

A PHASE I ARCHAEOLOGICAL SURVEY OF THE SAMEDAN OIL
CORPORATION C. O. NOBLE HEIRS "A" NUMBER 1 WELL SITE
IN SOUTHWEST CAMERON PARISH, LOUISIANA

By

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COE Permit Number: 22791

BVRA 02-18

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Department of the Army
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Galveston District

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ABSTRACT

Brazos Valley Research Associates (BVRA) conducted a Phase I archaeological survey of a 2.81 acre well pad site in southwestern Cameron Parish, Louisiana in November 2002 under the supervision of William E. Moore (Principal Investigator) and James E. Warren (Project Archaeologist). This work was sponsored by the Samedan Oil Corporation through the engineering firm C. H. Fenstermaker & Associates of Houston, Texas under United States Army Corps of Engineers, Galveston District, permit number 22791. The project area had not been previously examined by professional archaeologists. At the time of the investigation, the entire project area was inundated by water; therefore, no shovel tests were excavated. The project area is situated on soils dredged from the Sabine Pass channel that are on top of Creole mucky clay, a soil found in marshy areas prone to flooding. This is, therefore, a very low probability area for the presence of archaeological sites. The only subsurface that will be affected is the outer perimeter where a dirt will be borrowed to create a ring levee around the well pad site. The rest of the area will be constructed at normal ground level or built up with other materials. It is recommended that the client be allowed to proceed with construction as planned. Copies of the report are on file at the Louisiana Division of Archaeology in Baton Rouge, Louisiana; the Corps of Engineers, Galveston District; the Texas Archeological Research Laboratory in Austin, Texas; the Samedan Oil Corporation in Houston, Texas; and BVRA in Bryan, Texas.

ACKNOWLEDGMENTS

The Principal Investigator and author of this report (William E. Moore) acknowledges everyone whose cooperation made the completion of this project possible. The funding agency for this project was Samedon Oil Corporation of Houston, Texas, and the sponsor was C. H. Fenstermaker & Associates of Houston, Texas. Henri C. deLaunay at C. H. Fenstermaker & Associates, Inc. provided topographic and engineering maps and made sure that the project area boundaries were marked in the field. Tiffany Terneny, Staff Archaeologist of the United States Army Corps of Engineers, Galveston District, was the lead reviewer for this project. The fieldwork was conducted by James E. Warren (Project Archaeologist), Bobby Jemison, and Art Romine. Rachel Watson, Staff Archaeologist, at the Louisiana Division of Archaeology in Baton Rouge, Louisiana conducted the literature search and shared relevant contract reports with the Principal Investigator. Special thanks to Soil Scientist, Clay Midkiff and Marsh Revegetation Project Manager, C. C. Richmond, for taking time from their busy schedule to discuss the soils in the project area. Mr. Midkiff mapped the soils in this area for the soil survey of Cameron Parish. I am also grateful to Jerame J. Cramer, Staff Archaeologist at Coastal Environments, Inc. of Baton Rouge, for discussing his work in the area. The figures that appear in this report were drafted by Lilli Lyddon of LL Technical Services in North Zulch, Texas.

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INTRODUCTION

Samedan Oil Corporation of Houston, Texas plans to construct a 350 x 350 foot well site for the purpose of exploring for and extracting hydrocarbon reserves at the C. O. Noble Heirs "A" Number 1 Well in Cameron Parish, Louisiana (Figure 1). The project area is situated in a marsh area adjacent to a spoil pile created by dredged material from the Sabine River during construction of a channel for river traffic. A three-foot tall ring levee surrounding the perimeter of the site will be constructed from excavated material within the well pad site, resulting in a three-foot deep borrow ditch (Figure 2). Approximately 1089 cubic yards of material will be discharged to construct the drill site. The project will result in 2.81 acres of jurisdictional intermediate/freshwater marsh. The project is located in adjacent wetlands of Sabine Lake, south of Highway 82, adjacent to an existing levee road in Section 17, Township 15 South, Range 15 West in Cameron Parish, Louisiana. The project area is depicted on the United States Geological Survey 7.5' quadrangle map West of Johnson Bayou, Louisiana and Texas dated 1993 (Figure 3). The UTM coordinates are Zone 15, Northing 32 92 081 and Easting 4 16 394. Additionally, the project area is depicted on Sheet 92 of the Soil Survey of Cameron Parish, Louisiana authored by Clay Midkiff and A. J. Roy (1995).

