

**ARCHAEOLOGICAL SURVEY FOR TWO PIPELINE CROSSINGS  
AT VENADO CREEK, JACKSON COUNTY, TEXAS**

**Herbert G. Uecker**

**Center for Archaeological Research  
The University of Texas at San Antonio®  
Archaeological Survey Report, No. 209**

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## **ABSTRACT**

The Center for Archaeological Research at The University of Texas at San Antonio, investigated the cultural resource potential of two proposed pipeline crossings along Venado Creek in Jackson County, Texas, for Mobil Exploration & Producing U. S. Inc. Surface surveys and shovel tests were performed at both crossings during the investigation. No cultural materials were encountered within the proposed impact zones, which were observed to have been substantially disturbed in recent decades by natural and artificial activities. Thus, no further archaeological work is recommended prior to or during the pending construction.

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## ACKNOWLEDGMENTS

Center for Archaeological Research staff archaeologist Clinton M. M. McKenzie performed very diligently as coinvestigator during the field work stage of the project. John T. Jakubik of John T. Jakubik, Inc., coordinated access to the Mobil property on a timely basis. Mobil West Ranch -A- Lease staff members Ed Goad, Mike Damborsky, Mark Huff, and Donna Herchman were very cordial and provided copies of maps and other information that expedited both the field work and report preparation. Mike Damborsky acted as on-site guide to the location for the pipeline crossings at Venado Creek as well.





## INTRODUCTION

In mid-September 1991, Mobil Exploration & Producing U. S. Inc., contracted through the firm of John T. Jakubik & Associates, Inc., of Stafford, Texas, with the Center for Archaeological Research (CAR), The University of Texas at San Antonio (UTSA) to assess the potential impact on cultural resources in the event of the construction of two pipelines crossing Venado Creek. The requirement for the assessment was concomitant to Mobil's application (199100124) to the United States Army Corps of Engineers, Galveston District Office, to construct the crossings. The proposed crossings are located along Venado Creek on the Mobil West Ranch -A- lease near Vanderbilt, Jackson County, Texas (Fig. 1).

The CAR-UTSA work included a search of the libraries and files of the CAR-UTSA and the University of Texas at Austin's Texas Archeological Research Laboratory (UT-TARL), and also an examination of recent archaeological literature for information relevant to the area. The search was performed by CAR-UTSA staff archaeologist and project field director Herbert G. Uecker on September 10, 1991. The background investigation was followed by on-site surface examinations and shovel tests. The field work was done on September 11 and 12, 1991, by Uecker and Clinton M. M. McKenzie, also of the CAR-UTSA staff.

Jack D. Eaton, CAR acting director, was general supervisor and principal investigator for the project. John T. Jakubik of John T. Jakubik and Associates, Inc., arranged access to the Mobil West Ranch -A- lease, and several of the on-site Mobil staff (Ed Goad, Mike Damborsky, Mark Huff, and Donna Herchman) accommodated the project-related needs of the CAR-UTSA field team. The Council of Texas Archeologist's Guidelines (n.d.), as adopted by the Texas Historical Commission's State Historic Preservation Office, served as a general model for all work on the project, including the conceptual/methodological framework used and the format and content of this report.

## BACKGROUND SEARCH RESULTS

The proposed pipeline crossings are located (Fig. 1) within the Central Texas Coast or Coastal Bend subarea of the South Texas Culture area as defined by Shafer and Bond (1983:271-273) and by Black (1989:39). The culture history of these areas spans a period of some 11,000+ years and has been

investigated systematically by archaeologists for several decades (cf. Table 1: "Contract Archaeological Surveys"). Thus, the accumulated archaeological and historical literature is voluminous. Virtually thousands of archaeological sites have been documented along the Texas coast, and there are many excellent accounts on nearly every archaeologically related subject for the area. It is far beyond the scope and budget limitations of this report to adequately summarize these extensive writings; however, many are listed and cross-indexed by subject in Table 1, and the interested reader is referred directly to the works shown there for further information. Also, up-to-date syntheses of the cultural evolution and archaeology of the Central Texas Coast and the South Texas Plains are located in Shafer and Bond (1983) and in Black (1989:39-62), respectively.

At the time of the subject investigations, 186 archaeological sites were on file with the UT-TARL from Jackson County. The following information on sites for the Jackson County area is based upon an examination of site forms on file at the UT-TARL and also upon summaries in the archaeological literature (cf. references in Table 1: "Sites").

