Exhibit FF. T.O. Allen Industrial Park North Phase I Cultural Resources Assessment Report

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T.O. Allen Industrial Park North Phase I Cultural Resources Assessment Report

PHASE I CULTURAL RESOURCES SURVEY OF 563.2 ACRES (227.9 HECTARES) NEAR IOWA, JEFFERSON DAVIS PARISH, LOUISIANA

Final Report – A Report of Negative Findings

For

One Acadiana
804 E St. Mary Blvd.
Lafayette, LA 70503

November 14, 2016

SURA, INC.
P.O. Box 14414
Baton Rouge, LA 70898-4414
Since 1986

PHASE I CULTURAL RESOURCES SURVEY OF 563.2 ACRES (227.9 HECTARES) NEAR IOWA, JEFFERSON DAVIS PARISH, LOUISIANA

Final Report – A Report of Negative Findings

By

Matthew Chouest and Malcolm Shuman

For

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ABSTRACT

From October 10, 2016, to October 14, 2016, Surveys Unlimited Research Associates, Inc. (SURA, Inc.) conducted a Phase I cultural resources survey of 563.2 acres (ac) (227.9 hectares [ha]) near Iowa in Jefferson Davis Parish, Louisiana. A total of 762 shovel tests were excavated. No cultural resources were found, and it was recommended that the project proceed as planned.

ACKNOWLEDGMENTS

The field crew was led by Mr. Matthew Chouest, M.A., and consisted of Mr. Will McManus, Ms. Margeaux Murray, Ms. Denice Naquin, Mr. Kevin Klein, and Mr. Karl Shuman. Dr. Malcolm Shuman was the principal investigator.

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CHAPTER ONE:
INTRODUCTION

From October 10, 2016, to October 14, 2016, Surveys Unlimited Research Associates, Inc. (SURA, Inc.) conducted a Phase I cultural resources survey of 563.2 acres (ac) (227.9 hectares [ha]) near Iowa in Jefferson Davis Parish, Louisiana (Figure 1). The survey was carried out to fulfill the requirements the Louisiana Department of Economic Development (LED). The Area of Potential Effects (APE) lies within Sections 26, 27, 28, T9S, and R6W.

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.