C. H. Fenstermaker & Associates of Houston, Texas is the engineering firm planning the construction for this project and is working for the Samedon Oil Corporation of Houston, Texas. The United States Corps of Engineers, Galveston District and the Louisiana Department of Environmental Quality are the federal and state agencies overseeing this project that comes under review by the Louisiana Division of Archaeology

The purpose of the archaeological investigation is to identify and assess any sites in the 2.81 acre project area. A Phase I survey was conducted by BVRA on November 7, 2002. The Principal Investigator for this project is William E. Moore. The field survey crew consisted of Art Romine and Bobby Jemison under the field supervision of James E. Warren who was the Project Archaeologist. The entire project area was inundated with water at the time of the survey; therefore, shovel testing was not conducted, and no archaeological sites were found. The presence of standing water is consistent with the nature of the soils present (i.e., frequently flooded). This tract is viewed by BVRA as very low probability for significant archaeological sites. No further work is recommended. Field notes are on file at BVRA. The BVRA project number is 02-18.

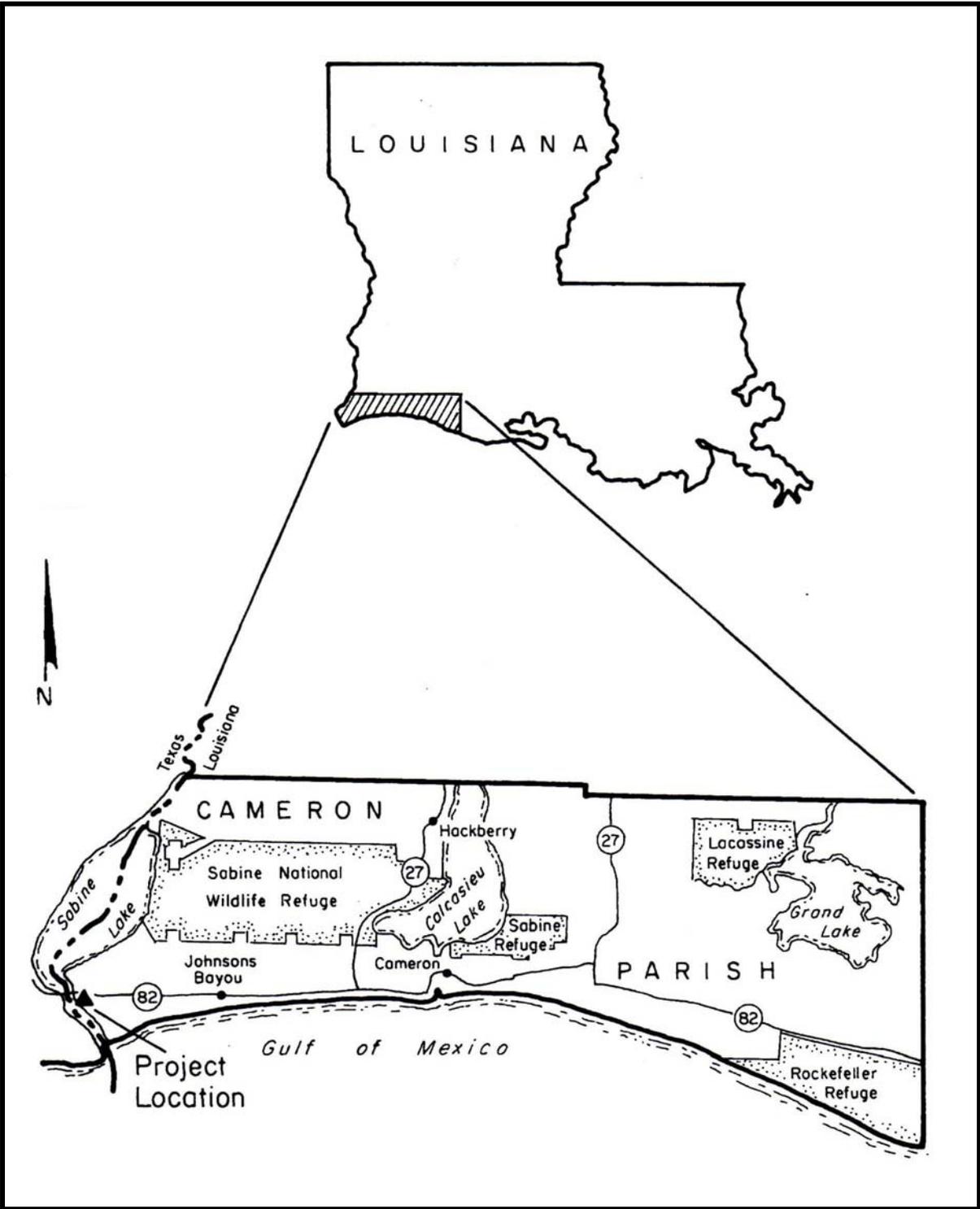


Figure 1. General Location Map

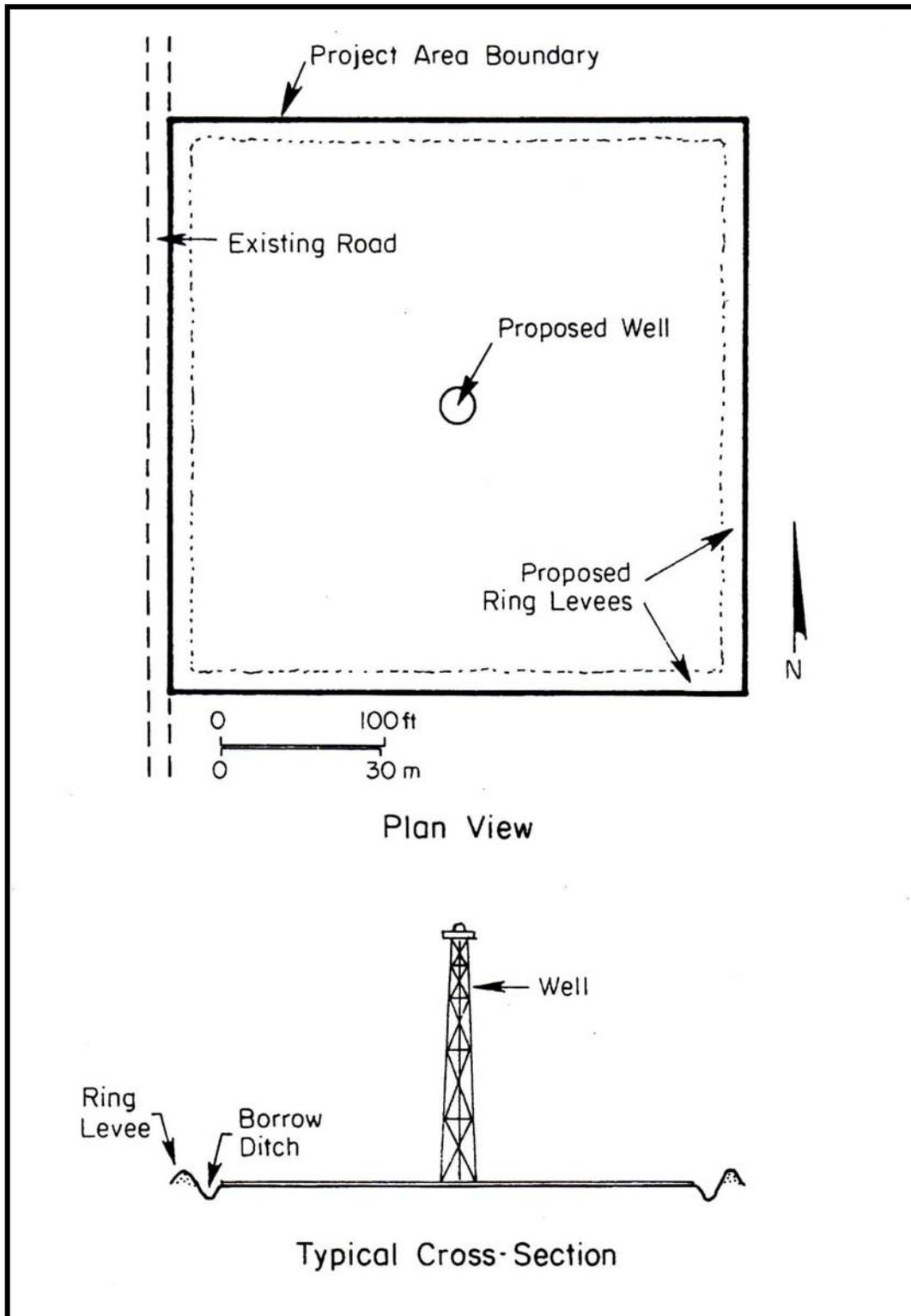


Figure 2. Project Area Map