Prehistoric Indian sites in Jackson County as well as in adjoining Calhoun and Victoria Counties consist mainly of numerous small-scale, single component, open camps along drainages or coastal bay margins. Also a few midden (refuse heap) sites have been reported on the offshore islands in the area. These were either living or special-use sites for small nomadic bands of hunting-gathering-foraging Indians who exploited seasonally available plant and animal resources in both inland and marine environments. They typically contain relatively shallow (< 50 cm thick) accumulations of occupation and subsistence debris, including scatterings of marine shells (both shell tools or tool fragments and shellfish processing and consumption trash); land snail shells; stone tools, stone tool fragments, and flakes and chips from tool manufacture and use; bones of deer, bison, fish, and other small game; and hearth debris (burned, thermally fused, or ash-stained sand and clay, occasional burned stones, charcoal, ash, burned bone, and shell). The most recent (Late Prehistoric period) assemblages also contain bone and shell-tempered ceramics. There are virtually no natural outcroppings of raw materials suitable for the manufacture of stone tools located within the Texas Coastal Bend region (Shafer and Bond 1983:280), and thus there are no known quarry sites there. Since topographic relief is minimal, there are

This page has been redacted because it contains restricted information.

TABLE 1. SELECTED ARCHAEOLOGICAL AND HISTORICAL REFERENCES FOR THE MOBIL/VENADO CREEK PROJECT AREA

Area and/or Subject	Reference	Primary and/or Relevant Subject
Archaeological Background	Mallouf, Fox, and Briggs 1973:31-38, 142-143 Uecker and Kelly 1979:7-8 Texas Archeological Survey 1981:74 Shafer and Bond 1983:274-277 Black 1989:40-44	Palmetto Bend Reservoir area/Calhoun, Jackson, and Victoria Counties Calhoun County Texas coast South Texas Plains South Texas Plains
Archaic Period/Stage Related Topics	Hester 1976a:83-90 Corbin 1976:91-97 Shafer and Bond 1983:277-279 Black 1989:49-51	South Texas Archaic Coastal Bend Archaic Central Texas coast South Texas Plains
Artifacts (historic)	Mallouf, Fox, and Briggs 1973:142-194 Mitchell and Highley 1982	Palmetto Bend Reservoir/Jackson County Historic Indian/metal arrow point/Victoria County
Artifacts (prehistoric)		
Ceramics	Campbell 1962; Story 1968; Shafer and Bond 1983:281	
Lithics	Mallouf, Fox, and Briggs 1973:56-93 Mallouf, Fox, and Briggs 1973:101-128 Turner and Hester 1985; Black 1989:60	Surface finds/Palmetto Bend Reservoir/Jackson County Excavated finds/Palmetto Bend Reservoir/Jackson County South Texas
Shell	Mallouf, Fox, and Briggs 1973:98-101, 136 Mallouf, Fox, and Briggs 1973:101-128, 136 Janota 1980 Steele and Mokry 1985; Steele 1987; Carlson 1988	Surface finds/Palmetto Bend Reservoir/Jackson County Excavated finds/Palmetto Bend Reservoir/Jackson County Ornaments/Galveston Bay to Nueces River
Other	Mallouf, Fox, and Briggs 1973:93-98, 136 Mallouf, Fox, and Briggs 1973:101-128, 136 Shafer and Bond 1983:279-282	Surface finds/Palmetto Bend Reservoir/Jackson County Excavated finds/Palmetto Bend Reservoir/Jackson County General inventory/Central Texas coast
Bibliographies	Bailey, Simons, and Mercado-Allinger 1987	Archaeology/Texas Southern Coastal Corridor region
Burials and Cemeteries (prehistoric)	Wingate and Hester 1972 Campbell 1976 Hall 1981 Shafer and Bond 1983:277-278 Huebner 1988	Green Lake area Archaic/Morhiss site/Victoria County Brazos River valley Central Texas coast Victoria County

Table 1. (*continued*)

