

***AN ARCHAEOLOGICAL SURVEY OF TWO BORROW PIT AREAS:
TRACT 1 (GABBY'S PIT) AND TRACT 3 (DOORNBO'S PIT)
IN SOUTHEAST JEFFERSON COUNTY TEXAS***



***By
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***Brazos Valley Research Associates
Contract Report 171***

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AN ARCHAEOLOGICAL SURVEY OF TWO BORROW PIT AREAS:
TRACT 1 (GABBY'S PIT) AND TRACT 3 (DOORNBOS PIT)
IN SOUTHEAST JEFFERSON COUNTY, TEXAS

BVRA Project Number 06-21

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ABSTRACT

An archaeological survey of two borrow pit areas (41.3 acres) in southeast Jefferson County, Texas was performed by Brazos Valley Research Associates (BVRA) on September 30, 2006 and October 14, 2006. This investigation involved a 100% Pedestrian Survey using metal detectors and shovel testing and an examination of exposed soil profiles created by heavy equipment during previous sand removal at Tract 1 (Gabby's Pit). The entire project area is located on a Chenier Ridge that overlooks the Gulf of Mexico to the south. This ridge is part of a beach system that is described as Quaternary Continental, and it dates to the Pleistocene Epoch. The shovel testing revealed firm clay at the surface and a lens of "shell hash" between 35 cm and 45 cm at Tract 1 and 70 cm and 90 cm at Tract 3. This shell represents the remains of an ancient beach. No prehistoric or historic sites were identified, and no artifacts were collected.

ACKNOWLEDGMENTS

BVRA is grateful to those who made the successful completion of this project possible. Wayne J. Crouch of Wayne J. Crouch Environmental Services in Houston, Texas provided the maps for this project. John McWilliams, Project Manager for Remedial Services, LP, met the crew in the field and guided them to the project area. The field survey was supervised by James E. Warren (Project Archaeologist). He was assisted by Art Romine and Bobby Jemison. Jean Hughes, Records Conservator at the Texas Archeological Research Laboratory (TARL), performed the records check for previously recorded sites in the project area and vicinity. Lili G. Lyddon of LL Technical Services in North Zulch, Texas prepared the figures, and Edward P. Baxter designed the cover. Technical support was provided by Jennifer McMillan, and Nora Rogers served as editor and proofreader. Special thanks to Charles N. Bollich of Beaumont, Texas for sharing his knowledge of the archaeology of the area. Mr. Bollich has been an active archaeologist in the county for many years.

CONTENTS

ABSTRACT	ii
ACKNOWLEDGMENTS	iii
CONTENTS	iv
INTRODUCTION	1
ENVIRONMENTAL SETTING	4
ARCHAEOLOGICAL BACKGROUND	7
METHODS OF INVESTIGATION	10
RESULTS AND CONCLUSIONS	17
RECOMMENDATIONS	18
REFERENCES CITED	19

Appendix I: Shovel Test Log

Appendix II: E-Mail from Wayne R. Roberson Regarding Fort Manahasset

Figures

Figure 1. General Location	2
Figure 2. Project Area on Topographic Map.....	3
Figure 3. Undisturbed Terrain at Tract 1.	5
Figure 4. Project Area Soils.....	6
Figure 5. Location of Shovel Tests at Tract 1	11
Figure 6. Location of Shovel Tests at Tract 3.....	12
Figure 7. Profile of Disturbed Area at Tract 1	13
Figure 8. View of Profile at Tract 1	14
Figure 9. View of Previous Disturbance at Tract 1	15
Figure 10. Profiles of Shovel Tests 1 and 2 at Tract 3.....	16

INTRODUCTION

In order to construct the Golden Pass LNG facility at another location in the county, Remedial Services, LP needs to borrow sand from two pits (Tract 1 and Tract 3) in southeast Jefferson County, Texas (Figure 1). Sand will be removed by heavy equipment to a depth of 15 feet and transported by truck to the construction site. The project area is depicted on the USGS 7.5' topographic quadrangle Sabine Pass (2993-323) dated 1957 and photorevised in 1970 (Figure 2). The location of these tracts is about 150 meters north of State Highway 87, 1800 meters east-southeast of Knight Lake, and approximately five miles west of Sabine Pass, Texas. The entire project area is on private property. Therefore, this project does not fall under the jurisdiction of the Texas Historical Commission. Because the project area is not located within an area containing wetlands, the United States Army Corps of Engineers, Galveston District is not involved. Tract 1 is referred to as Gabby's Pit. It is 13.8 acres (600 x 1000 feet). Tract 3 is referred to as the Doornbos Pit. It is (27.5 acres (600 x 2000 feet).