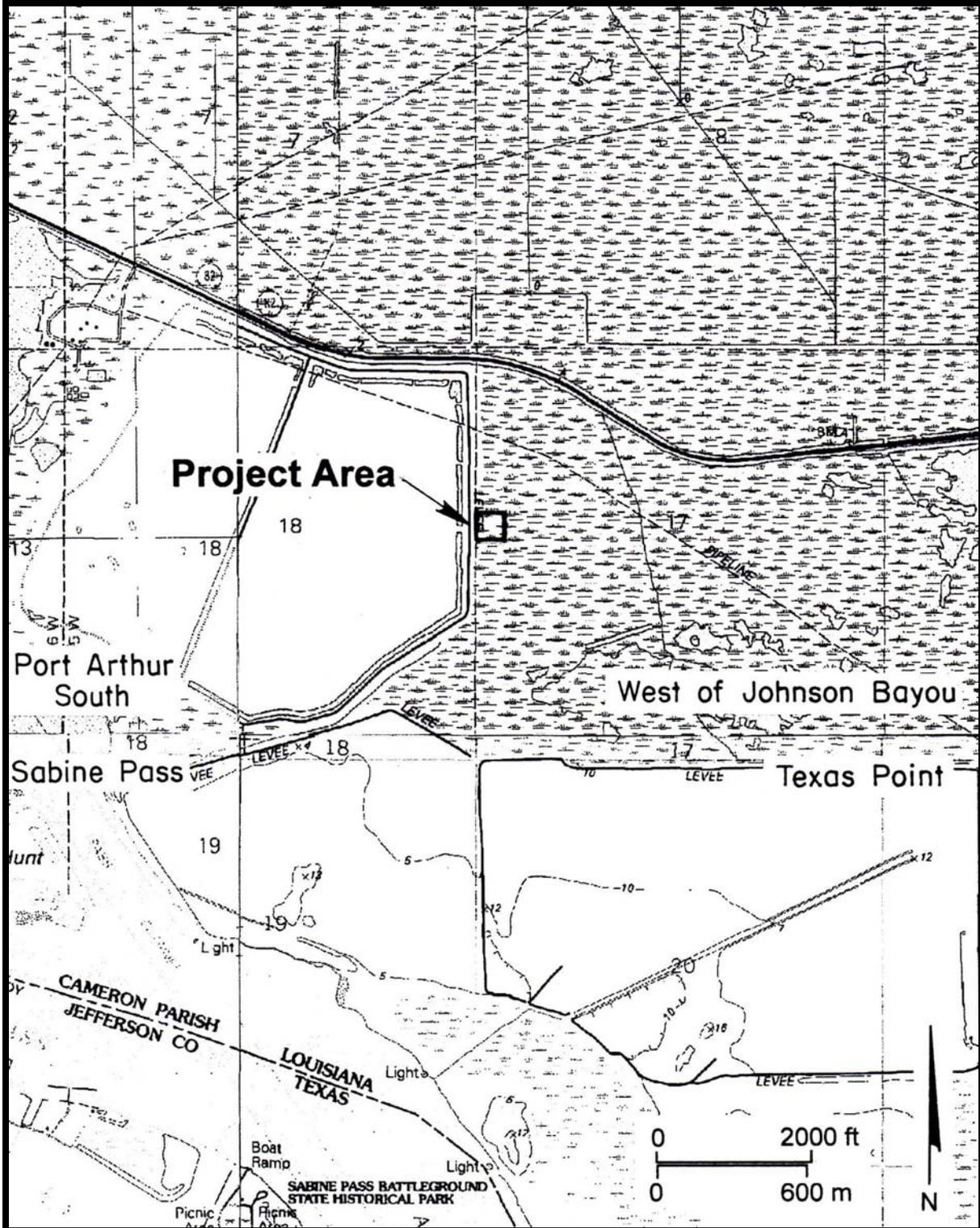


Figure 3. Project Area on Topographic Map

ENVIRONMENTAL SETTING

The following information is taken from the soil survey for Cameron Parish (Midkiff and Roy 1995:1-2). Cameron Parish is located in the southwest corner of Louisiana and has a total area of 1,204,038 acres. It is bordered on the west by Texas, on the south by the Gulf of Mexico, on the north by Calcasieu and Jefferson Davis parishes, and on the east by Vermilion Parish. Elevation ranges from sea level in the marshes along the coast to about 20 feet above sea level in the uplands in the northern part of the parish. Coastal marshes comprise about 82 percent of the total acreage in the parish. These marshes are used mainly as habitat for wildlife and for recreational purposes. About 20 percent of the land in the parish is rangeland. Most of the rangeland in the parish is in marshes that are firm enough to support grazing cattle, the current use of the project area. The major physiographic areas that make up the parish are the coastal marshes and cheniers in the Gulf Coast Marsh major land resource area and the prairies in the Gulf Coast Prairies major land resource area. The marshes and cheniers border the Gulf of Mexico and the large lakes in the parish. The marshes include soft or very fluid, organic and mineral soils and slightly fluid or firm, mineral soils. The soils are ponded