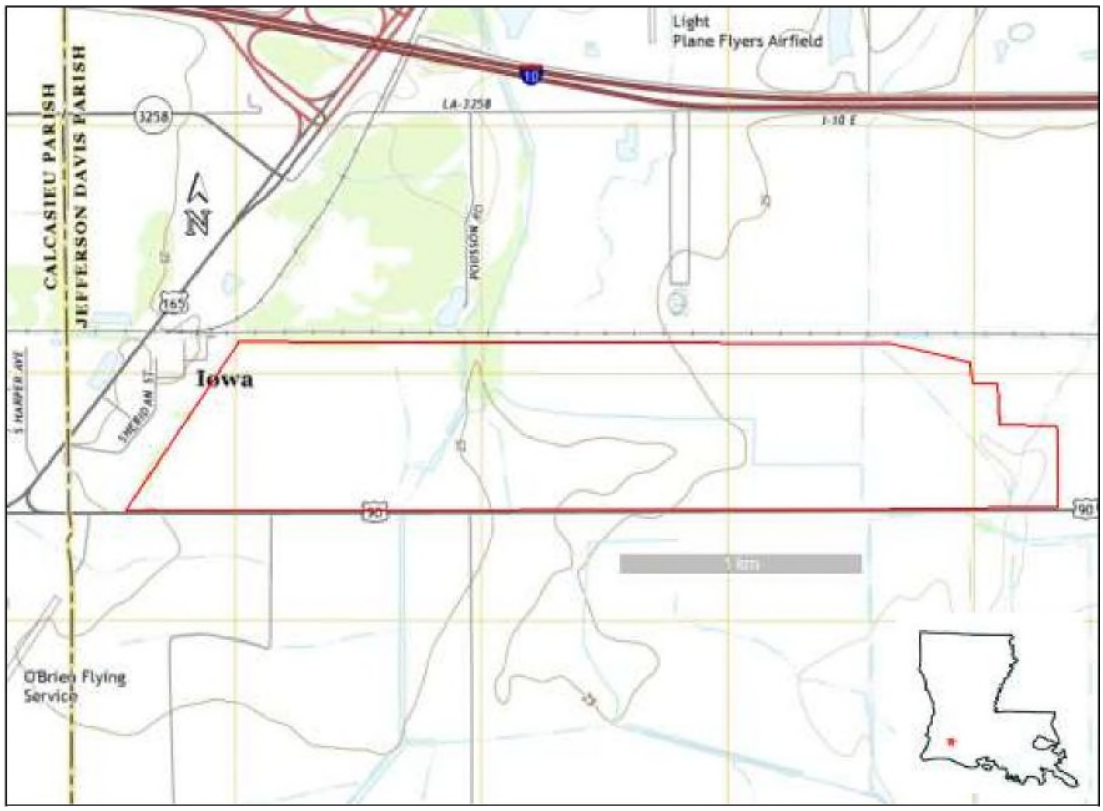

FIGURE 1 – PORTION OF 2015 LACASSINE, LA 7.5-MINUTE TOPOGRAPHIC MAP DEPICTING APE IN RED (USGS).

CHAPTER TWO:
ENVIRONMENTAL SETTING

GEOMORPHOLOGY AND TOPOGRAPHY

The soils in the area pertain to the Vidrine-Mowata-Crowley association. Thirty percent belongs to the Crowley series consisting of consists of very deep, somewhat poorly drained, slowly permeable soils that formed in clayey fluviomarine deposits of the Pleistocene age. Virdine series make up twenty-one percent described as very deep, moderately well drained to somewhat poorly drained soils found on gently sloping soils and mounded areas. Mowata soils make up seventeen percent—these soils are very deep, poorly drained, very slowly permeable soils that formed in loamy and clayey fluviomarine deposits of late Pleistocene age. Other soils make up the remainder of the association (University of California, Davis 2016).

The following is a map of the soil types encountered during the survey (Figure 2).

FIGURE 2 - SOIL MAP (SOILS IN YELLOW) OF AREA OF POTENTIAL EFFECTS IN RED (APE) (UNIVERSITY OF CALIFORNIA, DAVIS 2016/ GOOGLE EARTH).

FLORA

This area contains mixed shortleaf pine/oak-hickory forests. Examples of the common tree types are: the shortleaf pine (*Pinus echinata*), the loblolly pine (*Pinus taeda*), red oak (*Quercus falcata*), black oak (*Quercus velutine*), black hickory (*Carya texana*), sweet gum (*Liquidambar styraciflua*) and red maple (*Acer rubrum*). The understory in this type of forest contains a great many shrubs such as huckleberry (*Vaccinium arboreum*), holly (*Ilex decidua*) and poison ivy (*Rhus toxicodendron*). On the banks of the Tangipahoa River, willows (*Salix nigra*) and sycamores (*Platanus occidentalis*) dominate the natural vegetation. The modern disturbance of the forests in Louisiana, however, has allowed the short leaf varieties to perpetuate beyond their natural exclusion from the hardwood forest (Brown 1945).

FAUNA

Animal life is prolific and most of the 62 mammalian 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 (*Lepmis macrochirus*), among many others.

CHAPTER THREE:
PREVIOUS INVESTIGATIONS

Five projects have been carried out within 1 mile (1 mi) (1.62 kilometers [km]) of the APE (Table 1).

TABLE 1 – PROJECTS WITHIN 1 MI (1.62 KM) OF APE (SOURCE: LDOA).

Project No.	Type	Findings	Date	Author(s)
22-0186	Watershed	3 sites	1974	Neuman
22-0121	Pipeline	21 sites	1976	Gagliano *et al.*
22-0417	Pipeline	No sites	1978	Campbell
22-0584	Pipeline	No sites	1979	Campbell
22-2329	Fiber optic cable	145 sites	2000	Jackson *et al.*

The earliest project was a 1974 environmental assessment and archaeological survey by Robert W. Neuman of the west fork of the Bayou Lacassine Watershed. Three sites were discovered—16JD7, 16JD9, and 16JD21 (Neuman 1974) (#22-0186). The following was a 1976 survey by Gagliano *et al*. of a proposed pipeline from East Feliciana Parish to Orange County Texas in which twenty-one sites were discovered. The two following surveys by L. Janice Campbell carried out in 1978 and 1979 were to determine the archaeological effects of the Calcasieu LNG Pipeline—no sites were discovered (Campbell 1978, 1979) (#220417 and #22-0584). The most recent survey was a 2000 background/literature search by Jackson et al. of a proposed fiber-optic line through southern Louisiana. 145 archaeological were noted within one mile of the proposed line with four sites being affected (Jackson et al. 2000) (#22-2329).

