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Exhibit GG. Colyell Business Park Phase I Cultural Resources Assessment Report

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PHASE I CULTURAL RESOURCES SURVEY OF 422 ACRES (171 HECTARES) NEAR COLYELL, LIVINGSTON PARISH, LOUISIANA

Colyell Business Park Phase I Cultural Resources Assessment Report

August 2019

SURA, INC.

P.O. Box 14414

Baton Rouge, LA 70898-4414

Since 1986

PHASE I CULTURAL RESOURCES SURVEY OF 422 ACRES (171 HECTARES) NEAR COLYELL, LIVINGSTON PARISH, LOUISIANA

Negative Findings Draft Report

by

Brandy Kerr and Margeaux Batts

Surveys Unlimited Research Associates, Inc.
P.O. Box 14414
Baton Rouge, Louisiana 70898-4414

For Due Diligence

Baton Rouge Area Chamber (BRAC)
564 Laurel Street
Baton Rouge, Louisiana 70801

August 2019

ABSTRACT

Between July 10 and August 6, 2019, Surveys Unlimited Research Associates, Inc. (SURA), conducted a Phase I cultural resources survey of 422 acres (ac) (171 hectares [ha]) west of LA Highway 63 and south of I-12 near Colyell, Livingston Parish, Louisiana. The Project Area (PA) is the future location of a proposed business park. The project was carried out as part of due diligence for the Baton Rouge Area Chamber (BRAC) in order to adhere to regulations of Louisiana Economic Development (LED) to fulfill the requirements of Section 106 of the National Historic Preservation Act (NHPA) of 1966. The survey methodology consisted of archival research, pedestrian reconnaissance, and high and low probability-interval shovel testing.

The PA is located at Easting 715209.85 and Northing 3371850.53. A total of 695 transect shovel tests were implemented and none were positive for cultural materials. Due to areas of inundation and a man-made pond, eighty-three shovel tests were unable to be excavated. No historic properties were identified during the course of the survey, and it is recommended that the project be allowed to proceed as planned.

As no cultural materials were recovered, no artifacts are to be curated; however, all project documents will be deposited with the Louisiana Division of Archaeology at:

LDOA Curation/CRT
Central Plant North Building, 2nd Floor
1835 N. Third Street
Baton Rouge, Louisiana 70802

ACKNOWLEDGEMENTS

The authors would like to acknowledge Mr. Elliott Boudreaux of CSRS, Inc. for his assistance in facilitating this project, as well as Mr. Doug Hughes of Weyerhaeuser for providing a history of the project area.

The field crew consisted of Brandy Kerr, Steve Treloar, Jacob Mendoza, and Sally McMillian. Brandy Kerr wrote this report and Margeaux Batts provided background and archival research. Dr. Malcolm Shuman served as principal investigator.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER ONE:
INTRODUCTION

Between July 10 and August 6, 2019, Surveys Unlimited Research Associates, Inc. (SURA) conducted a Phase I cultural resources survey of 422 acres (ac) (171 hectares [ha]) of woodland west of LA Highway 63 and south of I-12 near Colyell, Livingston Parish, Louisiana (Figure 1). The Project Area (PA) is located at Easting 697104.27 and Northing 3371850.53 within Sections 1 and 12 of T7S, R4E as well as Section 7 of T7S, R5E. The survey was carried out for due diligence at the request of the Baton Rouge Area Chamber (BRAC) to fulfill the requirements of Section 106 of the National Historic Preservation Act of 1966 for the Louisiana Economic Development (LED) certification. This area is slated to become a business park. Field personnel included Brandy Kerr, Steve Treloar, Jake Mendoza, and Sally McMillian.

The following chapters in this report describe the environmental setting, previous archaeological investigations, the methodology employed in the survey, the survey's results, and the study's conclusions and recommendations.

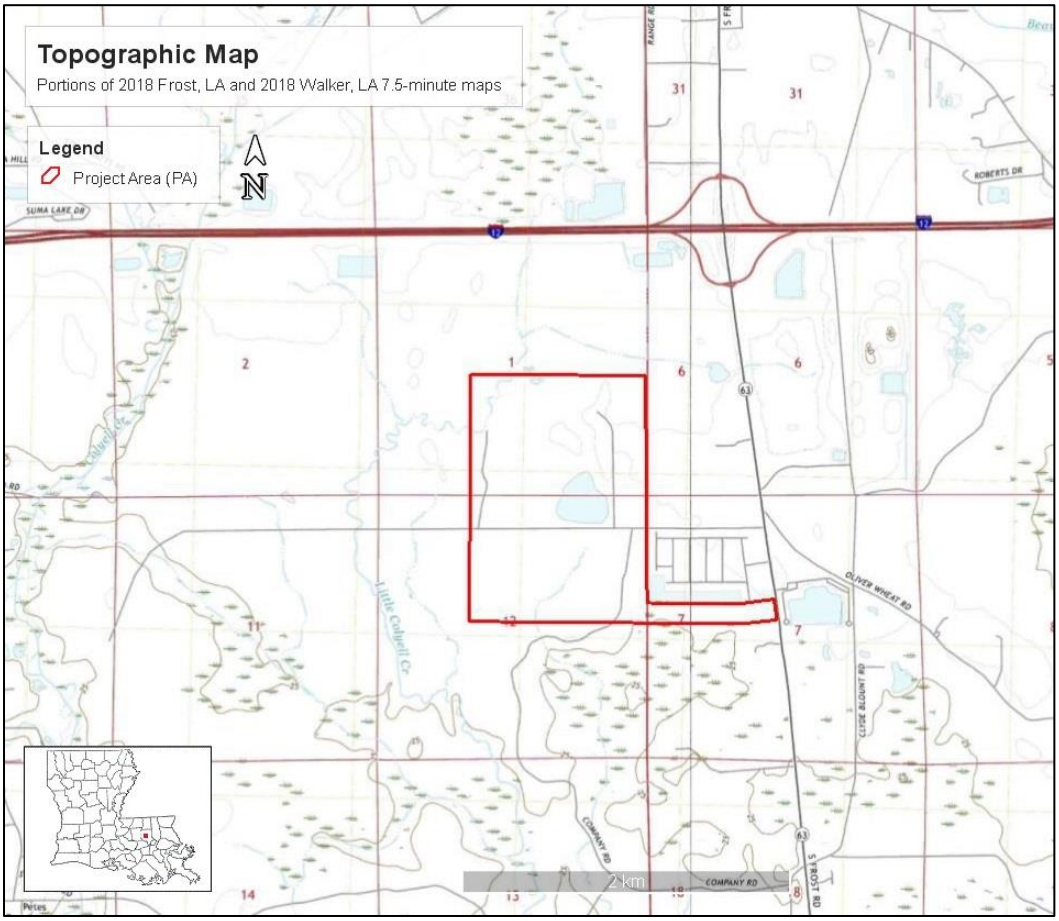

Figure 1. Portions of 2018 Frost, LA and 2018 Walker, LA7.5-minute maps (USGS).

CHAPTER TWO:
LAND USE HISTORY

Geology and Geomorphology

The survey area for this project is located in Livingston Parish, Louisiana. The outstanding surface geomorphological characteristics for this region are determined by a series of terraces with their origins in the Pleistocene geological epoch. These terraces are arranged like steps in profile that descend from north to south. A great deal of discussion about the exact number and proper naming of these terraces has taken place among geologists and others since the turn of the century. What has been agreed upon, however, is that this terracing was the product of the fluctuations in eustatic sea level, and that it has caused rivers in the area to alternately incise and then silt in their floodplains over the millennia (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 down warping of the deltaic plain has taken place along the hinge line of the Baton Rouge fault which essentially runs from Baton Rouge to the northern shore Lake Pontchartrain (Saucier 1963). Such uplifting is the last few centuries has further raised the gradients of many of the streams in the general region of the project area. This higher gradient, in turn, has exposed many natural gravel deposits which important prehistoric aboriginal resources were, as well as ones exploited in modern times (Woodward and Gueno 1941).

The highest terraces in the region are designated Qth by the Louisiana Geological Survey and consist of tan to orange clay and silt with a large amount of basal gravel. The lower Prairie terraces, designated Qtp, contain light gray to light brown clay, silt, and sand with some gravels. Closer to the Pontchartrain shore, gray to brownish clay and silty alluvial clays, Qal, are the dominant geomorphological feature. They are found around Lake Maurepas and the western portion of Lake Pontchartrain. Some freshwater marsh land is also found around portions of Lake Pontchartrain. Alluvium can also be found within the narrow floodplains of the streams in the area.