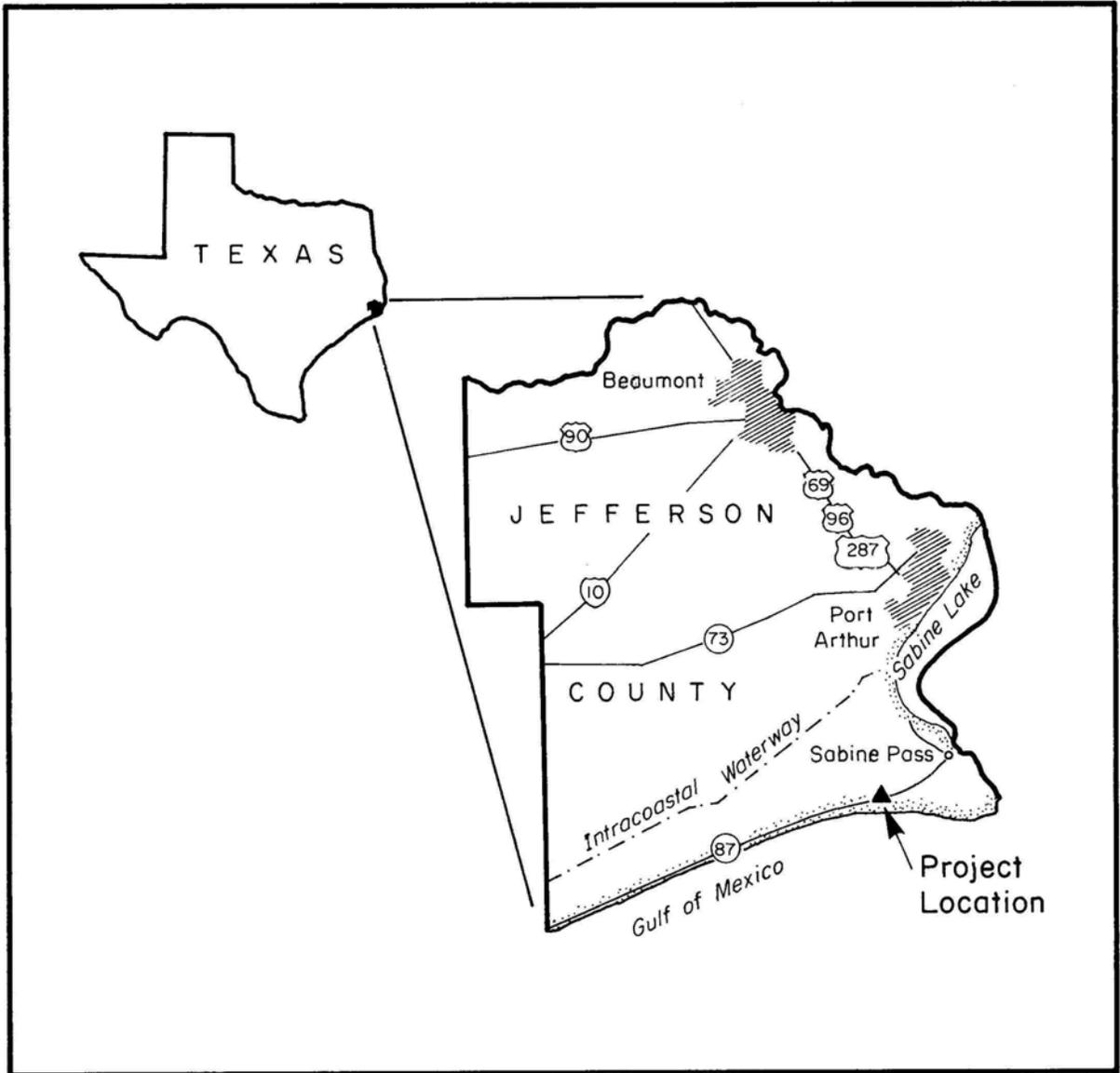


Figure 1. General Location

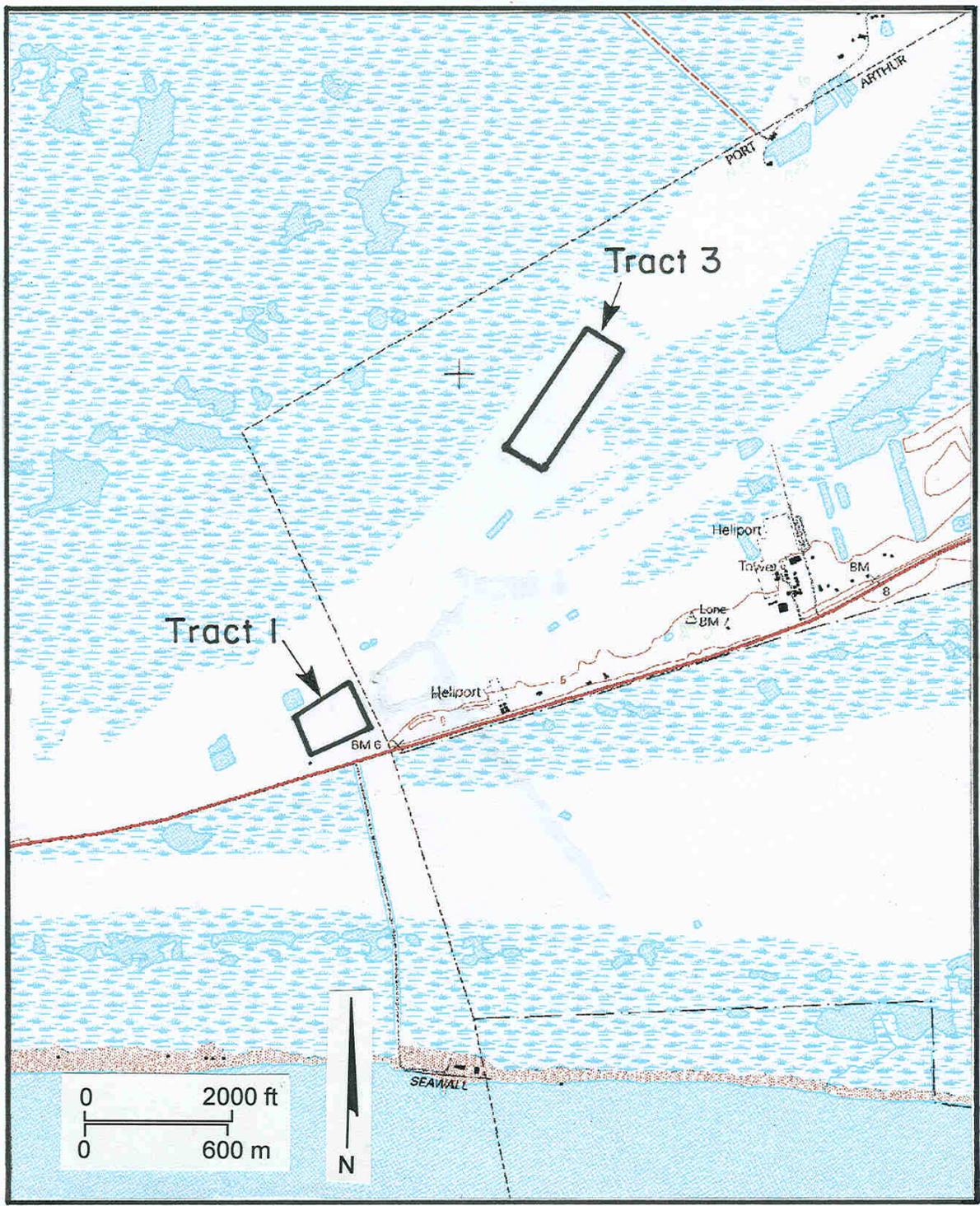


Figure 2. Project Area on Topographic Map

ENVIRONMENTAL SETTING

The following general statements regarding the environment of Jefferson County were taken from the soil survey for Jefferson County by Crout et al. (1965) and the Texas Almanac (Kingston and Harris 1985). This county is located in the extreme eastern part of Texas. The landscape ranges from the high ground on the west bank of the Neches River in the eastern part of Jefferson County to a low marshy area along the coast. The borrow pit is located along a Chenier Ridge, a stranded sand beach in a marshland environment. These ancient beaches were originally formed along the seashore, and they indicate a former coastline. These ridges often support trees such as pines or evergreen oaks. The vegetation in the project area is dominated by facultative upland species. In this area it consists mainly of grasses. Figure 3 illustrates the undisturbed terrain at Tract 1. According to the soil survey for Jefferson County (Crout et al. 1965:Sheet 69), the project area (Tract 1) is located in Sabine loamy fine sand (SA) soils, and Tract 3 is located in Harris Clay (HS) soils (Figure 4).