Area and/or Subject	Reference	Primary and/or Relevant Subject
Burials and Cemeteries (prehistoric)	Black 1989:46 Birmingham and Huebner 1991 Taylor and Highley n.d.	South Texas Plains Grave goods; Victoria County South Texas
Coastal Bend Archaeology		
General	Shafer and Bond 1983 Black 1989:62	Research topics Research topics
Specific Periods	Campbell 1960:145-171; Campbell 1976 Corbin 1976:91-97 Black 1989:49-51 Black 1989:57	Archaic/Morhiss site/Victoria County Archaic Archaic Late Prehistoric
Miscellaneous	Arnold 1982	magnetometer survey/Matagorda Bay
Contract Archaeological Surveys		
	Wakefield 1968 Fritz 1972 Mallouf, Fox, and Briggs 1973 Dillehay <i>et. al</i> 1975 Fritz 1975 Texas State Department of Highways and Public Transportation 1975 Crosby 1977 Jackson 1977 McGuff 1978 McGuff and Fawcett 1978 D. E. Fox 1979 A. A. Fox 1979 Uecker and Kelly 1979 Carlson 1982 Texas State Department of Highways and Public Transportation 1984 United States Army Corps of Engineers 1984, 1985a, 1985b Celmer 1985 Good and Stokes 1985 Mallouf 1985 Skinner 1985 Mallouf and Mercado-Allinger 1986 Corbin 1988 Moore, Murray, and Martin 1988	Palmetto Bend Reservoir/Jackson County Cox Bay/Calhoun County Palmetto Bend Reservoir/Jackson County South Texas Project Transmission Network Matagorda Bay  Matagorda Bay area Palmetto Bend Reservoir historic archaeology/Jackson County 19th-century urban/Jackson County Palmetto Bend Reservoir/Jackson County Palmetto Bend Reservoir/Jackson County Coleta Creek/Goliad County Victoria/Victoria County Point Comfort area/Calhoun County Tejano Farms/Jackson County  Lavaca River/Edna areas Lavaca River/Jackson County Carancahua Bay/Jackson County Jackson County Garcitas Ranch/Jackson County Lake Texana State Park Garcitas Ranch/Jackson County Port Lavaca/Calhoun County Abstracts

Table 1. (continued)

Area and/or Subject	Reference	Primary and/or Relevant Subject
Culture Histories and Chronologies	Corbin 1974 Uecker and Kelly 1979:5-7 Hall, Black, and Graves 1982 Shafer and Bond 1983:277-282; Black 1989:48-58	South Texas coast Calhoun County/Point Comfort area South Texas South Texas Plains
Ecology/Land Use		
Animal	Mallouf, Fox, and Briggs 1973:16-20	Modern/Palmetto Bend Reservoir/Jackson County
Human		
General	Mallouf, Fox, and Briggs 1973:14-16 Dering and Ayers 1977 Steele and Mokry 1985	Modern/Palmetto Bend Reservoir area/Jackson County) Economic archeology/Texas coast Corpus Christi Bay
Marine Adaptations	Hester 1976b:8-9 Black 1989:39	Lower Texas coast Prehistoric/South Texas
Savannah or Inland Adaptations	Hester 1976b:5-8 Black 1989:39	Lower Texas coast Prehistoric/South Texas
Environment		
Climatology	Mallouf, Fox, and Briggs 1973:6-7, 14 Robinson 1979a Shafer and Bond 1983:271	Modern/Palmetto Bend Reservoir/Jackson County Biosilica analysis/Goliad County Modern/Texas Coastal Bend
Fauna	Mallouf, Fox, and Briggs 1973:20-23 Fritz 1975:23 Hester 1976b:2-3, 7 Rawn 1977 McGuff and Fawcett 1978:28-56	Modern and endangered/Palmetto Bend Reservoir/Jackson County Shellfish species Rio Grande Plain Palmetto Bend Reservoir/Jackson County Palmetto Bend Reservoir/Jackson County
Flora	Inglis 1964 Mallouf, Fox, and Briggs 1973:23 Fritz 1975:28-34 Hester 1976b:2-3 McGuff and Fawcett 1978:22, 27-44 Robinson 1979a Robinson 1979b Shafer and Bond 1983:272, 274	Vegetation/Rio Grande Plain Modern/Palmetto Bend Reservoir/Jackson County Matagorda Bay area Rio Grande Plain Botanical sampling/Palmetto Bend Reservoir/Jackson County Biosilica analysis/Goliad County Biosilica/Coastal Plain of Texas Central Texas coast

Table 1. (continued)