most of the time and are frequently flooded. Most of the marsh areas are used as habitat for wildlife or for recreational purposes with a small amount of marsh used for cattle. Towards the coast, the surface of the marsh is described by some as not a land surface. The modern climate of southwestern Louisiana is mild winters and hot summers. In winter, the average temperature is 53 degrees Fahrenheit, and the average daily temperature is 43 degrees. In summer, the average temperature is 81 degrees, and the average daily temperature is 90 degrees. Total annual precipitation is 52.38 inches. Of this amount, nearly 29 inches (55%) usually falls in April through September.

The vegetation of the freshwater marsh of the coastal zone includes a variety of plants that have successfully adapted to this harsh environment. These plants are defined by Penfound and Hathaway (1938:15) and Tiner (1993:82, 206) and include *Panicum hemitomon* (maidencane), *Eleocharis sp.* (spikerush), *Spartina patens* (wire grass), *Pontederia cordata* (pickeral-weed), *Cladium jamaicense* (saw grass), *Scirpus californicus* (southern bulrush), *Sagittaria latifolia* (delta duck potato), *Hymenocallis crassifolia* (marsh spider lily), and *Castalia odorata* (water lily). Ethnographic evidence indicates that the root of the delta duck potato was used for food as were seeds of the water lily (Burden et al. 1978:8).