Harris Clay soils consist of about 12 to 30 inches of clay underlain by 3 to 4 feet of fine sand. The parent material is clayey old alluvium and marine sediments deposited over sandy material. This is a saline soil that is very poorly drained, and it occurs in level positions 1 to 4 feet above sea level

Sabine loamy fine sand consists of about 5 feet of loamy fine sand developed from sandy marine deposits. It is a well-drained soil on slopes of dominantly less than 1 percent but as much as 2 percent. A stratification containing shell fragments is common at 40 inches or more.



Figure 3. Undisturbed Terrain at Tract 1.

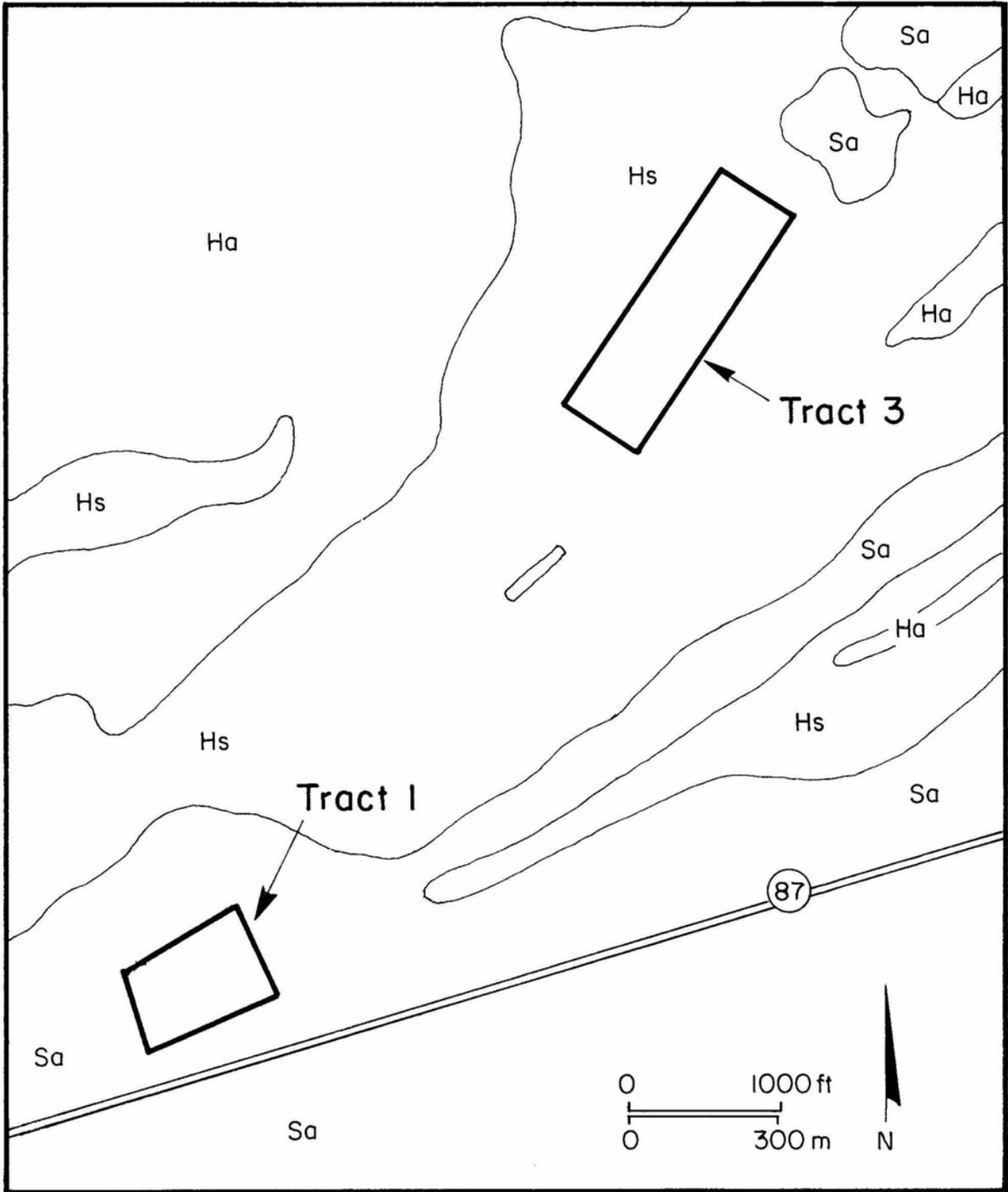


Figure 4. Project Area Soils

ARCHAEOLOGICAL BACKGROUND

General

According to a published planning document for the Eastern Planning Region of Texas (Kenmotsu and Perttula 1993:Figure 1.1.2), Jefferson County is situated within the Southeast Texas Archeological Study Region. It is in the Southeast Texas Cultural-geographical region as defined by Biesart et al. (1985:Figure 15). When the statistical overview was published by Biesart et al. in 1985, there were 1630 recorded archaeological sites in the region – 8.06% of the state. In 1985, Jefferson County had 46 known sites – 2.82% of the region and .23% of the state. Today, there are at least 80 recorded archaeological sites in the county (TARL files). In 1985, two sites were listed as Paleo-Indian, six sites were listed as Archaic, and forty-two sites were listed as Late Prehistoric. Site disturbance was common and consisted of erosion (36 sites), construction (22 sites), vandalism (8 sites), and deflated and dispersed soils (9 sites). Five sites were described as destroyed. Two sites had been excavated, four sites had been tested by hand, two sites had been tested by machine, and thirty-seven sites were reported to have been surface collected. Shell middens represented the most common type of prehistoric site (n=39), and burials were found at five sites. Major threats to sites in this area are population increase, oil and gas production, and some timber exploitation in inland areas.

Previous Investigations

The first systematic efforts at locating and recording cultural resources in Jefferson County occurred in 1940-1941 when G. E. Arnold of the University of Texas surveyed portions of Jefferson and Orange counties. This work was conducted under the auspices of the Work Projects Administration (WPA) and the University of Texas at Austin. Arnold succeeded in recording 23 sites (41JF1-41JF23) during this time. Except for a minor historic component at 41JF16, all are prehistoric sites such as camps or shell middens. At three sites (41JF10, 41JF18, 41JF20) burials have been reported. No formal report was written by Arnold and the only documentation of his work exists in TARL records and a thesis by Hyo-Jai Im (1975).

No additional sites were added to the record until the 1960s when ten prehistoric sites were recorded, primarily through the efforts of a local avocational, Charles N. Bollich, who personally recorded eight sites (41JF27-41JF34).

The Gaulding site (41JF27), selected by the Texas Archeological Society for the third annual field school, was excavated by its members in 1965. This represents the first site in Jefferson County to be formally excavated. Gaulding is a Late Prehistoric site with a deep (1.2 m) shell midden containing a flexed burial, pottery, arrow points, dart points, and faunal remains of turtle and alligator (Richmond, Richmond, and Greer 1985:Table 2, 133-134). The results of this project have yet to be published.

The only accounts of Gaulding is a paper presented to the Society by Bollich (1965), a short article authored by E. Mott Davis (1965), a review of TAS field schools (Richmond, Richmond, and Greer 1985), and TARL site records.

In addition to Gaulding, at least two prehistoric sites have been tested. Sites 41JF26 and 41JF31, pimple mound earth middens, were tested by Aten and Bollich (1981). Data from these sites have not been formally published (Aten 1983:202).

Only one historic site has been excavated in Jefferson County. Site 41JF46, the 19th Century home and trading post of John J. French was investigated by THC in 1975. No formal report has been written documenting this work, but notes are on file at the Beaumont Heritage Society.

In the vicinity of the project area, a series of fortifications dating to the Civil War (Fort Mannahasset) were recorded by Wayne Roberson for the Texas Parks and Wildlife Department in 1974. At the time of his visit, the following features were observed: two redoubts, two redans, and one lunette. This site (41JF45) covered an area of about $\frac{3}{4}$ mile along the sandy ridge. At the time of his visit, the site was being looted by local collectors.

Seventeen sites (41JF25, 41JF35-41JF50) were recorded in the 1970s while 15 (41JF51-41JF65) were recorded in the 1980s. Numerous small surveys conducted by private contractors and federal and state agencies such as the United States Corps of Engineers (COE), the Texas Archeological Salvage Project (TASP), Texas Archeological Survey (TAS), Texas Parks and Wildlife Department (TPWD), and the Texas State Department of Highways and Public Transportation (TSDHPT), have been conducted in the county. Most of these endeavors have resulted in negative findings. A comprehensive listing of work done in the county is contained in a recent bibliography published by THC (Moore 1989).

Larger surveys conducted in the county which resulted in new site recordings include an assessment of sites in the Taylors Bayou River Drainage by TASP (Aten 1972) in which one site (41JF35) was located; a cultural resources survey of the Big Hill Storage Complex Pipeline by Coastal Environments (Pearson et al. 1982) which located one site (41JF60); a survey of the Jefferson County Beach Park site by TPWD (Lorrain 1973) which resulted in six new sites (41JF37-41JF42); a study of prehistoric and historic resources along the Lower Sabine and Neches rivers by TAS (McGuff and Roberson 1974) which produced two new sites (41JF43-41JF44); and a survey of the proposed Neches River saltwater barrier and discharge canal near Beaumont by the Research Institute, Northeast Louisiana University, (Heartfield and Madden 1981) which documented five historic shipwrecks (41JF55-41JF59).

Several syntheses and overviews of Southeast Texas and the Upper Texas Coast have been written by a number of researchers. Notable among these are three works by Aten which include his unpublished Ph.D. dissertation (Aten 1979a), a report for TASP (Aten 1979b), and a scholarly book (Aten 1983). In addition, he authored an article about determining seasonality of *Rangia cuneata* from Gulf Coast shell middens (Aten 1981) and co-authored two articles with Charles N. Bollich discussing a ceramic chronology for the Sabine Lake area of Texas and Louisiana (Aten and Bollich 1969) and archeological evidence for pimple mound genesis (Aten and Bollich 1981). Other works include efforts by Patterson (1979, 1985, 1987) and Shafer (1975).

Several bibliographies relevant to the area have been published. These include a recent comprehensive work for the Southeastern Region of Texas published by the THC (Moore 1989), a bibliography of historical sites in Texas (Moore and Moore 1986), and numerous versions of a bibliography of the Upper Texas Coast by Leland W. Patterson.

At least four histories of Jefferson County have been published. They are a history from Wilderness to Reconstruction (Block 1976), the history and progress of Jefferson County (East 1961), first settlers of Jefferson County (White 1984), and a volume by Adams (1971). Other works germane to the area include WPA guidebooks to Beaumont (Federal Writers' Project n.d.) and Texas (Federal Writers' Project 1986), a cultural geography of Texas (Meining 1988), a book of family profiles (1840-1900) compiled by the History Research Department, Jefferson Carnegie Library (1981) which includes Jefferson County, and a review of Texas Indians (Newcomb 1986).

METHODS OF INVESTIGATION

Pre-Field Tasks

Prior to entering the field, the site records at TARL were checked for the presence of previously recorded archaeological sites in the project area and vicinity. Relevant archaeological reports documenting work in Jefferson County were reviewed in order to become familiar with the types of prehistoric and historic sites found in the area. Avocational archaeologist Charles N. Bollich who has considerable experience in this part of Texas was consulted regarding sites along Chenier ridges in Jefferson County. Based on the presence of a Civil War fortification in the area (41JF45), it seemed possible that additional evidence dating to this period may be present at one or more of the two tracts. Since prehistoric sites are known to occur on Chenier ridges, the project area was viewed by BVRA as a possible setting for an aboriginal site.

Field Survey

The field survey was performed by a 100% Pedestrian Survey of the two tracts. This investigation was conducted through a visual inspection of the surface, shovel testing, and use of a metal detector. All excavated earth removed as a result of shovel testing was screened through quarter-inch hardware cloth. Data obtained from shovel tests were recorded on a shovel test log (Appendix I). In all, 19 shovel tests were excavated at the two tracts. All shovel tests were backfilled after evaluation and mapping, and the location of each test was plotted on a field map (Figures 5 and 6). These figures are an enlargement of the areas depicted above in Figure 2. Photographs of the project area were taken with a digital camera.

Tract 1

The field survey of Tract 1 (Gabby's Pit) was conducted on September 30, 2006 under the supervision of James E. Warren (Project Archaeologist) with a field crew of two persons. This tract is 600 x 1000 feet in size (13.8 acres) along a Chenier Ridge approximately seven feet above the surrounding marsh. Vegetation in this area is dominated by facultative upland species. At the time of this study, removal of sand had already begun along the northern margin of the pit, and clearing had been conducted south of the active borrow pit. The area had been surveyed and staked. Nine shovel tests were excavated in the undisturbed portion – approximately one-third of the site. These tests were dug through firm clay and terminated when a "shell hash" was reached at 35 cm to 45 cm below the surface. This shell layer represents an ancient beach. The profiles created by previous sand removal were thoroughly inspected, and a map of the north wall profile was drawn in the field (Figure 7) and photographed (Figure 8). Previous disturbance at this tract is illustrated in Figure 9.

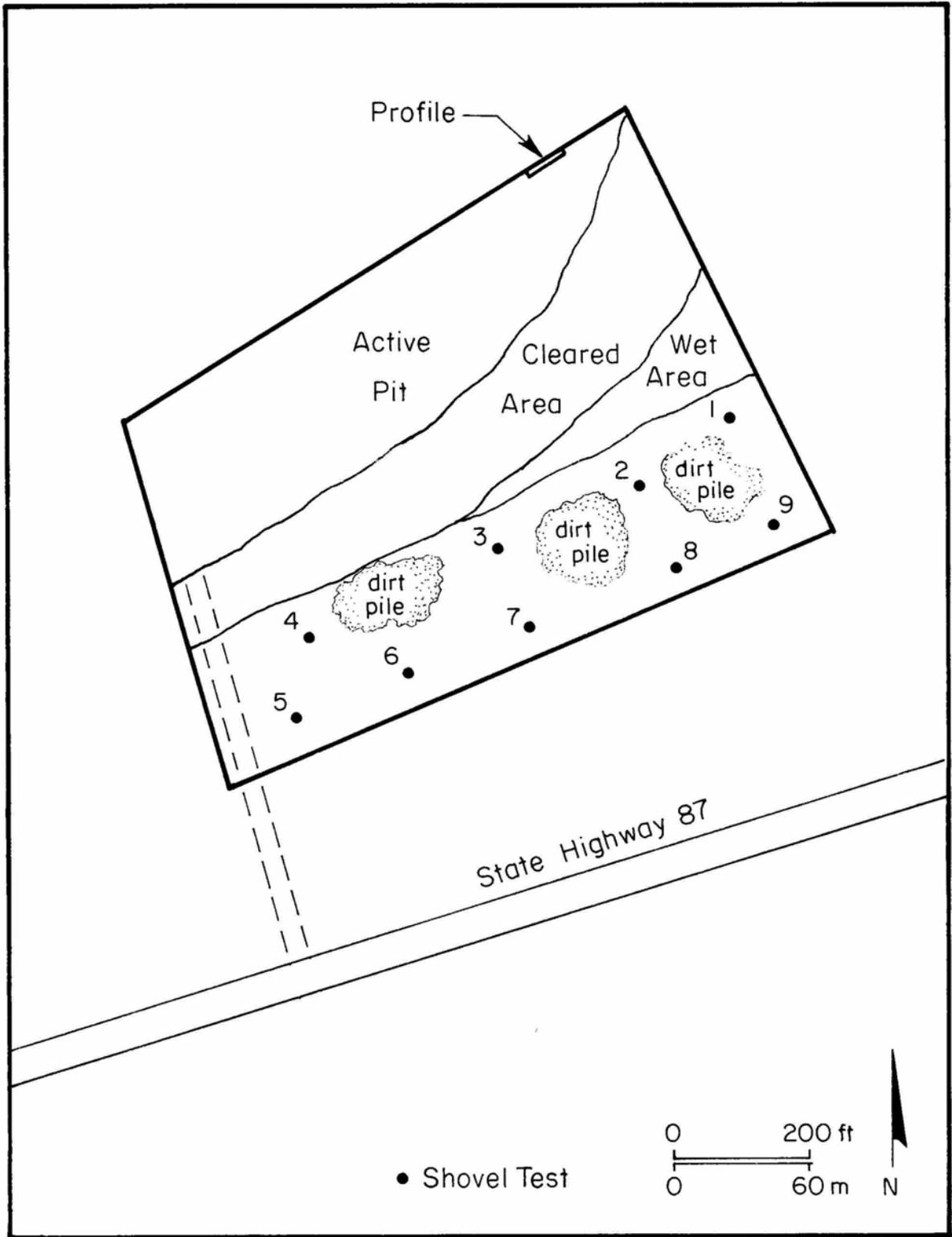


Figure 5. Location of Shovel Tests at Tract 1

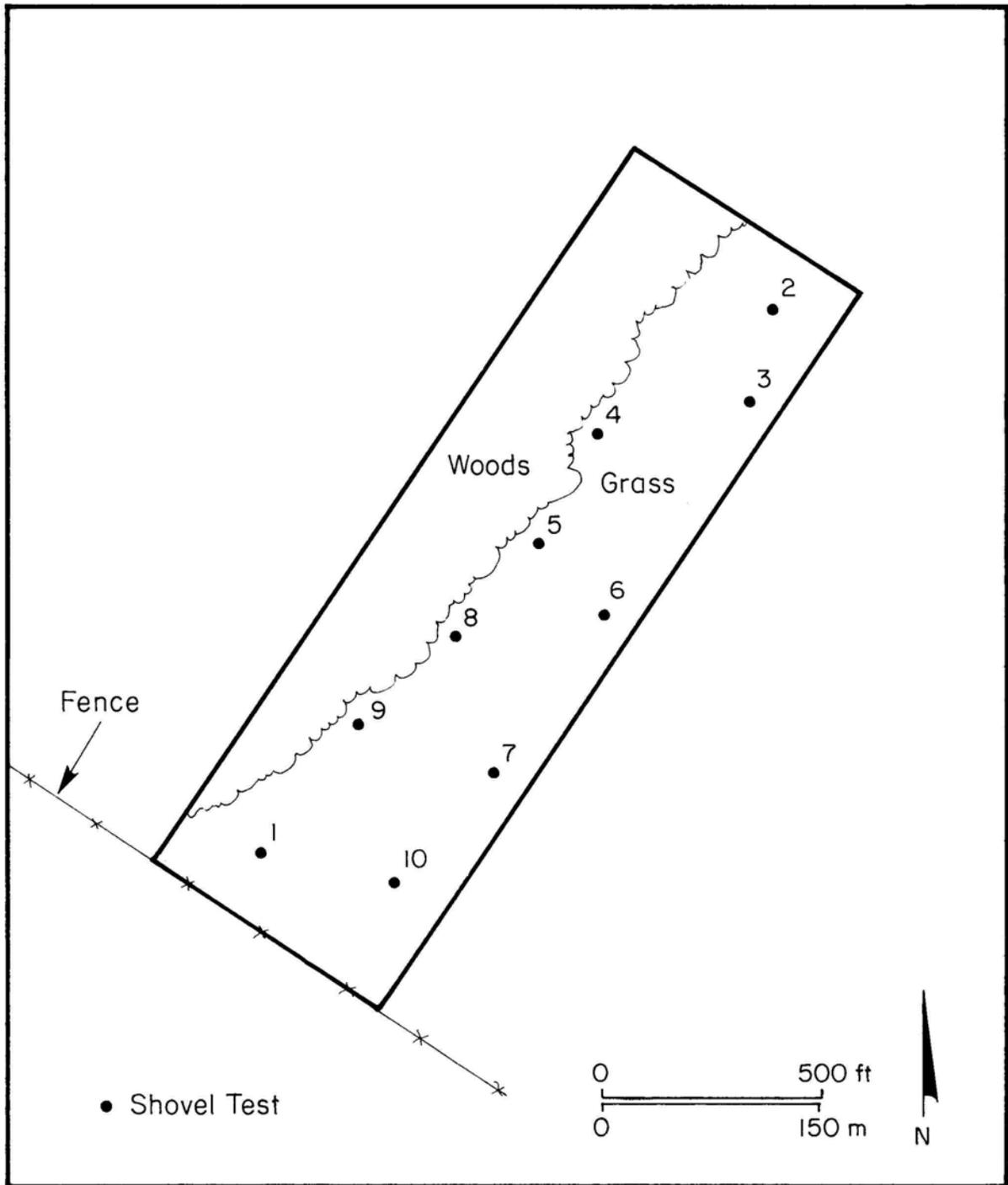


Figure 6. Location of Shovel Tests at Tract 3

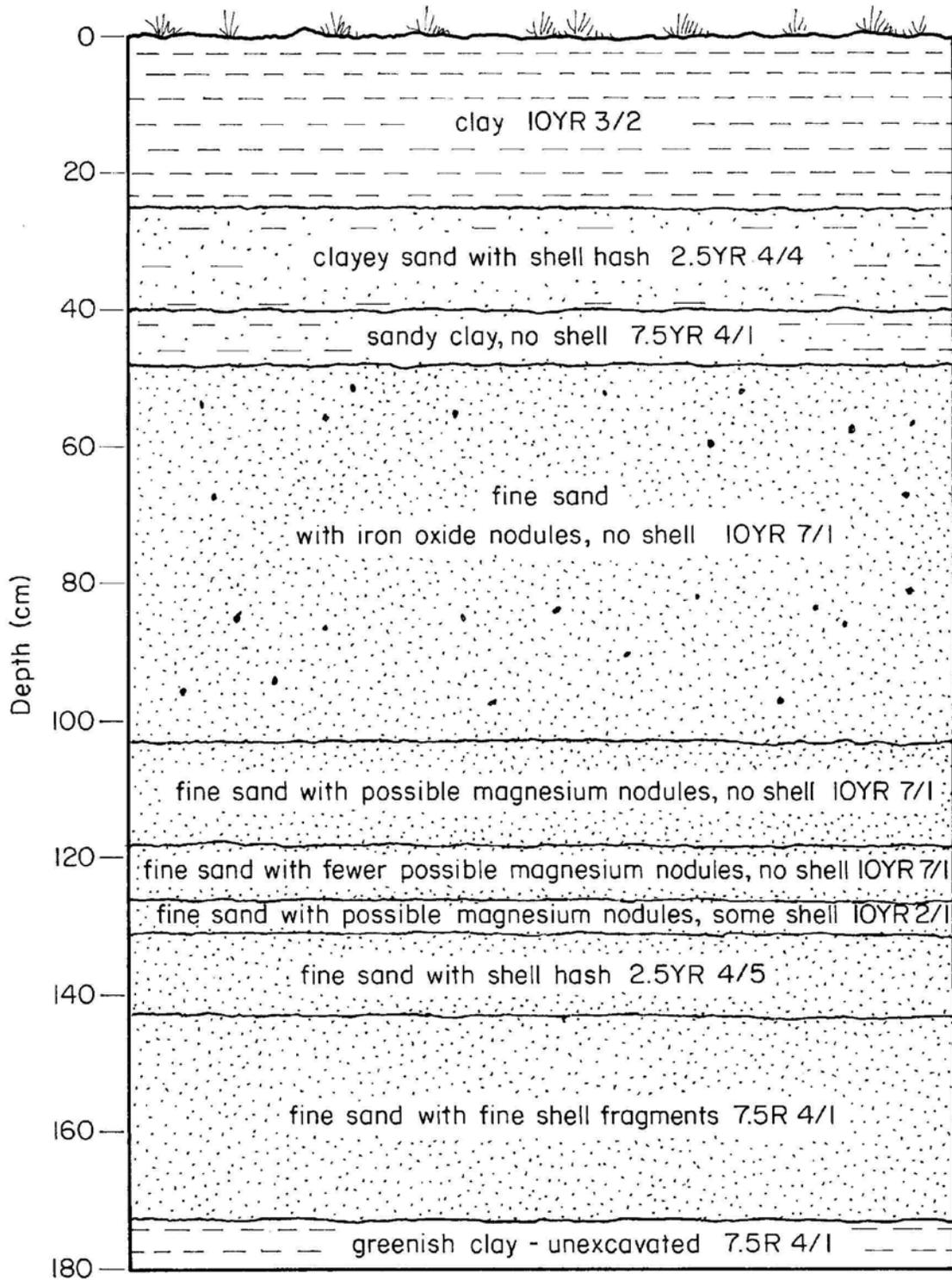


Figure 7. Profile of Disturbed Area at Tract 1



Figure 8. View of Profile at Tract 1



Figure 9. View of Previous Disturbance at Tract 1

Tract 3

The field survey of Tract 3 (Doornbos Pit) was conducted on October 14, 2006 under the supervision of James E. Warren (Project Archaeologist) with a field crew of two persons. This tract is 600 x 2000 feet in size (13.8 acres) and is located along a Chenier Ridge approximately seven feet above the surrounding marsh. Vegetation in this area is dominated by facultative upland species. At the time of this survey no sand removal had occurred. The area was mowed but not staked and flagged. Ten shovel tests were excavated. These tests were dug through firm clay and clay before encountering a lens of shell hash between 80 cm and 90 cm below the surface. Shovel tests 1 and 2 were dug at either end of the tract to confirm the continuity of a shell hash along this portion of the ridge. These tests were profiled in the field. Because no evidence of a prehistoric site beneath the shell hash was observed in the profile at Tract 1 and Tract 3 appears to be in a similar topographic setting, use of a backhoe to evaluate beneath the shell hash was not considered necessary. It is not likely that an intact site would be present on a beach. The profiles of shovel tests 1 and 2 are illustrated in Figure 10.

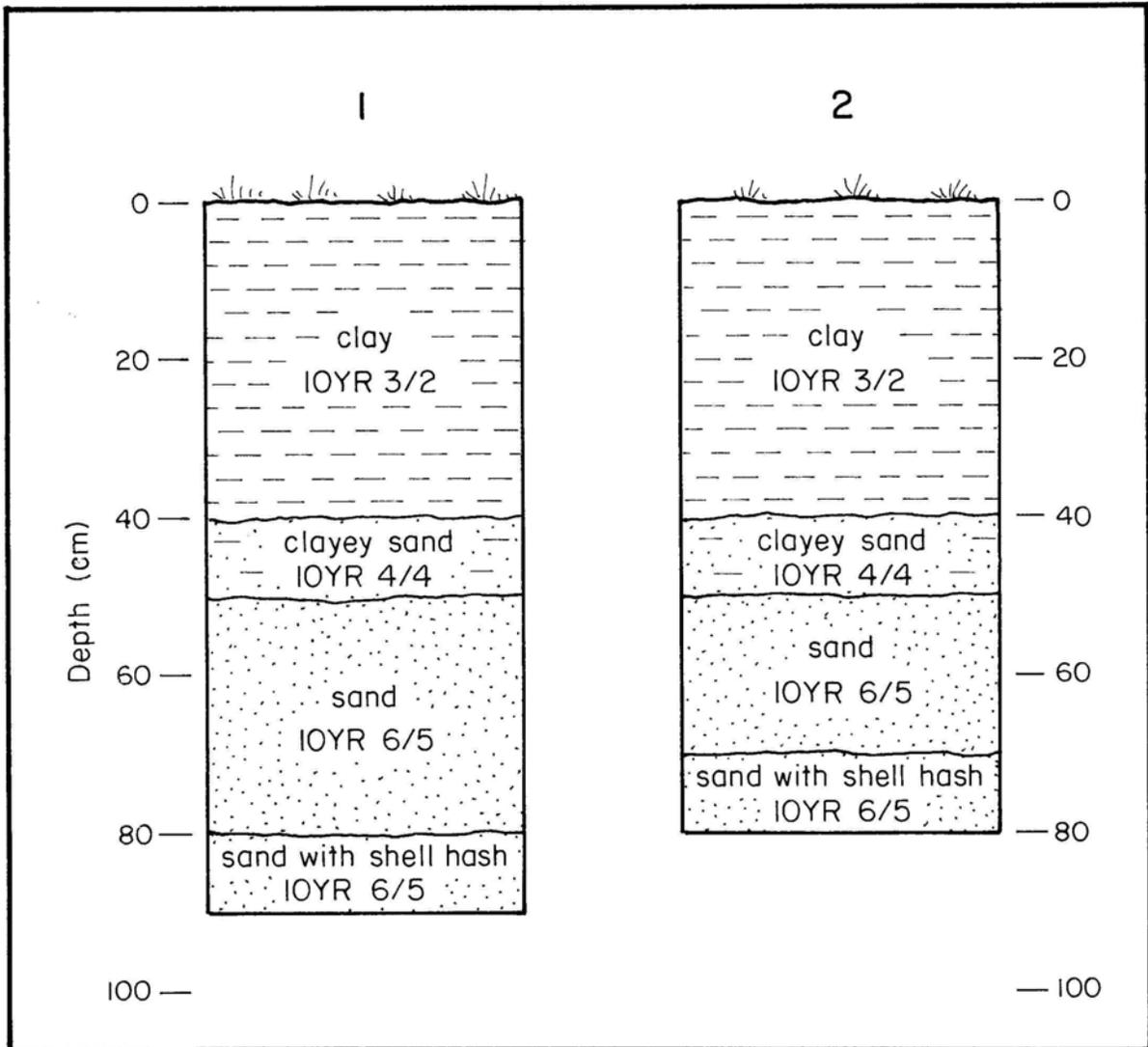


Figure 10. Profiles of Shovel Tests 1 and 2 at Tract 3

RESULTS AND CONCLUSIONS

Examination of the files at TARL in Austin, Texas revealed no archaeological sites have been recorded in the project area. According to Charles N. Bollich, a prehistoric site is present on a Chenier Ridge approximately two miles west of the town of Sabine Pass. Mr. Bollich obtained this information from a local collector, but he has not been able to confirm its exact location. Based on this personal communication and the known use of this ridge in early historic times, the tracts to be investigated were considered by BVRA to be high probability areas for a prehistoric or historic site. According to the site records at TARL, one historic site (41JF45), fortifications dating to the Civil War, was found to be present to the west of the project area and on the same ridge. Based on this information, BVRA considered the tracts to be investigated high probability areas for the presence of a historic site, possibly dating to the Civil War period or earlier. Site 41JF45 was originally recorded by Wayne Roberson in 1974 following testing in 1972 and 1973

No evidence of a prehistoric site was found during the surface inspection, shovel testing, or examination of exposed bank profiles created by sand removal at Tract 1. The exposed profile (Figures 6 and 7) revealed 25 cm of very firm clay mixed with broken shell to be the first stratum overlying the sand being borrowed for construction purposes. BVRA believes the shell hash in this stratum represents an ancient beach. It is unlikely that there would be an intact site on the beach due to the constant wave action that would have been present. Such sites are probably further inland where the soil was deeper and more stable. The shell hash is deeper (80-90 cm) at Tract 3, but no cultural materials or features were observed in the sandy beach soil between the clay and the shell. Since no evidence of a prehistoric site was found in the deep sand at Tract 1, excavation with a backhoe was not considered necessary at Tract 3.

RECOMMENDATIONS

BVRA conducted an archaeological survey of two borrow pit areas along a Chenier Ridge overlooking a marshy area adjacent to the Gulf of Mexico. No prehistoric sites were found, and no evidence of historic utilization of the project area was observed at either tract. Should evidence of an archaeological site be encountered during sand removal, it is recommended that construction stop until the situation can be evaluated by a professional archaeologist. It is also recommended that any additional borrow areas be examined prior to sand removal.