The chief geomorphological characteristic is essentially 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, Bayou Lacombe, Natalbany, Bogue Chitto, and their tributaries, that flow into the Pontchartrain Basin. Because of their high gradients, these streams are deeply incised and have relatively narrow floodplains.

Soils

The PA consists of several soil complexes. Among the more prominent soil types are Satsuma silt loam (Sa) which is poorly drained and typically found in pine woodlands, Colyell silt loam (Co) which drains slowly and is also found in pine woodland as well as pastures, and Natalbany silty clay loam (Na) which drains poorly and is typically found in swamps or hardwood forests. Additional soil located within the PA include Gilbert Brimstone complex (Ge), Springfield silt loam (Sp), and the Deerford-Verdun complex (De) (Figure 2).

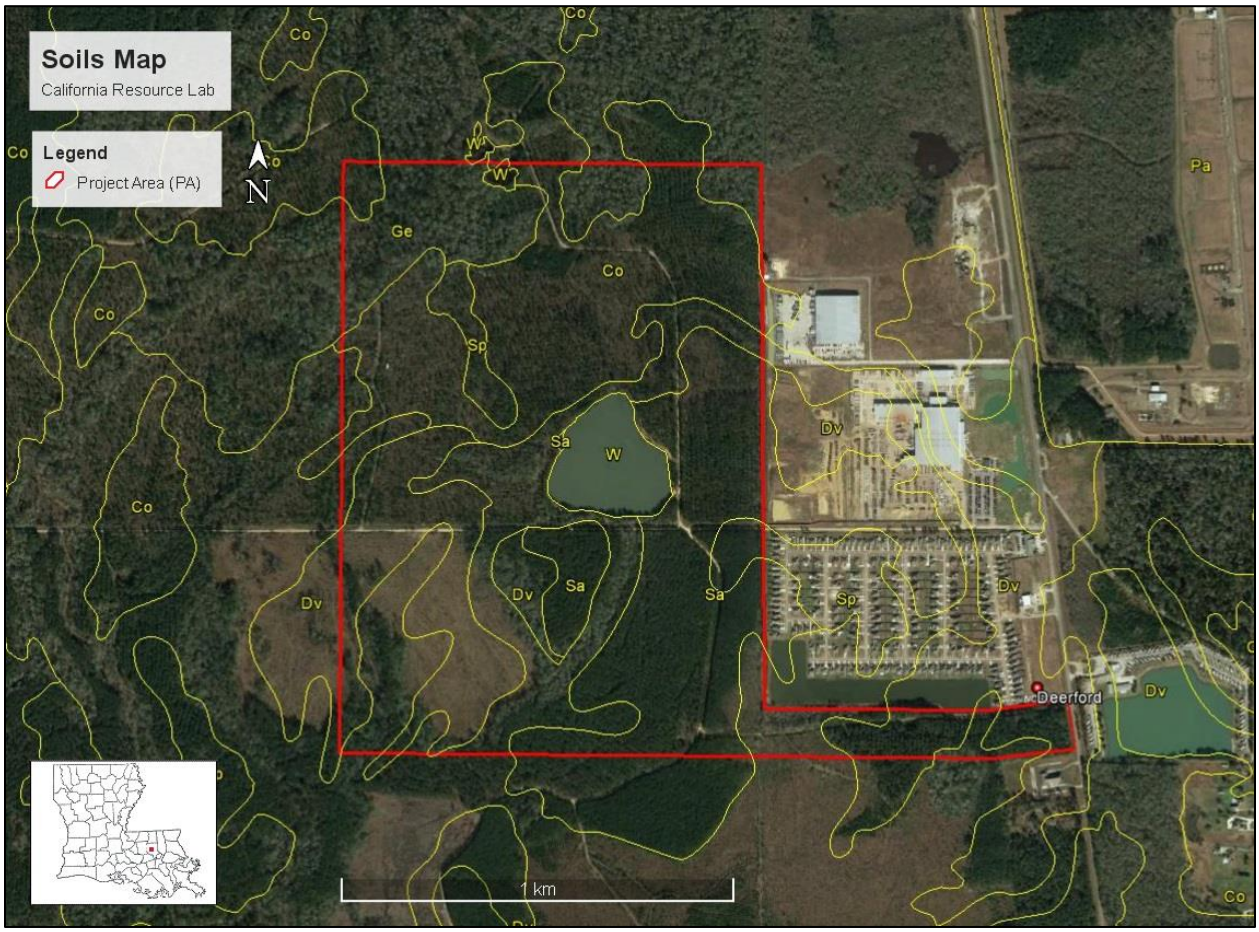

Figure 2. Soil map of PA (University of California, Davis 2016/Google Earth).

Flora and Fauna

Animal life is 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*), swamp rabbit (*Sylvilagus aquaticus*), 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*), marsh hawk (*Circus cyaneus*), and many others. Non-predatory types include woodcocks (*Philohela minor*), wood ducks (Aix sponsa), 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 alligators (*Alligator mississippiensis*), several species of snakes, including the cotton mouth (*Agkistrodon piscivorus*), 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 (*Lepmis macrochirus*), among many others. Brackish water clams (*Rangia cuneata*) are frequently found in archaeological deposits near coastal Louisiana, although there are several archaeological sites in the vicinity of the project area that contain these shells indicating a more brackish water environment than exists currently.

Historic Land Use

According to Mr. Doug Hughes, the senior mitigation and real estate manager for the client, Weyerhaeuser, the project area was purchased from the Bogalusa Paper Company in 1937 and has since been in commercial forestry (email correspondence, August 2019). A review of historic topographic maps and satellite imagery informs as to what type of activities have been conducted in and around the PA.

Topographic Maps

Beginning in 1934 (Figure 3), the Little Colyell Creek is depicted in the northwest corner of the PA. The historic Garyville Northern railroad abuts the southeastern dogleg of the PA.