Cramer (2002:13) cites several sources that mention the presence of many species of ducks and geese, along with otters, alligators, and muskrats (*Onadatra zibethicus*) (Lowery 1974). According to the United States Department of the Interior (1979:42), the red wolf (*Canis rufus*) currently lives in the Sabine National Wildlife Refuge and was probably more common in prehistoric times. The brackish water clam (*Rangia cuneata*) may have been used as a food source. This species lives at the prairie/marsh interface on the southern edge of the prairie (Cramer 2002:13).

A check of the soil survey for Cameron Parish and a discussion with Clay Midkiff and C. C. Richmond at the Natural Resource Conservation Service (NRCS) revealed the following information regarding the soils in the project area. The soil in the project area was probably Creole mucky clay (CR). This is a level, very poorly drained, very fluid, mineral soil in brackish marshes. It is ponded for long periods and is frequently flooded. CR soils contain various clays to a depth of 48 inches. Between 48 and 96 inches, the soil is gray and very fluid (Midkiff and Roy 1995:18). Clay Midkiff (personal communication to William E. Moore, November 6, 2002) states that the presence of prehistoric archaeological sites in the CR soils is highly unlikely due to the constant presence of standing water. Soils in the project area are depicted in Figure 4.

Dredge from the Sabine Pass channel was placed in a large area surrounded by a levee. As they dried out, these soils changed into Udifluvents (UD). These soils consist of sandy, loamy, and clayey soil material that was hydraulically excavated from soils in marshes during the construction and maintenance of navigable waterways. They are on low to high spoil banks and are 1 to 15 feet higher than the surrounding soils in the marshes (Midkiff and Roy 1995:33). The spoil bank containing the dredged materials is adjacent to the current project area.

As the UD soils overflow from the spoil area into the surrounding marsh (and the project area), they become Aquents (AN), frequently flooded soils. This soil type consists of loamy and clayey material that was hydraulically excavated from soils in the marshes during the construction and maintenance of navigable waterways. The total subsidence potential of Aquent soils is low or medium (Midkiff and Roy 1995:16). The entire project area is covered with AN soils (Figure 4). According to Clay Midkiff and C. C. Richmond (personal communication to William E. Moore, November 6, 2002), the depth of AN soils in the project area is probably at least two feet and decreases as the spoil material tapers off into the CR soils.