Area and/or Subject	Reference	Primary and/or Relevant Subject
General	Mallouf, Fox, and Briggs 1973:7-12 Hester 1976b:1-3 Shafer and Bond 1983:271-274 Black 1989:59 Nunley 1989:186-187	Paleoenvironment of Palmetto Bend Reservoir/ Jackson County and Texas coast Rio Grande Plain Central Texas coast South Texas Plains Paleoenvironment/Texas coast
Geology	Mallouf, Fox, and Briggs 1973:7 Fritz 1975:22-23 Shafer and Bond 1983:272-273	Palmetto Bend Reservoir/Jackson County Matagorda Bay area Central Texas coast
Geomorphology	Curray 1960 Shepard and Moore 1960 Bernard <i>et. al.</i> 1970 Mallouf, Fox, and Briggs 1973:7-12 Frazier 1974 Fritz 1975:22-27 McGowan and Brewton 1975 Texas Archeological Survey 1981:6-10 Shafer and Bond 1983:272-273	Holocene continental shelf/northwest Gulf of Mexico Recent/bays of central Texas coast Recent sediments/southeast Texas Paleo and modern/Palmetto Bend Reservoir and Texas coast Quaternary stratigraphy/northeastern Gulf basin Matagorda Bay area Recent/Matagorda Bay area Paleo and modern/Palmetto Bend Reservoir and Texas coast Central Texas coast
Pedology	Bernard <i>et. al.</i> 1970 Mallouf, Fox, and Briggs 1973:7-12 Texas Archeological Survey 1981:6-10 Shafer and Bond 1983:272-273	Recent sediments/southeast Texas Palmetto Bend Reservoir and Texas coast Paleo and modern/Palmetto Bend Reservoir and Texas coast Central Texas coast
Physiography	Mallouf, Fox, and Briggs 1973:6 Shafer and Bond 1983:271-273	Palmetto Bend Reservoir/Jackson County Central Texas coast
Ethnography/Ethnohistory/Ethnoarchaeology	Gilmore 1973 Mallouf, Fox, and Briggs 1973:24-30 Campbell and Campbell 1981 Texas Archeological Survey 1981:74-75 Mitchell and Highley 1982 Wulfkuhle 1982 Aten 1983 Hodge and Lewis 1984	Fort St. Louis/Jackson County 16th-19th centuries/Palmetto Bend Reservoir/Jackson County and Coastal Bend area Historic Indians/Choke Canyon Reservoir Karankawa/Texas coast Historic Indian/metal arrow point/Victoria County Archaeology of Jumano Indians Indians/upper Texas coast Journals/early Spanish explorers
Historic Archaeology and Related Topics	Gilmore 1973 Mallouf, Fox, and Briggs 1973:142-194	Fort St. Louis/Jackson County Palmetto Bend Reservoir/Jackson County

Table 1. (continued)

Area and/or Subject	Reference	Primary and/or Relevant Subject
Historic Archaeology and Related Topics	Crosby 1977 Mitchell and Highley 1982 Fox 1983:66-70 Ricklis 1990	Palmetto Bend Reservoir/Jackson County Historic Indian/metal arrow point/Victoria County Fort St. Louis/Jackson County Central Texas coast
Jackson County Archaeology (general)	Wakefield 1968 Gilmore 1973 Mallouf, Fox, and Briggs 1973 Fritz 1975 Texas State Department of Highways and Public Transportation 1975 Crosby 1977 Jackson 1977; McGuff 1978 McGuff and Fawcett 1978 Texas Archeological Survey 1981 Carlson 1982 Texas State Department of Highways and Public Transportation 1984 United States Army Corps of Engineers 1984 Celmer 1985 Good and Stokes 1985; Mallouf 1985 Mallouf and Mercado-Allinger 1986 Birmingham, Schmiedlin, and Hester 1976 Button 1984, n.d.	Palmetto Bend Reservoir Fort St. Louis Palmetto Bend Reservoir Matagorda Bay  Matagorda Bay area Palmetto Bend Reservoir Palmetto Bend Reservoir Palmetto Bend Reservoir Palmetto Bend Reservoir Tejano Farms  Lavaca River/Edna areas Lavaca River Carancahua Bay Garcitas Ranch Garcitas Ranch Wells site Little mound
Jackson County Archaeology (historic)	Gilmore 1973 Crosby 1977 Jackson 1977 Freeman and Fawcett 1980 Fox 1983:66-70	Fort St. Louis/Jackson County Palmetto Bend Reservoir 19th-century urban/Jackson County Antebellum period/Palmetto Bend Reservoir Fort St. Louis
Karankawa Indians	Mayhall 1939; Newcomb 1960:59-81; Landar 1968; Hester 1980:48-51; Texas Archeological Survey 1981:74-75 Aten 1983; Salinas 1990:72; Ricklis 1990	Temperament/cannibalism/ Texas coast
Late Prehistoric Period/Stage-Related Topics	Hester 1976b:4-5 Shafer and Bond 1983:278-279 Black 1989:51-57	Rio Grande Plain Central Texas coast South Texas Plains