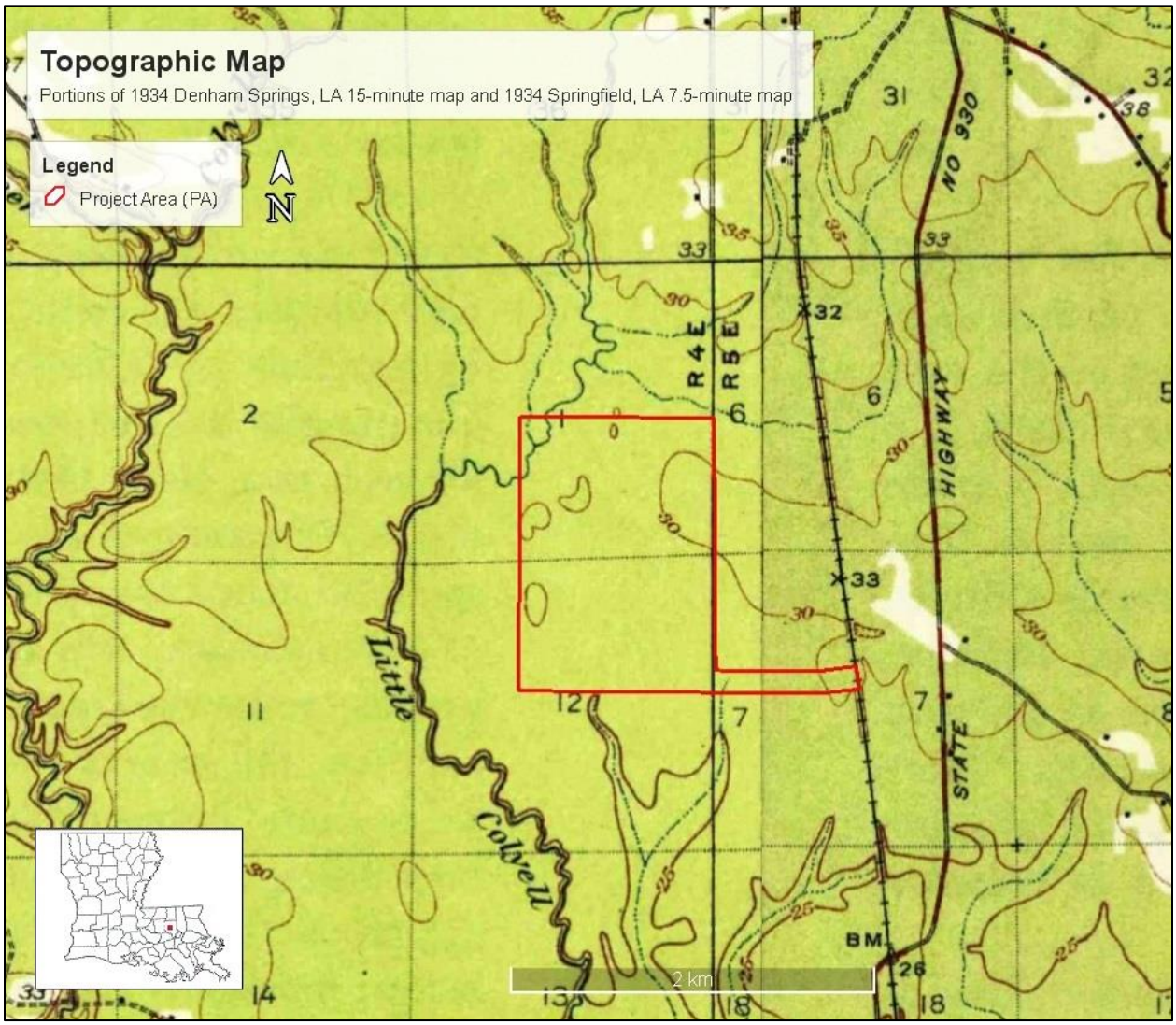

Figure 3. Portions of 1934 Denham Springs LA, 15-minute map and 1934 Springfield, LA 7.5-minute map (USGS).

In the 1963 topographic map (Figure 4), the Little Colyell Creek is still depicted as running through the northwest corner of the PA boundaries. The railroad, however, has been replaced by a road. Additionally, the appearance of dotted lines indicates the construction of gravel roads developed to transport machinery into the area for commercial forestry.

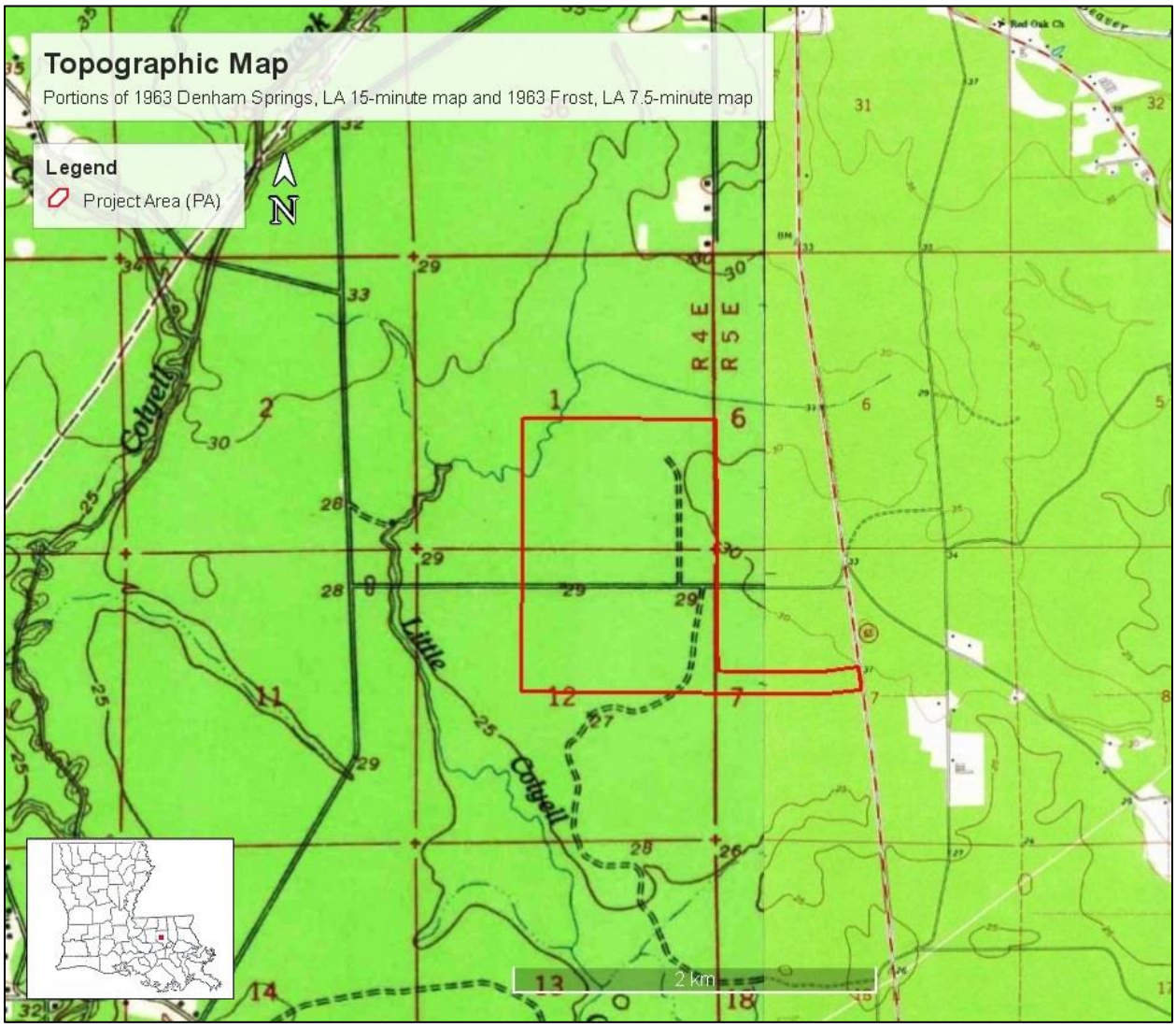

Figure 4. Portion of 1963 Denham Springs, LA 15-minute map and 1963 Frost, LA 7.5-minute map (USGS).

Satellite Imagery

The PA is currently being utilized for silvicultural activities. A review of satellite images shows that other than commercial forestry activities, there has been no change to the PA proper (Figure 5-7).

Figure 5. Satellite Imagery of Project Area, January 1998 (Google Earth).

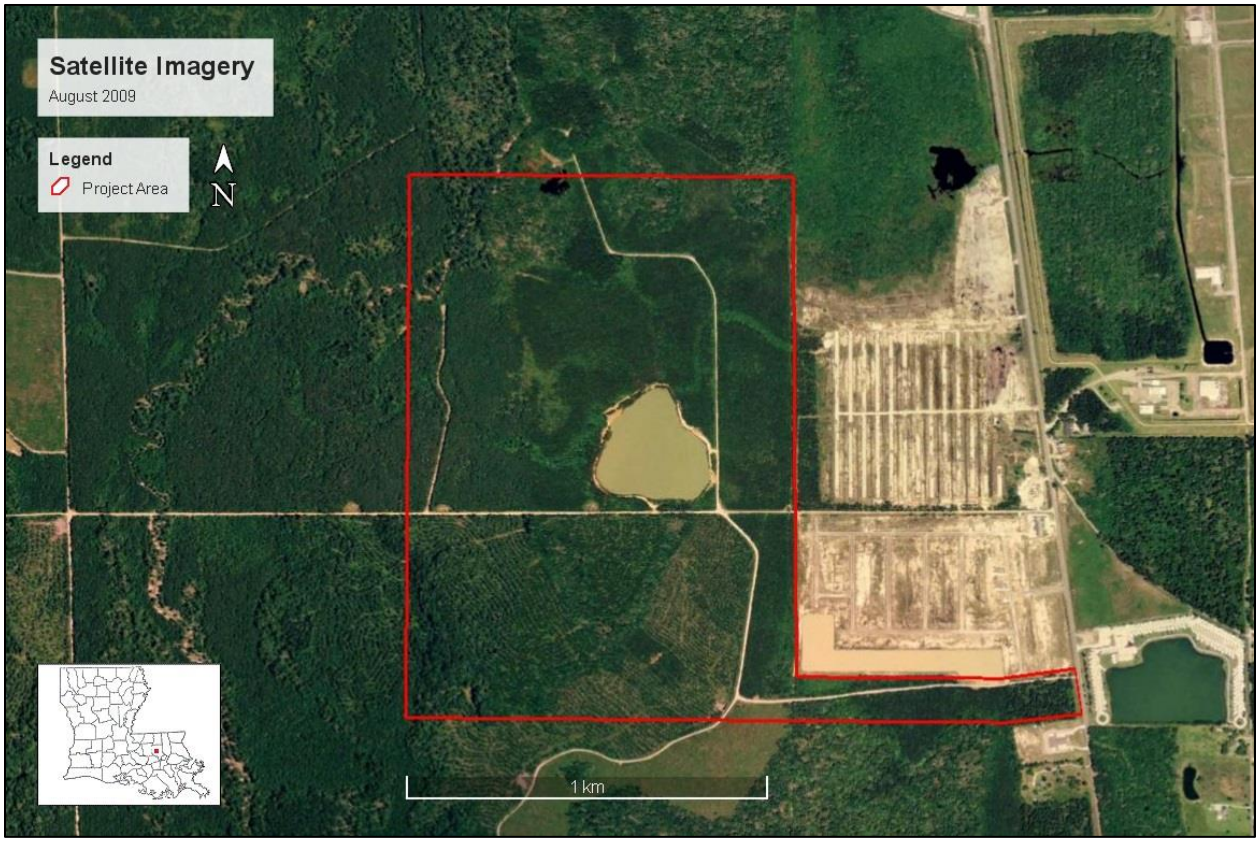

Figure 6. Satellite Imagery of Project Area, August 2009 (Google Earth).

Figure 7. Satellite Imagery of Project Area, January 2019 (Google Earth).

CHAPTER THREE:
PREVIOUS INVESTIGATIONS

Projects within 1 mi (1.6 km) of Project Area

There is one project recorded within one mile of the PA boundaries. The project is summarized in Table 1 and depicted in Figure 9.

Table 1. Projects within 1 mi (1.6 km) of the Project Area (PA).

Report No.	Report Title	Contractor	Author(s)	Type of Survey	Date
22-3974	*Cultural Resources Avoidance Plan for Proposed South Lockhart 3-D Seismic Exploration Survey, Livingston Parish, Louisiana.*	SURA, Inc.	Shuman, Malcolm	Assessment/ Reconnaissance	2012

Archaeological Sites within 1 mi (1.6 km) of Project Area

There are no previously recorded archaeological sites within 1 mi (1.6 km) of the PA.

Standing Structures within 1 mi (1.6 km) of Project Area

There are no previously recorded historic standing structures within 1 mi (1.6 km) of the PA.

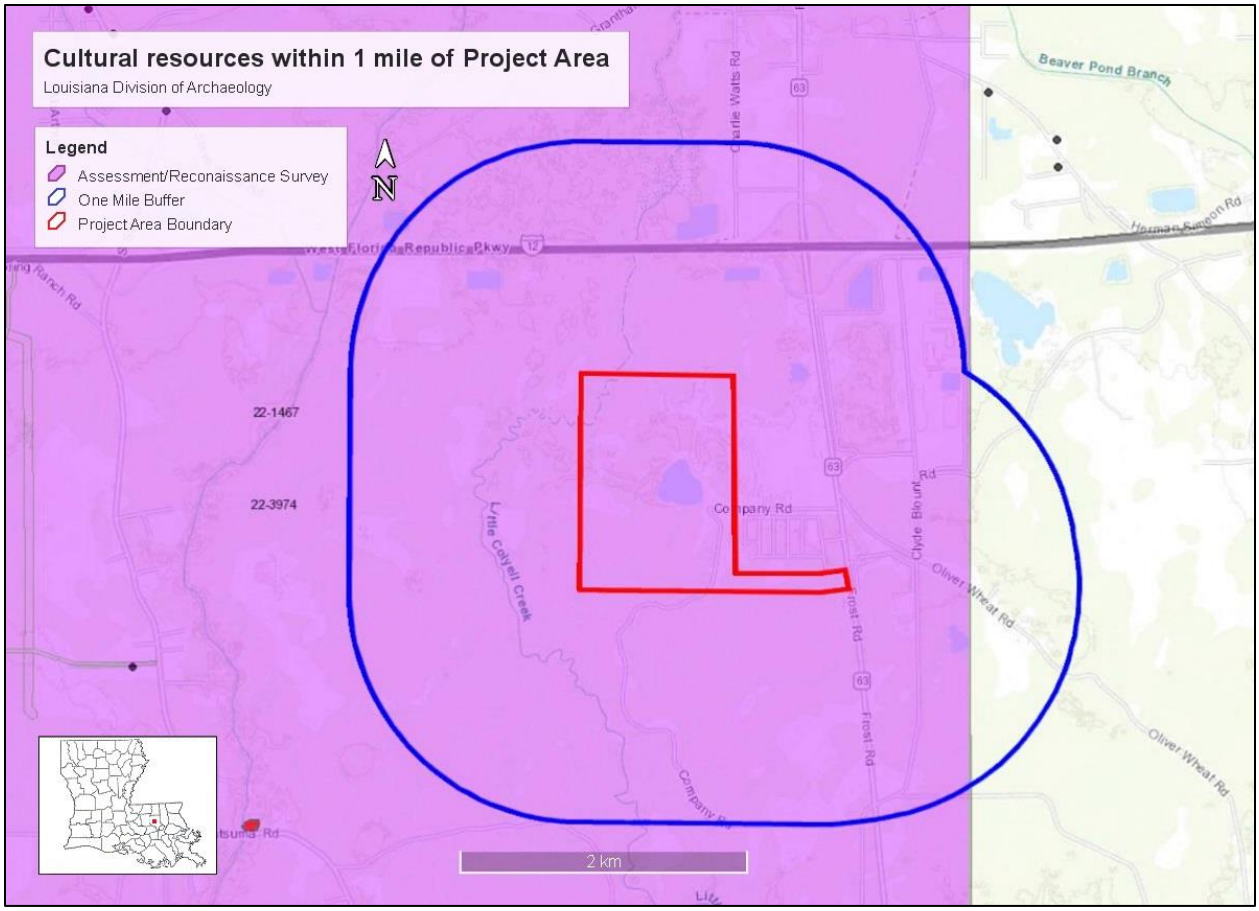

Figure 8. Surveys, Sites, and Historic Standing Structures within 1 mile of the Project Area (LDOA).

CHAPTER FOUR:
METHODOLOGY

Procedures

Methodology for the survey included archival research and fieldwork. Initially, historic maps and aerial photographs at the United States Geological Survey (USGS) were consulted to determine any structures or roads that might have existed on the property in the early and mid-twentieth century. In addition, the site files and report library of the Louisiana Division of Archaeology (LDOA) were examined to determine archaeological sites reported for this area by previous investigators. This research showed that as early as 1934 a portion of the Little Colyell Creek ran through the northwest corner of the Project Area (PA) and the Garyville Northern railroad once abutted a portion of the southeastern PA. These two areas were given a 328.1 ft (100 m) buffer and subjected to High Probability (HP) interval shovel testing (Figure 9). HP intervals consisted of transects spaced 98.4 ft (30 m) apart with a shovel test excavated every 98.4 ft (30 m). The remainder of the APE was subjected to Low Probability (LP) interval testing which included transects spaced every 164 ft (50 m) apart with a shovel test excavated every 164 ft (50 m). All shovel tests were excavated to 50 cm or clay, whichever came first. Material recovered from the shovel tests was screened using .25-inch hardware cloth. When archaeological sites are discovered, they are defined using the protocol described in the LDOA Guidelines.

Lastly, the dashed lines depicted on the 1963 topographic map (Figure 4) suggests these to be lesser roads likely associated with logging rather than residential use, therefore HP was not implemented around these gravel roads. Correspondence with Mr. Doug Hughes of Weyerhaeuser confirmed these back roads were constructed for machinery access to commercial forestry (email correspondence, August 2019).

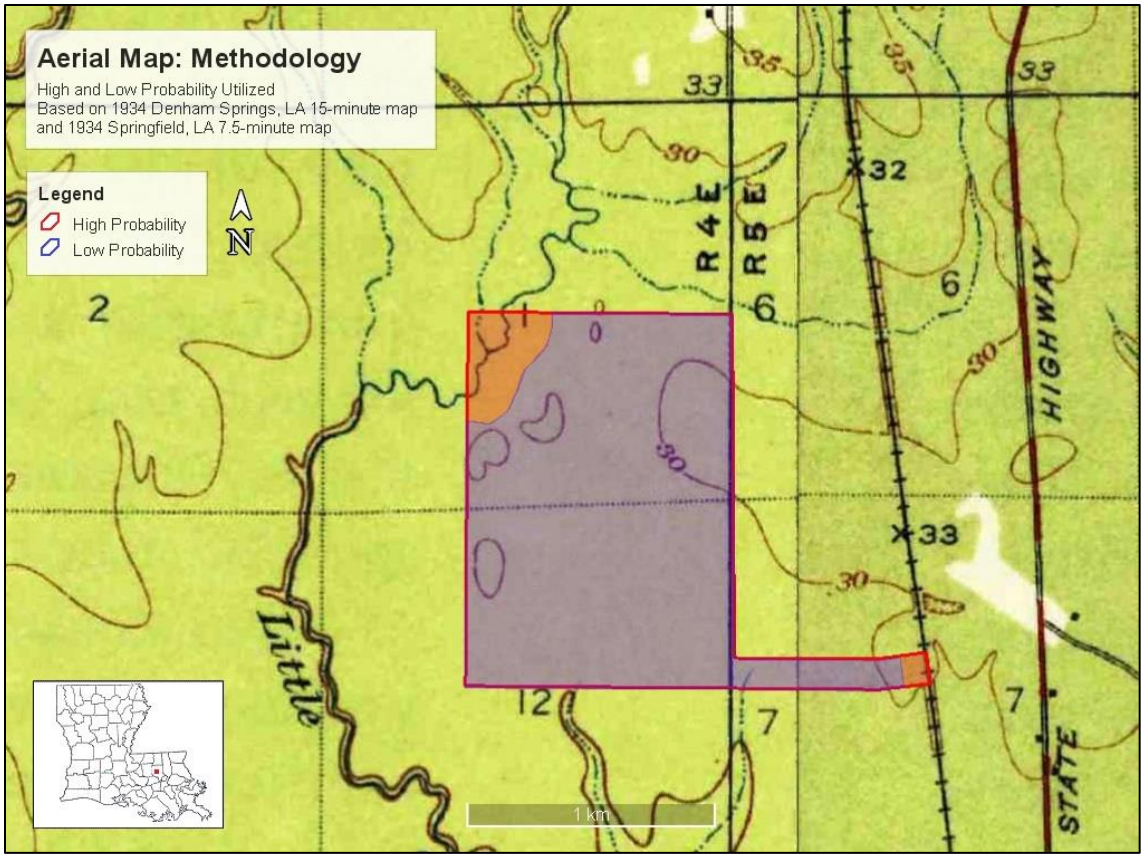

Figure 9. Depiction of probability methods based on archival research (USGS).

Eligibility for the National Register of Historic Places

According to the National Register of Historic Places Bulletin 15 (1995:2), “The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association are potentially eligible for the National Register of Historic Places.” To evaluate this significance, four criteria have been developed. Eligible properties…

“A. … are associated with events that have made a significant contribution to the broad patterns of our history; or

B. … are associated with the lives of persons significant in our past; or

C. … embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or…

D. … have yielded, or may be likely to yield, information important in history or prehistory” (NRHP 1995:2).

Curation Statement

As no cultural materials were recovered, no artifacts are to be curated; however, all project documents will be deposited with the Louisiana Division of Archaeology at:

LDOA Curation/CRT
Central Plant North Building, 2nd Floor
1835 N. Third Street
Baton Rouge, Louisiana 70802

CHAPTER FIVE:
RESULTS OF THE SURVEY

Fieldwork

Field survey was carried out from July 10th to August 6th, 2019. The PA consisted of 422 ac (171 ha) and was sectioned into two areas of HP, with the remainder surveyed at a LP protocol (Figure 10). A total of 695 shovel tests were excavated. Of these, 544 were within the areas of LP and 151 within the areas of HP.

The PA was almost entirely low-lying marsh in dense woods with thick undergrowth. Two areas of obvious disturbance were noted: a man-made pond within the center of the PA, which consisted of 17 ac (6.9 ha), as well as an area of active commercial logging in the southwestern portion totaling to approximately 32.4 ac (13.1 ha). Despite the disruption, shovel tests continued to be excavated within the area of logging. Due to the several areas of inundation, as well as the man-made pond, eighty-three shovel tests were unable to be excavated (Figure 11). Several dirt and gravel roads run throughout the PA and evidence of controlled burning was noted within the western portion of the PA adjacent to the area of active logging.

Each section of the PA will be discussed in more detail below.

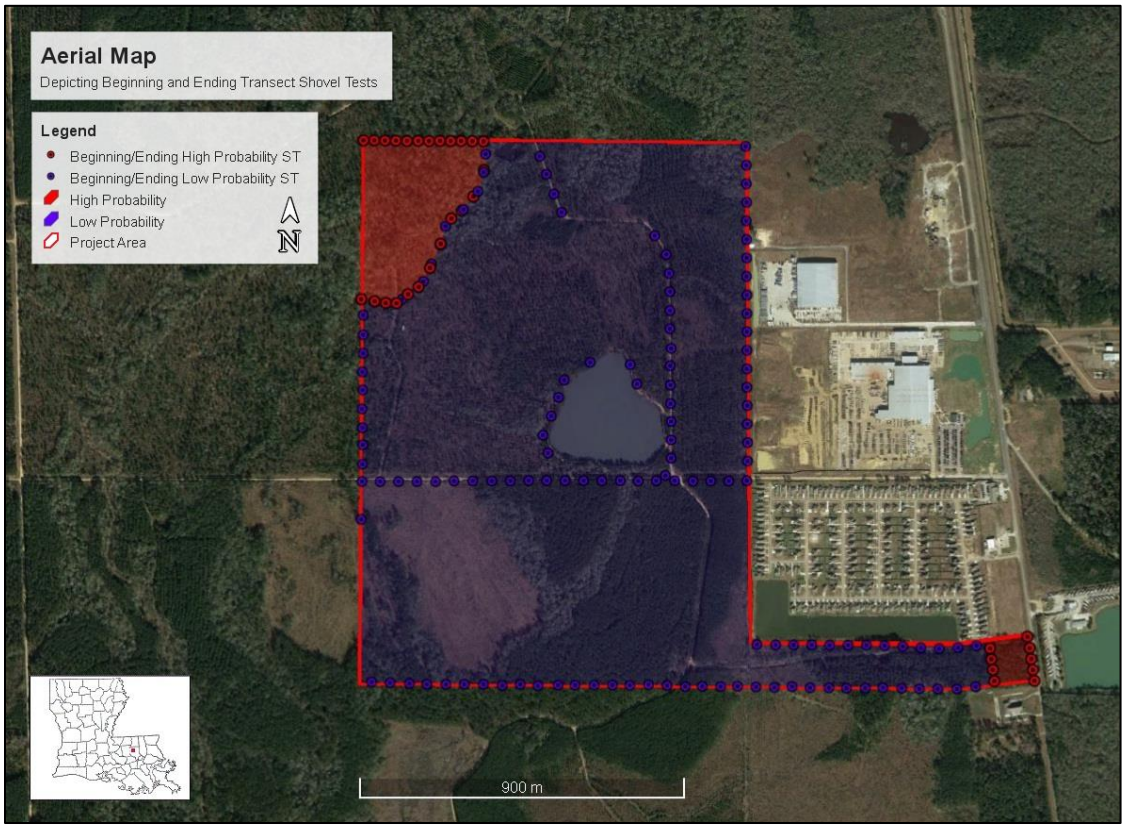

Figure 10. Aerial map depicting beginning and ending transect shovel tests within high and low probability areas of the PA (Google Earth).

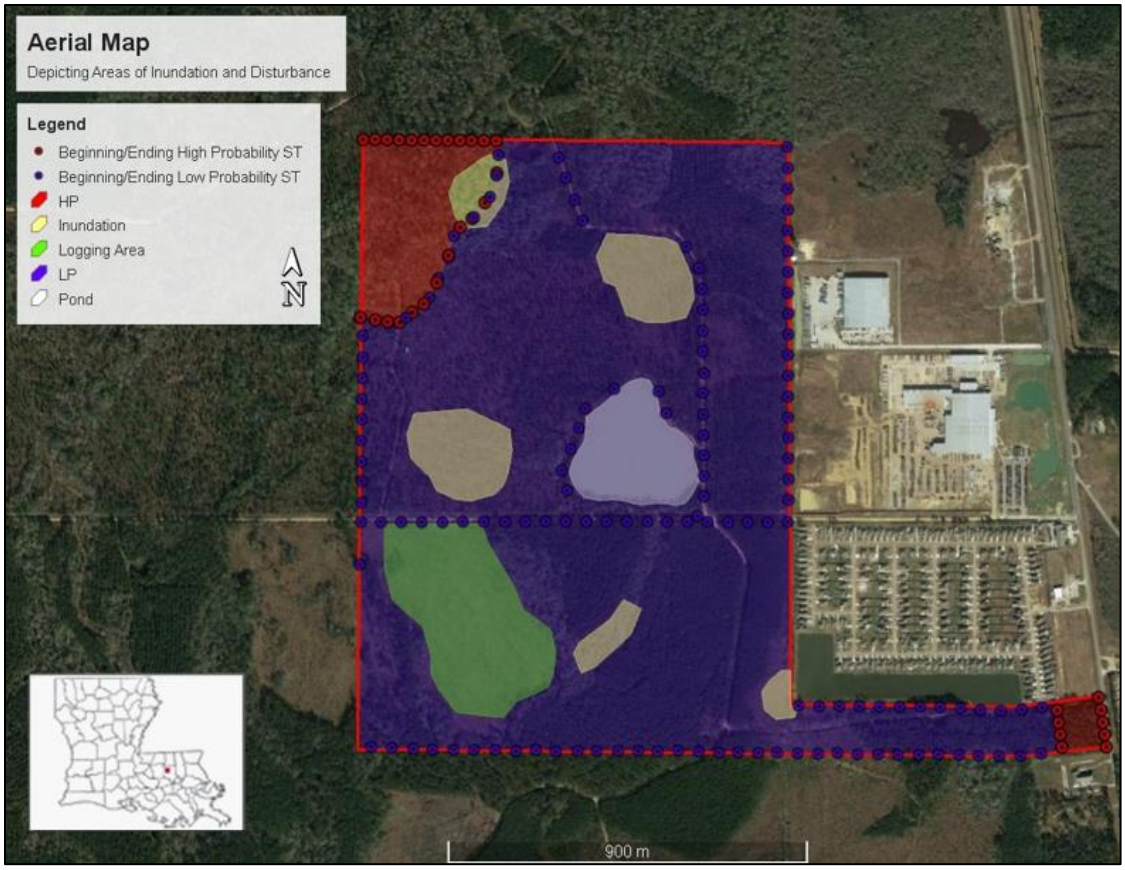

Figure 11. Aerial map depicting beginning and ending transect shovel tests, areas of inundation, and other disturbances within the PA (Google Earth).

High Probability Areas

The PA consisted of two areas surveyed at a HP protocol. Each will be discussed in detail below.

High Probability 1

High Probability 1 (HP 1), consisting of 3 ac (1.2 ha), is located along S. Frost Rd. Twenty-two shovel tests were excavated in HP 1 in an area consisting of low-lying marsh with thick undergrowth along the treeline at the beginning of the transects. A once traversable dirt road runs along the northern boundary, which seems to have been abandoned and is currently overgrown with brush. No cultural materials were identified in HP 1.

An aerial image depicting the beginning and ending transect shovel tests, plus the dirt road, can be seen in Figure 12. A Munsell of the soils encountered is represented in Table 2. Figures 13 and 14 provide a representation of the topography of HP 1.

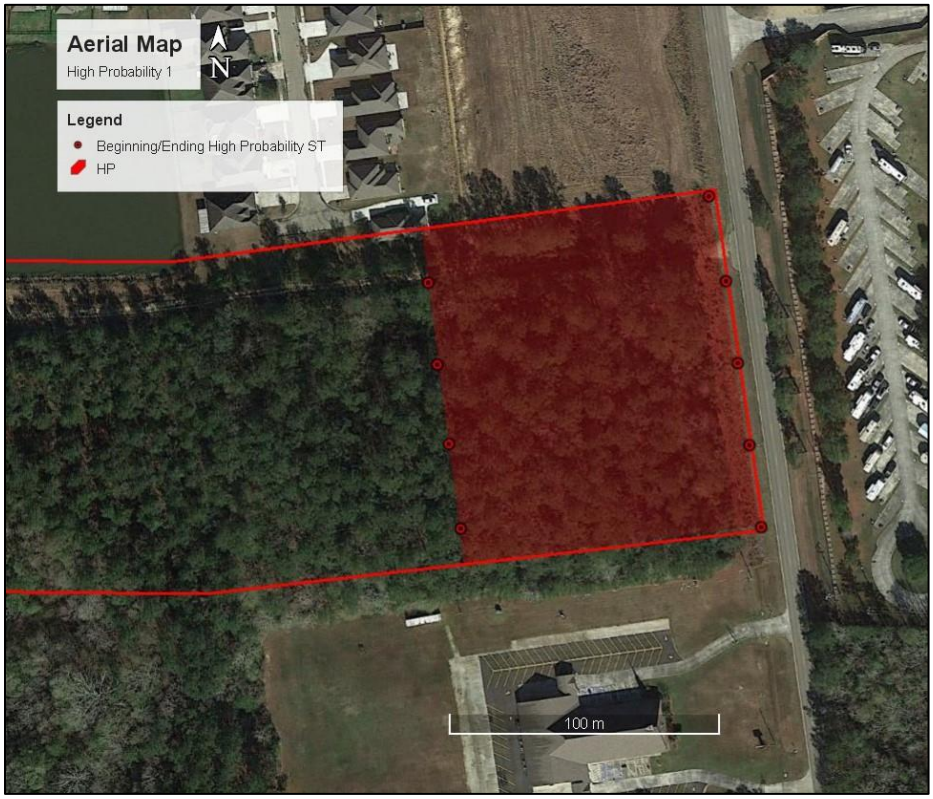

Figure 12. Aerial map depicting HP 1 (Google Earth).

Figure 13. From dirt road depicting S. Frost Rd, facing north.

Figure 14. Tree line at HP 1, facing south.

Table 2. Representative Munsell of HP 1.

Location	Depth	Munsell	Description
Easting 716516.82 Northing 3371155.19	0-30 cmbs	10 YR 4/1	Sandy Silt Loam
	31-50 cmbs	10 YR 5/2	Silty Clay

High Probability 2

High Probability 2 (HP 2), consisting of 29 ac (11.7 ha), is located within the northwestern corner of the PA. Little Colyell Creek runs through the center of the area, effectively dividing the transects in half. A total of 129 transect shovel tests were excavated. Twelve shovel tests in the western portion of HP 2 were unable to be excavated due to an area of inundation encompassing approximately 3.7 ac (1.5 ha). The gravel road depicted on the 1963 topographic map running N-S and terminating at Little Colyell Creek was encountered. At present, the road is overgrown with areas of flooding. No cultural materials were identified in HP 2.

An aerial image depicting the beginning and ending transect shovel tests, as well as the area of inundation, and gravel road can be seen in Figure 15. A Munsell of the soils encountered is represented in Table 3. Figures 16-21 provide a representation of the topography.

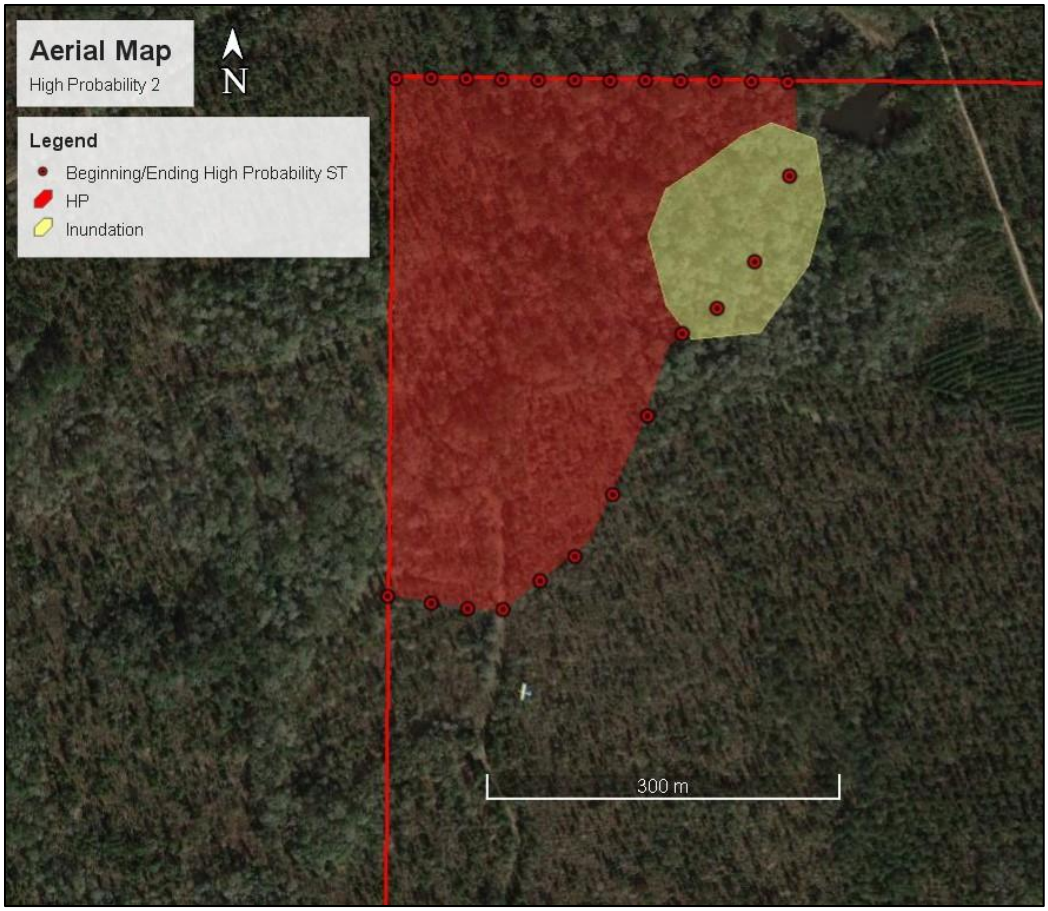

Figure 15. Aerial map depicting HP 2 (Google Earth).

Figure 16. Little Colyell Creek in HP 2, facing southeast.

Figure 17. Little Colyell Creek in HP 2, facing north.

Figure 18. Area of inundation in HP 2, facing west.

Figure 19. Dirt road terminating at Little Colyell Creek in HP 2, facing north.

Figure 20. Area south of Little Colyell Creek in HP 2, facing south.

Figure 21. Area north of Little Colyell Creek, facing west.

Table 3. Representative Munsell of HP 2.

Location	Depth	Munsell	Description
Easting 714681.77 Northing 3372170.81	0-35 cmbs	10 YR 5/3	Silty Clay
	36-50 cmbs	10 YR 6/3	Silty Clay mottled with 2.5 YR 4/6 Clay

Low Probability

The remainder of the PA consisted of survey at a LP protocol. Given the substantial acreage of the LP, it was separated into LP South and LP North, divided by the dirt road running E-W through the center of the PA. Each will be discussed in detail below.

Low Probability (South)

Low Probability South (LP South), consisting of approximately 173 ac (70 ha), is located south of the dirt road running E-W through the center of the PA. A total of 269 shovel tests were excavated in LP South, with ten unable to be dug due to standing water. Although the entire PA consisted of low-lying marshes, there were two areas of inundation where shovel testing was unable to be carried out. One area of inundation was located within the far eastern portion of LP South, where four shovel tests were unable to be excavated and encompassed approximately 1.8 ac (0.7 ha). The second area of inundation was located within the center of LP South. Six shovel tests were unable to be excavated in this area which comprised approximately 3.1 ac (1.3 ha).

Furthermore, LP South possesses an area of active commercial logging that includes approximately 32.4 ac (13.1 ha). Despite disturbance, shovel testing was conducted around the felled trees and machinery ruts. The gravel road depicted on the 1963 topographic map was also encountered running N-S in LP South.

An aerial image depicting the beginning and ending transect shovel tests, the gravel road, the two areas of inundation encompassing a total of 4.9 ac (2.0 ha), as well as the area of logging, can be seen in Figure 22. A Munsell of the soils encountered is represented in Table 4, while Figures 23-27 provide a representation of the topography of LP South.

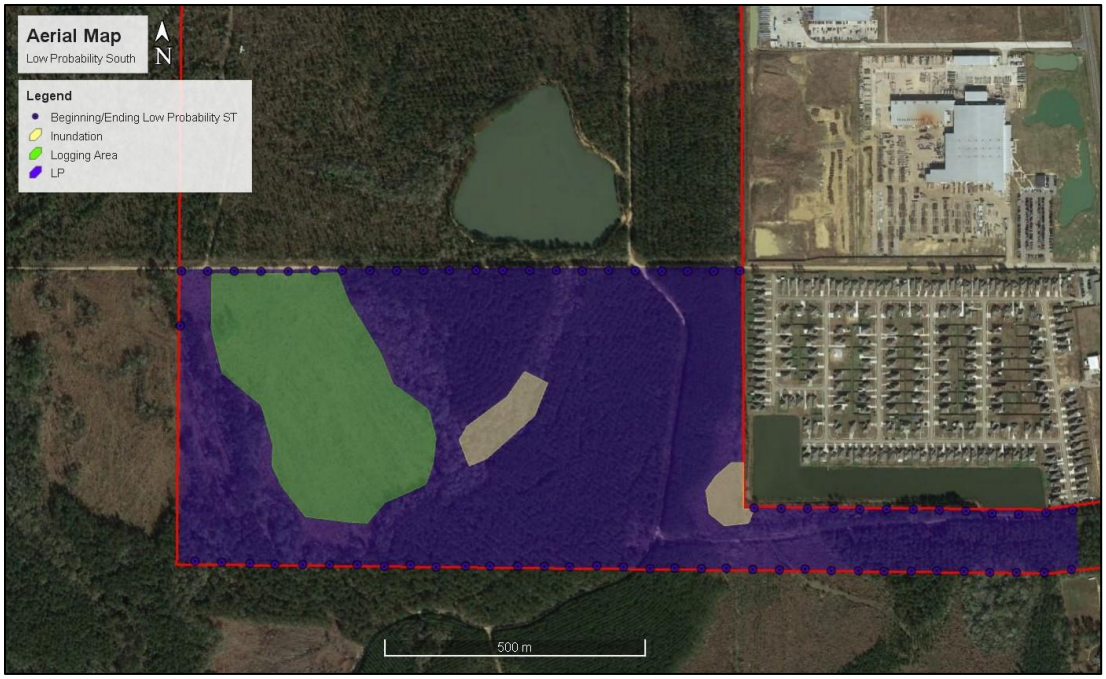

Figure 22. Aerial map depicting LP South (Google Earth).


Figure 23. Representation of LP South area, facing north.

Figure 24. Representation of inundated area in eastern portion of LP South, facing east.

Figure 25. Representation of inundated area in central portion of LP South, facing northwest.

Figure 26. Representation of logging area, facing south.

Figure 27. Gravel road running south in LP South (right side), facing southeast.

Table 4. Representative Munsell of LP South.

Location	Depth	Munsell	Description
Easting 715744.57 Northing 3371586.31	0-10 cmbs	10 YR 4/2	Sandy Silty Loam
	11-30 cmbs	10 YR 6/4	Clayey Silt
	31-50 cmbs	10 YR 7/3	Clayey Sandy Silt
Easting 714926.02 Northing 3371392.75 (Area of Disturbance)	0-10 cmbs	10 YR 3/2	Silty Clay
	11-50 cmbs	2.5 Y 6/4	Silty Clay

Low Probability (North)

Low Probability North (LP North), consisting of approximately 217 ac (87.8 ha) of low-lying marshland, is located north of the dirt road running E-W through the center of the PA. A total of 275 shovel tests were excavated in LP North, with sixty-one unable to be dug due to a man-made pond and three areas of inundation. The man-made pond is located within the center of the PA and comprises approximately 17 ac (6.9 ha), resulting in approximately twenty-seven shovel tests that were unable to be excavated.

The first area of inundation was located within the far western portion of LP North and encompassed roughly 11.2 ac (4.5 ha). In this area, sixteen shovel tests were unable to be excavated. The second area of inundation was located within the northeastern portion of LP North and comprised approximately 9.9 ac (4.0 ha). In this area, fifteen shovel tests were unable to be excavated. Finally, a third area of inundation, which extended into HP 2, encompassed roughly 1 ac (0.4 ha). Three shovel tests were unable to be implemented in this area.