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Appendix I. Shovel Test Log*

Shovel Test	Depth (cm)	Profile	
Tract 1			
1	40	0-25 cm 25-35 cm 35-40 cm	10YR 4/1 clay (no shell) 10YR 6/4 loamy clay (no shell) shell hash
2	45	0-30 cm 30-40 cm 40-45 cm	10YR 4/1 clay (no shell) 10YR 6/4 loamy clay (no shell) shell hash
3	45	0-30 cm 30-40 cm 40-45 cm	10YR 4/1 clay (no shell) 10YR 6/4 loamy clay (no shell) shell hash
4	45	0-25 cm 25-40 cm 40-45 cm	10YR 4/1 clay (no shell) 10YR 6/4 loamy clay (no shell) shell hash
5	50	0-30 cm 30-45 cm 45-50 cm	10YR 4/1 clay (no shell) 10YR 6/4 loamy clay (no shell) shell hash
6	50	0-30 cm 30-45 cm 45-50 cm	10YR 4/1 clay (no shell) 10YR 6/4 loamy clay (no shell) shell hash
7	45	0-25 cm 25-40 cm 40-45 cm	10YR 4/1 clay (no shell) 10YR 6/4 loamy clay (no shell) shell hash
8	45	0-25 cm 25-40 cm 40-45 cm	10YR 4/1 clay (no shell) 10YR 6/4 loamy clay (no shell) shell hash
9	50	0-30 cm 30-45 cm 45-50 cm	10YR 4/1 clay (no shell) 10YR 6/4 loamy clay (no shell) shell hash
Tract 3			
1	90	0-40 cm 40-50 cm 50-80 cm 80-90 cm	10YR 3/2 clay (no shell) 10YR 4/4 clayey sand (no shell) 10YR 6/5 sand (no shell) 10YR 6/5 sand with shell hash
2	80	0-40 cm 40-50 cm 50-70 cm 80-90 cm	10YR 3/2 clay (no shell) 10YR 4/4 clayey sand (no shell) 10YR 6/5 sand (no shell) 10YR 6/5 sand with shell hash

Shovel Test	Depth (cm)	Profile	
3	60	0-40 cm 40-50 cm 50-60 cm	10YR 3/2 clay (no shell) 10YR 4/4 clayey sand (no shell) 10YR 6/5 sand (no shell)
4	60	0-40 cm 40-50 cm 50-60 cm	10YR 3/2 clay (no shell) 10YR 4/4 clayey sand (no shell) 10YR 6/5 sand (no shell)
5	50	0-30 cm 30-40 cm 40-50 cm	10YR 3/2 clay (no shell) 10YR 4/4 clayey sand (no shell) 10YR 6/5 sand (no shell)
6	60	0-40 cm 40-50 cm 50-60 cm	10YR 3/2 clay (no shell) 10YR 4/4 clayey sand (no shell) 10YR 6/5 sand (no shell)
7	50	0-30 cm 30-40 cm 40-50 cm	10YR 3/2 clay (no shell) 10YR 4/4 clayey sand (no shell) 10YR 6/5 sand (no shell)
8	50	0-30 cm 30-40 cm 40-50 cm	10YR 3/2 clay (no shell) 10YR 4/4 clayey sand (no shell) 10YR 6/5 sand (no shell)
9	50	0-30 cm 30-40 cm 40-50 cm	10YR 3/2 clay (no shell) 10YR 4/4 clayey sand (no shell) 10YR 6/5 sand (no shell)
10	60	0-40 cm 40-50 cm 50-60 cm	10YR 3/2 clay (no shell) 10YR 4/4 clayey sand (no shell) 10YR 6/5 sand (no shell)

*All tests were negative

APPENDIX II

E-MAIL FROM WAYNE R. ROBERSON TO WILLIAM E. MOORE

REGARDING FORT MANAHASSET

DATED OCTOBER 4, 2006*

A good background piece is the Texas Parks and Wildlife Department (TPWD) Archeological Report Number 8, Sabine Pass Battleground State Historic Park by Terri Holzapple and Wayne Roberson (Antiquities Permit 21). Holzapple did the compilation and layout and other tasks. David Ing did a major part of the editing. I signed the Antiquities Permit, did the historic research, and used old maps to triangulate possible locations of the original Confederate fort.

Dessamae Lorraine and a field crew performed testing in 1972. Then, David Ing and I tested in 1973. Finally, a small crew and I (cited in the Acknowledgments) tested again in 1974. Our 1974 tests were in the traditional place where the fort was said to be. Following our testing, I was convinced that the true site (or what is left of it) is beneath the United States Coast Guard station – and this is reflected in the conclusions that I wrote. The Spanish colonizers and their Catholic Corps capped every known native religious site with a church or destroyed the site if they could. The United States Army and their Corps of Engineers did virtually the same with things Native American or Confederate, and they probably wiped out most of Fort Sabine. In the report (pp. 33 and 35) are figures of period maps of Sabine Pass and the Fort Sabine redoubts and associated earthworks. At the very bottom of those maps (maybe 7 miles to the southwest) is a similar array of redoubts: Fort Manhasset.

At the beginning of my short tenure at TPWD (1973-1976) as head of the Archeology Section, there was an on-going project to ascertain and decide the priority of lands and other properties to be purchased for parks and prehistoric and historic sites over the following several years. That was when money for buying parks came from State cigarette taxes, and there was plenty of it. I argued unsuccessfully with the agency's historian that Fort Manhasset was a major historic site, and that it should be on the list of properties for purchase. It was, I argued (based on my brief research), the only remaining site that still held undisturbed and undetonated Confederate ordinance.

I believe this is still true because the remains of the fort were on private property, and this may still be the case. The State Archeologist (Curtis Tunnell) visited the site following a phone call that someone was excavating one of the redoubts with a backhoe. Curtis drove there immediately, and his boss (Truett Lattimer – Director of the Texas State Historical Survey Commission (later to become the Texas State Historical Commission) arrived later.

Curtis tried to persuade the man from digging into the site with a backhoe and destroying the site. The digger claimed to be the landowner. The digger chided Curtis saying he was just trying to get the site for himself. When the digger's backhoe bucket exposed some unexploded ordinance, Curtis persuaded the digger to witness a demonstration of the potential danger to the digger and his backhoe. Curtis carried one of the cannonballs a short distance away and cut a hole in the bomb's lead plug. Then he removed some crystalline granules and ignited them. The powder (100 years old!) ignited with an impressive loud burst of flame and smoke. The landowner climbed onto his backhoe and drove away.

* This e-mail has been retyped and paraphrases from the original to better fit the style of this report.