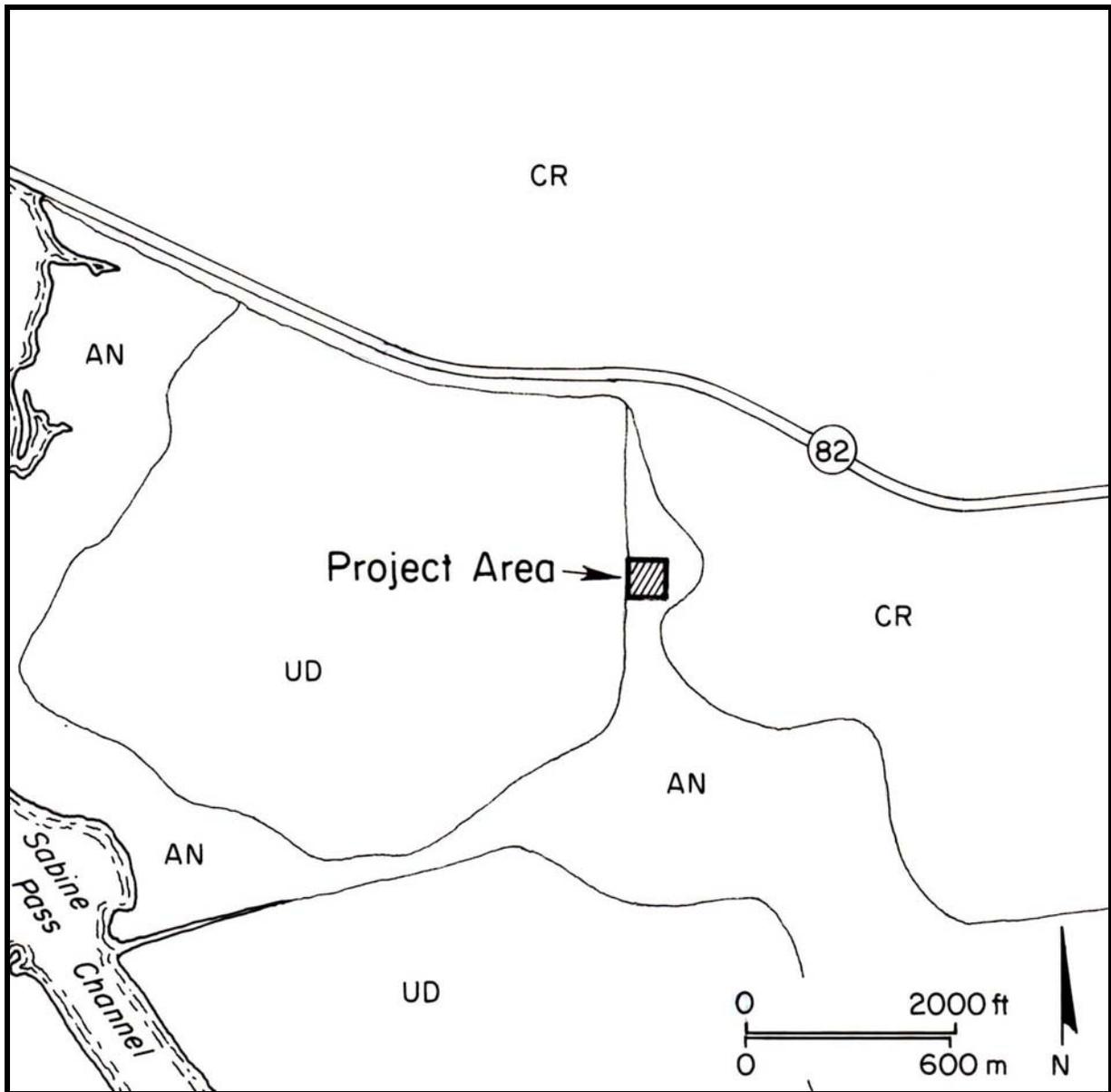


Figure 4. Project Area Depicting Local Soils

CULTURE HISTORY

Given the lack of archaeological sites in the project area, a detailed discussion of the cultural sequence of Southwest Louisiana is not warranted. However, a brief review of the time periods during which shell middens, the type most likely to be found in the marsh land environment of the project area, is presented here.

The earliest mention of shell midden sites in Louisiana is during the Archaic period. According to Rogers et al. (1991:11), "coastal sites became more frequent during the Middle Archaic" (5000 B.C. - 3000 B.C.), and "the shell midden represents an important expression of subsistence activities."

The southern expression of the Tchula period is referred to as Tchefuncte and was originally defined in southern Louisiana by Ford and Quimby (1945). Evidence for food production in Tchefuncte culture presently is known from only one site (16IB3), the Morton Shell Mound, where remains of two tropical cultigens (squash and bottle gourd) and one possible native cultigen (knotweed) were recovered by archaeologists (Byrd 1994: Byrd and Neuman 1978:11-13).

In southwest Louisiana, Tchefuncte shell midden sites are located in two general areas, adjacent to Sabine Lake (Weinstein 1986) and around Grand Lake (McIntire 1958). Lawrence E. Aten and Charles N. Bollich (1969) identified four shell midden sites, based on pottery seriation, which were considered to have Tchefuncte components. The Conway D (16CU108) site is a shell midden in the marsh of Calcasieu Parish. Ceramics from this site were relatively dated to 70 B.C. (Aten 1983). On the north bank of the Sabine River in Orange County, Texas a shell midden (41OR58) was found to contain pottery dating to the Tchefuncte (500 B.C. - A.D. 1), Marksville (A.D. 1 - A.D. 400), Baytown (A.D. 400 - A.D. 700), and Coles Creek (A.D. 700 - A.D. 1200) cultures of the Lower Mississippi Valley. Radiometric assays from the site indicate a utilization between 330 B.C. and A.D. 350 (Rogers et al. 1991). According to Cramer (2002:31), numerous shell middens, often rich in animal bones and waterfowl remains, date to the Baytown period.

A thorough discussion of the culture history of Louisiana, especially as it relates to the southwestern part of the state, is presented by Jerame J. Cramer (2002) in his report which documents a Phase I cultural resources survey of the proposed Pines Ridge well pads and access road in Cameron Parish. The interested reader is advised to consult this report as well as others listed in the *References Cited* section of this report.

PREVIOUS INVESTIGATIONS

A check of the site records by Rachel Watson, Staff Archaeologist at the Louisiana Division of Archaeology in Baton Rouge, revealed no previous investigations by professional archaeologists had been conducted in the project area and immediate vicinity. The first major study of the area found during the literature search involved a 1973 study of prehistoric and historic resources in areas under investigation for navigation improvement that involved the lower Sabine River in Texas and Louisiana (McGuff and Roberson 1974).