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 in order 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 were examined to determine archaeological sites reported for this area by previous investigators. The survey methodology consisted of systematic shovel testing.

The survey methodology consisted of systematic shovel testing. Per the Louisiana Division of Archaeology (LDOA) and the Louisiana State Historic Preservation Officer (SHPO), the APE was divided into high probability and low probability areas (Figure 3). The high probability areas of the APE were defined by their proximity (100 ft [30.48 m]) to creeks and streams which would suggest a greater likelihood of the presence of prehistoric sites. Likewise, areas adjacent to railroads and highways would also be considered high probability for the potential of historic artifacts.

FIGURE 3 - AERIAL PHOTOGRAPH OF THE APE WITH LOW PROBABILITY AREAS IN GREEN AND HIGH PROBABILITY AREAS IN DARK RED (GOOGLE EARTH)

For low probability (LP) areas, which made up 90% of the APE, transects were spaced 164.04 ft (50 m) apart with a shovel test dug every 164.04 ft (50 m). For high probability (HP) areas, which made up 10% of the APE, transects were spaced 98.42 ft (30 m) apart with a shovel test dug every 98.42 ft (30 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 Louisiana Division of Archaeology Guidelines.

Each cultural resource site found is assessed according to current National Register of Historic Places (NRHP) criteria, as given below.

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.*" In order 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

Artifacts are returned to the SURA laboratory, washed, analyzed and catalogued and will be deposited with the Louisiana Division of Archaeology, along with associated documents, at:

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

CHAPTER FIVE:
RESULTS OF THE SURVEY

BACKGROUND RESEARCH

PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES WITHIN 1 MI (1.62 KM) OF THE APE

A review of the Louisiana Division of Archaeology (LDOA) cultural resources map indicates that there are no archaeological sites known to be within the above study radius. The closest site, which falls 34 mi (5-6.47 km) of the current APE, is the unnamed 16JD44 site. The site is an antebellum historic scatter and no further work was advised (LDOA n.d).

PREVIOUSLY RECORDED STANDING STRUCTURES WITHIN 1 MI (1.62 KM) OF THE APE

No standing structures within the project radius have been evaluated or listed with the Louisiana Division of Historic Preservation (LDHP).

NRHP PROPERTIES WITH 1 MI (1.62 KM) OF THE PROJECT AREA (SOURCE: LDHP) There

are no such properties within the project radius.

CEMETERIES WITHIN 1 MI (1.62 KM) OF THE PROJECT AREA (SOURCE: LDHP) There

are no cemeteries known to be within the project radius.

USGS TOPOGRAPHIC MAPS

A review was made of USGS historic topographic maps, beginning with the 1946 Lacassine, La. 7.5-minute topographic sheet (Figure 4). A canal is depicted going through the left-center of the APE. By the time this map was made, the APE was already bounded by the Southern Pacific Railroad, Missouri Pacific Railroad, and U.S. Highway 90. Three structures are shown on the south-center along U.S. Highway 90.

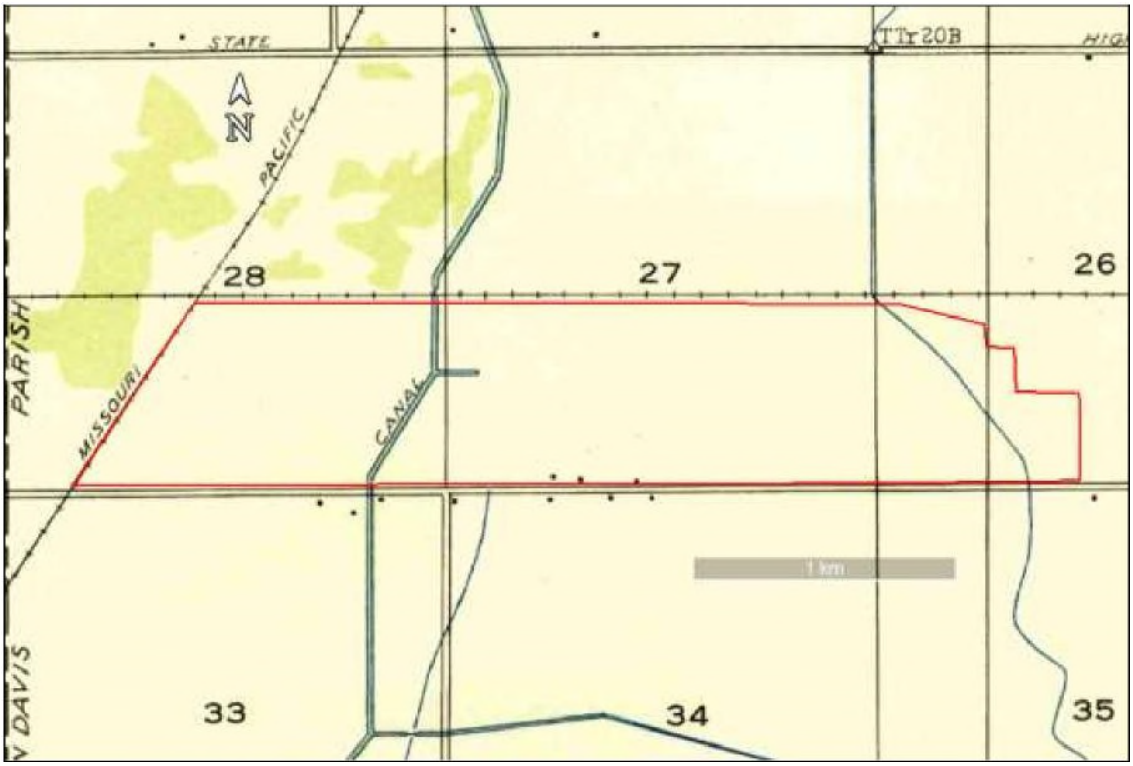

FIGURE 4 – PORTION OF LACASSINE, LA. 1946 7.5-MINUTE MAP, SHOWING LOCATION OF APE (SOURCE: USGS).

A fair amount has changed in the 1985 Lacassine, La. 7.5-minute topographic sheet (Figure 5). A pipeline now crosses from the southwest corner to the north-center of the APE. The smaller waterways by the canal are more defined. Additionally, two of the structures have changed locations. The first to the west has now been pushed farther north and has a small road next to it. The structure to the east is now farther north. However, none of these structures are extant.

FIGURE 5 – PORTION OF LACASSINE, LA. 1985 7.5-MINUTE MAP, SHOWING LOCATION OF APE (SOURCE: USGS).

Field survey was conducted from October 10 to October 14, 2016. The APE consisted of tilled agricultural fields with woods near the railroad tracks in the northwest corner. Figure 6 depicts transects throughout the APE, while Figures 7-10 show a representation of the topography encountered during the survey.

FIGURE 6 - AERIAL PHOTOGRAPH DEPICTING SHOVEL TESTING TRANSECTS OF THE APE (GOOGLE EARTH).

FIGURE 7 - SOUTHWEST BOUNDARY OF APE FACING EAST.

FIGURE 8 - SOUTHEAST BOUNDARY OF APE FACING WEST.

FIGURE 9 – NORTHEAST BOUNDARY OF APE FACING WEST.

FIGURE 10 – NORTHWEST BOUNDARY OF APE FACING EAST.

No cultural resources were recovered during survey of the APE. Representative shovel test soil profiles based on the Munsell soil color system are depicted below in Table 2.

TABLE 2 – REPRESENTATIVE SOIL PROFILES OF THE APE.

Western portion of APE			
0-10 cmbs	**11-40 cmbs**	**41-50 cmbs**	**51-60 cmbs**
10YR 4/2 silty loam	10YR 4/3 silty loam	10YR 6/4 silty clay	10YR 3/4 clay

Eastern portion of APE		
0-20 cmbs	**21-50 cmbs**	**51-60 cmbs**
10YR 5/2 sandy silt	10YR 5/2 sandy silt mottled with 2.5 YR 5/8 clay	10YR 4/4 clay

CHAPTER SIX:
CONCLUSIONS AND RECOMMENDATIONS

From October 10, 2016, to October 14, 2016, Surveys Unlimited Research Associates, Inc. (SURA, Inc.) conducted a Phase I cultural resources survey of 563.2 acres (ac) (227.9 hectares [ha]) near Iowa in Jefferson Davis Parish, Louisiana. A total of 762 shovel tests were excavated. No cultural resources were found, and it was recommended that the project proceed as planned.

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MAPS

Lacassine, La. (1946) 7.5-Minute Topographic map. U.S. Geological Survey.
Lacassine, La. (1985) 7.5-Minute Topographic map. U.S. Geological Survey.