Two gravel roads depicted on the 1963 topographic map were also encountered running N-S in LP North, each overgrown and flooded in various areas.

An aerial image depicting the beginning and ending tranect shovel tests, the areas of inundation encompassing 22.1 ac (8.9 ha) in total, the man-made pond, and the gravel roads can be seen in Figure 28. A Munsell of the soils encountered is represented in Table 5 and Figures 29-34 provide a representation of the topography of LP North.

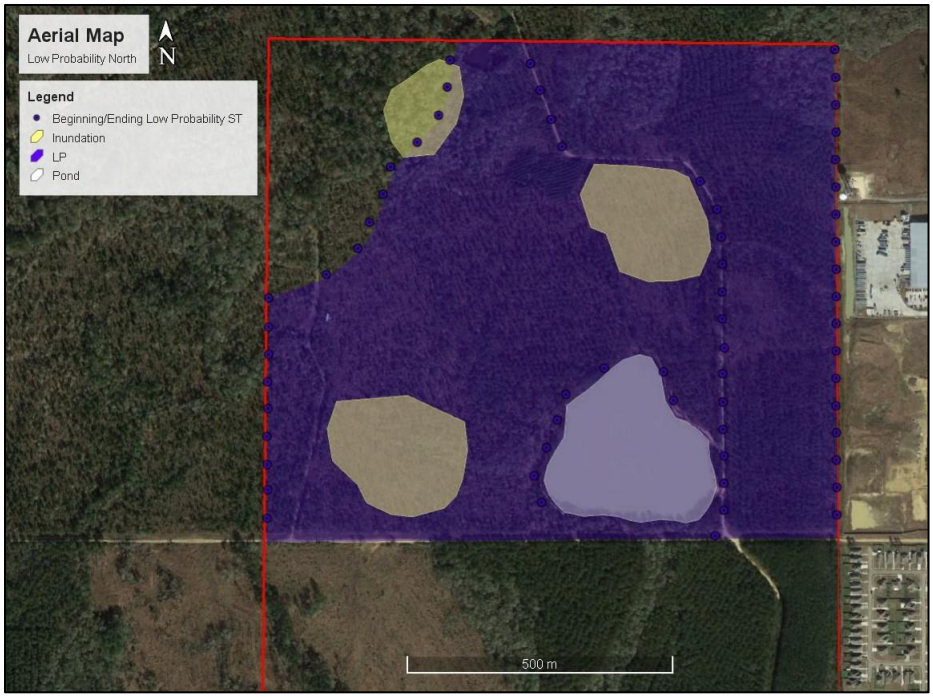

Figure 28. Aerial map depicting LP North (Google Earth).


Figure 29. Man-made pond in center of LP North, facing west.

Figure 30. Representation of LP North, facing north.

Figure 31. Inundation area within western portion of LP North, facing east.

Figure 32. Inundation area within northeastern portion of LP North, facing east.

Figure 33. Inundation area extending into HP 2, facing south.

Figure 34. Eastern gravel road running N-S in LP North, facing south.

Table 5. Representative Munsell of LP North.

Location	Depth	Munsell	Description
Easting 714730.14 Northing 3371735.19	0-5 cmbs	10 YR 2/2	Silt Loam
	6-9 cmbs	10 YR 5/3	Silty Clay
	10-40 cmbs	10 YR 6/3	Sandy Silt
	41-50 cmbs	10 YR 5/1	Clayey Silt mottled with 10 YR 6/8 Clay
Easting 715587.76 Northing 3372291.78	0-20 cmbs	10 YR 3/3	Clayey Silt Loam
	21-35 cmbs	10 YR 3/4	Silty Clay
	36-50 cmbs	10 YR 4/6	Clay

Summary of Fieldwork

Between July 10 and August 6, 2019, Surveys Unlimited Research Associates, Inc. (SURA), conducted a Phase I cultural resources survey of 422 acres (ac) (171 hectares [ha]) west of LA Highway 63 and south of I-12 near Colyell, Livingston Parish, Louisiana. The PA is located at Easting 715209.85 and Northing 3371850.53 and was almost entirely comprised of low-lying marsh in dense woods with thick undergrowth. A total of 695 transect shovel tests were implemented at HP and LP protocols, none of which were positive for cultural materials.

Throughout the PA, seven areas of disturbances were encountered. One area of commercial logging consisted of 32.4 ac (13.1 ha) within the southwestern portion of the PA, however, shovel tests were still able to be implemented around the debris. Five separate areas of inundation encompassed approximately 29.7 ac (12.0 ha) and resulted in fifty-six shovel tests unable to be excavated. Finally, a man-made pond with an area of 17 ac (6.9 ha) within the center of the PA resulted in twenty-seven shovel tests unable to be dug. No historic properties were identified during the course of the survey, and it is recommended that the project be allowed to proceed as planned.

CHAPTER SIX:
CONCLUSIONS AND RECOMMENDATIONS

Between July 10 and August 6, 2019, Surveys Unlimited Research Associates, Inc. (SURA), conducted a Phase I cultural resources survey of 422 acres (ac) (171 hectares [ha]) west of LA Highway 63 and south of I-12 near Colyell, Livingston Parish, Louisiana. The Project Area (PA) is the future location of a proposed business park. The project was carried out for due diligence for the Baton Rouge Area Chamber (BRAC) in order to adhere to regulations of Louisiana Economic Development (LED) to fulfill the requirements of Section 106 of the National Historic Preservation Act (NHPA) of 1966. The survey methodology consisted of archival research, pedestrian reconnaissance, and High Probability and Low Probability-interval shovel testing.

The PA is located at Easting 715209.85 and Northing 3371850.53. A total of 695 transect shovel tests were implemented and none were positive for cultural materials. Throughout the PA, seven areas of disturbances were encountered. One area of active commercial logging consisted of 32.4 ac (13.1 ha) within the southwestern portion of the PA, however, shovel tests were still able to be implemented around the debris. Five separate areas of inundation consisted of 29.7 ac (12.0 ha) total and resulted in fifty-six shovel tests unable to be excavated. Finally, a man-made pond with an area of 17 ac (6.9 ha) within the center of the PA resulted in twenty-seven shovel tests unable to be excavated. No historic properties were identified during the course of the survey, and it is recommended that the project be allowed to proceed as planned.

REFERENCES CITED

Dundee, Harold A. and Douglas A. Rossman
1989 *The Amphibians and Reptiles of Louisiana*. Louisiana State University Press. Baton Rouge, Louisiana.

Louisiana Division of Archaeology (LDOA)
v.d. Site Files. Louisiana Division of Archaeology, Baton Rouge.

Lowery, George H.
1955 *Louisiana Birds*. Louisiana State University Press, Baton Rouge.

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

National Register of Historic Places (NRHP)
1991 How to Apply the National Register Criteria for Evaluation. National Register Bulletin 15, Department of the Interior. Washington, D.C.

Saucier, Roger T.
1963 *Recent Geomorphic History of the Pontchartrain Basin*. Louisiana State University Press, Coastal Studies Series No 9. Baton Rouge, Louisiana.

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, Louisiana.

Websites

LDOA (Louisiana Division of Archaeology)
www.state.la.us/cultural-developmentarchaeolg/databases. Accessed July 2019.

University of California, Davis (California Soil Resource Lab)
casoilresource.lawr.ucdavis.edu/soil_web/kml/mapunits.kml. Accessed July 2019.

USGS (United States Geological Survey)
www.USGS/gov/pubprod. Accessed July 2019.

Email Correspondence

Mr. Doug Hughes of Weyerhaeuser. August 7, 2019.

Maps

Denham Springs, La. (1934) 15-Minute Topographic map. U.S. Geological Survey.
Springfield, La. (1934) 7.5-Minute Topographic map. U.S. Geological Survey.
Frost, La. (1963) 7.5-Minute Topographic map. U.S. Geological Survey.
Denham Springs, La. (1963) 7.5-Minute Topographic map. U.S. Geological Survey.
Frost, La. (2018) 7.5-Minute Topographic map. U.S. Geological Survey.
Walker, La. (2018) 7.5-Minute Topographic map. U.S. Geological Survey.