Table 1. (continued)

Area and/or Subject	Reference	Primary and/or Relevant Subject
<b>Lithic Technology</b>		
General	Hester and Shafer 1969; Mallouf, Fox, and Briggs 1973:128-135 Shafer and Bond 1983:280-281	Palmetto Bend Reservoir/Jackson County Central Texas coast
Sources/Quarries/Materials	Mallouf, Fox, and Briggs 1973:130-131 Shafer and Bond 1983:280-281	Palmetto Bend Reservoir/Jackson County Central Texas coast
Paleo-Indian Period/Stage-Related Topics	Hester 1976b:4 Birmingham 1980 Hester 1980 McReynolds 1981, 1983 Shafer and Bond 1983:277 Black 1989:48-49	Rio Grande Plain Victoria and DeWitt Counties Texas coast Coletto Creek/Victoria County Central Texas coast South Texas Plains
Palynology	Bryant 1978 Texas Archeological Survey 1981:5	Pollen analysis from Palmetto Bend Reservoir/Jackson County sites Palmetto Bend Reservoir/Jackson County
<b>Sites</b>		
Descriptions/Locations	Fritz 1975:35-66; McGuff and Fawcett 1978:2, 7-24 Hester 1980:4-5 Shafer and Bond 1983:279-282 Nunley 1989:182-208	Palmetto Bend Reservoir/Jackson County South Texas Central Texas coast South Texas
Distribution/Typologies	Mallouf, Fox, and Briggs 1973:38-56  Hester 1976b:6-7 McGuff and Fawcett 1978:7-24 Hester 1980:7 Shafer and Bond 1983:279-282 Black 1989:44-48, 60-61	Criteria for designation and evaluation/Palmetto Bend Reservoir/ Jackson County Rio Grande Plain Palmetto Bend Reservoir/Jackson County South Texas Central Texas coast South Texas
Preservation/Destruction	Mallouf, Fox, and Briggs 1973:38-56  Mallouf, Fox, and Briggs 1973:195  McGuff and Fawcett 1978:22-24 Shafer and Bond 1983:227; Black 1989:62	Criteria for designation and evaluation/Palmetto Bend Reservoir/ Jackson County General degree of preservation/Palmetto Bend Reservoir/ Jackson County Palmetto Bend Reservoir/Jackson County Coastal Bend



Table 1. (continued)

Area and/or Subject	Reference	Primary and/or Relevant Subject
South Texas Archaeology (general summaries)	Hester 1976a, 1976b Shafer and Bond 1983 Black 1989:39-62	Rio Grande Plain/Lower Texas coast Central Texas coast South Texas Plains
South Texas Archaeology (specific periods)	Hester 1976a:83-90	Archaic
Theoretical Overviews/Research Goals/Area Syntheses	Kelley 1955 Aten 1983 Hester 1980 Texas Archeological Survey 1981:1-4, 74-82 Shafer and Bond 1983 Black 1989:57-62	Diffusion in aboriginal Texas Texas coast Texas coast Palmetto Bend Reservoir/Jackson County Central Texas coast Research topics/South Texas Plains

virtually no cave, rockshelter, or bluff sites. Although ethnographic accounts of early Spanish explorers who passed through the region indicate that crude huts of saplings and grasses were in use by the local Indians, archaeological evidence for the existence of artificial shelters of prehistoric age in the area is rare and/or questionable.

There are far fewer larger scale prehistoric sites in the area that represent either areas used intermittently over periods of hundreds or even thousands of years by small groups, or areas used over shorter terms by larger numbers of Indians. These larger sites sometimes contain human burials, and there are also distinct human burial and cemetery sites in the Texas coastal region as well. The larger sites are often multicomponent in composition, i.e., they contain artifacts and features that date to more than one of the three prehistoric cultural periods/stages that have been distinguished for the area (for definitions and characteristics of cultural periods and stages for the Texas Coastal Bend area, see references in Table 1 under "Culture Histories and Chronologies").

There are also numerous historic sites in the Texas Coastal Bend region. Known nonurban historic sites consist mostly of 19th-century and early 20th-century residential structures, associated outbuildings, and other features relating to Anglo-American homesteading and farming and ranching activities. A notable exception is the Keeran site (41 VT 4; Gilmore 1973) located just inland from Matagorda Bay, that is apparently the site of Fort St. Louis. During the late 17th century, René Robert Cavelier, