department of Agriculture)
 1971 *Parish General Soil Maps: Livingston Parish, Louisiana*. Soil Conservation Service, Alexandria, Louisiana.
- Vassbinder, Fiona H.
 2005 *The King George Island Mounds Site (16LV22): A Late Archaic Mound Complex along the Lower Amite River*. Unpublished M.A. thesis in anthropology, Louisiana State University, Baton Rouge.
- Woodward, T.P. and Albert J. Gueno, Jr.
 1941 *The Sand and Gravel Deposits of Louisiana*. Geological Bulletin No. 19. Department of Conservation, Louisiana Geological Survey. New Orleans, La.

MAPS

1941 Satsuma, Louisiana 15-minute topographic quadrangle. U.S. Geological Survey.

1980 Satsuma, Louisiana 7.5-minute topographic quadrangle. U.S. Geological Survey.