This study examined river and bayou banks and adjacent marshes. Although the southern edge of the 1973 study area is at least 15 miles to the north of the current project area (McGuff and Roberson 1974:Figure 1), the examination of marsh lands is relevant to this study. The marsh areas presented special problems for the surveyors as the vegetation often grows above eye level, and traversing the marshes on foot is slow and sometimes hazardous (McGuff and Roberson 1974:8). The investigators resolved most of the problems of surveying the marsh areas by use of a helicopter. In the marsh area, shell middens are the only site type known to occur and may occur anywhere shell food resources have been present in the past (McGuff and Roberson 1974:10). According to McGuff and Roberson 1974:11), shell middens in marsh areas represent a concentration of the collection and processing of shell food. Sites in marshlands may not have any present association with another water body (McGuff and Roberson 1974:14). These sites are adversely affected by recent environmental factors such as the predominant wind direction, subsidence, and the deposition of dredged material (McGuff and Roberson 1974:12). In addition to recording new sites, the 1973 survey attempted to locate previously recorded site locations. Several of these previously recorded sites were not relocated due to deposition of dredged material and subsidence. The interested reader is advised to read this report for additional information regarding the prehistory of the area.

Archaeological investigations on the outer continental shelf off the shore of Louisiana and Texas was conducted by Coastal Environments, Inc. in the 1980s (Pearson et al. 1986). Although the focus of this work ignores in part the inland marsh area of Louisiana, it provides a wealth of data regarding the geology and paleoclimate of the region. Therefore, it is mentioned in this section of this report.

The closest field inspection to the survey area was conducted by Coastal Environments, Inc. across Pines Ridge Island approximately eight miles to the northeast of the current project area (Cramer 2002). This study investigated the proposed site of two well pads and access roads. One well pad, located in an open-water/marsh environment was determined by the Louisiana Division of Archaeology to be a very low probability area and was not surveyed. No significant cultural resources were found, and it was recommended that construction be allowed to proceed as planned.

ARCHAEOLOGICAL INVESTIGATION

The purpose of this archaeological survey was to locate any previously unrecorded archaeological sites in the proposed 2.81 acre well site. Should sites be found, their research potential in terms of National Register of Historic Places eligibility would be assessed. Finally, recommendations regarding additional work at all significant sites would be made.

Prior to entering the field, a check of the site records at the Louisiana Division of Archaeology was conducted for BVRA by Rachel Watson, Staff Archaeologist at this agency. Relevant reports were borrowed from the Louisiana Division of Archaeology by the Principal Investigator for review prior to the field survey. In addition the Principal Investigator talked with informed individuals regarding the local soils and probability for sites in the area. Clay Midkiff, Soil Scientist, discussed the project area soils and also stated that archaeological sites are not likely to be found, a view shared by Staff Archaeologist, Rachael Watson of the Louisiana Division of Archaeology (personal communication to William E. Moore, November 4, 2002). Jerame J. Cramer, Staff Archaeologist at Coastal Environments, Inc., was consulted regarding his knowledge of the area.

The Phase I Intensive Field Survey was originally intended to be performed using the pedestrian survey method supported by shovel testing. Unfortunately, the project area and surrounding marsh environs were inundated by water at the time of the visit by the field survey crew. The crew walked from the highway to the well site that had recently been flagged by surveyors from Fenstermaker & Associates. Because of the standing water, shovel testing was impossible. As they waded through the water covering the project area they were able to determine that the center of the well site contained over two feet of water as opposed to only about 18 inches at the perimeter. Although the ground surface was under water, the crew looked for other signs of prehistoric sites such as trees and other vegetation protruding from the water. Trees often grow on shell mounds in marshy areas as the "abandoned shell refuse and other materials often create elevated spots in the marsh which in turn promotes the growth of trees or shrubs on top" (Cramer 2002:15). This investigation covered the 2.81 acre area proposed for a well site in Cameron Parish, Louisiana. A review of site records at the Louisiana Division of Archaeology revealed no previously recorded archaeological sites in the project area. It was also learned that very little work by professional archaeologists had been carried out in the general area. The field survey found the entire project area to be under water. The depth of the standing water was estimated by the survey crew to be approximately 18 inches at the edges of the well site with deeper water (2.5 feet or more) in the center. The only areas where the subsurface will be affected are the ring levee that will be constructed from dirt borrowed to a depth of three feet. The rest of the construction will be at normal ground level or built up with materials brought in from another location. Therefore, little disturbance will occur in this area. The project area is located in an environmental setting very prone to flooding and ponding. Therefore, it is an unlikely area for the presence of archaeological sites.

SUMMARY AND RECOMMENDATIONS

The Phase I survey encountered a low-lying marshy area near the coast of Louisiana in an area where little professional investigations have been conducted. At the time of the survey, the entire project area was inundated with water. This condition is consistent with the nature of the local soil along the Gulf Coast. As summarized above, the Creole mucky clay floods frequently and is often ponded. This low, often wet soil is viewed by BVRA as a very low probability area for the presence of archaeological sites. A review of the literature revealed that the predominant prehistoric site type known to occur in the marsh area of southwestern Louisiana is the shell midden. According to Henri C. DeLaunay, no shell was observed by him or his survey crew in or near the project area when the ground surface was not covered with water. Discussions with Rachel Watson and Clay Midkiff indicated their belief that sites are not likely to occur in the project area. Similarly, a proposed well pad and access road planned for archaeological survey by Coastal Environments, Inc. in 2002 was determined to be located in a very low probability area and was, therefore, excluded from the survey. The setting of this well pad and access road was in an open-water/marsh environment.

The location of the well site as currently planned will not affect any significant archaeological sites. It is, therefore, recommended that Samedan Oil Corporation be allowed to proceed with construction with no restrictions. Should cultural materials be encountered in the project area, all work should stop until the situation can be evaluated by the United States Army Corps of Engineers, Galveston District in consultation with BVRA and Samedan Oil Corporation.

REFERENCES CITED

- Aten, Lawrence E.
1983 *Indians of the Upper Texas Coast*. Academic Press. New York.
- Aten, Lawrence E., and Charles N. Bollich
1969 A Preliminary Report on the Development of a Ceramic Chronology for the Sabine Lake Area of Texas and Louisiana. *Bulletin of the Texas Archeological Society* 40:241-258.
- Burden, Eileen K., Diana E. Wiseman, Richard A. Weinstein, and Sherwood M. Gagliano
1978 *Cultural Resources Survey of the Laccasine National Wildlife Refuge, Cameron Parish, Louisiana*. Coastal Environments, Inc. Baton Rouge.
- Byrd, Kathleen M.
1994 *Tchefuncte Subsistence Patterns at the Morton Shell Mound, Iberia Parish, Louisiana*. Unpublished Master's thesis. Department of Geography and Anthropology, Louisiana State University. Baton Rouge.
- Byrd, Kathleen M., and Robert N. Neuman
1978 Archaeological Data Relative to Prehistoric Subsistence in the Lower Mississippi Alluvial Valley. In *Man and Environment in the Lower Mississippi Valley*, edited by Sam B. Hilliard, pp. 9-21. Geoscience and Man Number 14. School of Geoscience. Louisiana State University. Baton Rouge.
- Cramer, Jerame J.
2002 *Phase I Cultural Resources Survey of the Proposed Pines Ridge Well Pads and Access Road, Cameron Parish, Louisiana*. Coastal Environments, Inc. Baton Rouge.
- Ford, James A., and George I. Quimby, Jr.
1945 *The Tchefuncte Culture, an Early Occupation of the Lower Mississippi Valley*. Memoir Number 2. Society for American Archaeology. Menasha, Wisconsin.
- Lowery, G. H., Jr.
1974 *The Mammals of Louisiana and its Adjacent Waters*. Louisiana State University Press. Baton Rouge.
- McGuff, Paul R., and Wayne Roberson
1974 *Lower Sabine and Neches Rivers, Texas and Louisiana: A Study of the Prehistoric and Historic Resources in Areas Under Investigation for Navigation Improvement*. Texas Archeological Survey, Research Report 46, The University of Texas at Austin.

McIntire, William G.

- 1958 Prehistoric Indian Settlements of the Changing Mississippi River Delta. *Coastal Studies Series, Report Number 1. Louisiana State University. Baton Rouge.*

Midkiff, Clay, and A. J. Roy

- 1995 *Soil Survey of Cameron Parish, Louisiana.* United States Department of Agriculture, Soil Conservation Service in cooperation with the Louisiana Agricultural Experiment Station and the Louisiana Soil and Water Conservation Committee.

Pearson, Charles E., David B. Kelley, Richard A. Weinstein, and Sherwood M. Gagliano

- 1986 *Archaeological Investigations on the Outer Continental Shelf: A Study Within the Sabine River Valley, Offshore Louisiana and Texas.* Coastal Environments, Inc., Baton Rouge, Louisiana.

Pefound, W. T., and E. S. Hathaway

- 1938 Plant Communities in the Marshlands of Southeast Louisiana. *Ecological Monographs* 8:1-56.

Rogers, Robert, Patricia McCoy, and Michael Nash

- 1991 *National Register Testing at Site 41OR58, Sabine River, Orange County, Texas.* Espey Huston & Associates, Inc. Document Number 910050; Job Number 13035.

Tiner, Ralph W.

- 1993 *Field Guide to Coastal Wetland Plants of the Southeastern United States.* The University of Massachusetts Press. Amherst.

United States Department of the Interior, Fish and Wildlife Service

- 1979 *Sabine National Wildlife Refuge Environmental Assessment.* Report prepared by the United States Fish and Wildlife Service.

Weinstein, Richard A.

- 1986 Tchefuncte Occupation in the Lower Mississippi Delta and Adjacent Coastal Zone. In *The Tchula Period in the Mid-South and Lower Mississippi Valley: Proceedings of the 1982 Mid-South Archaeological Conference*, edited by David H. Dye and Ronald C. Brister, pp. 102-127. Archaeological Report Number 17. Mississippi Department of Archives and History. Jackson, Mississippi.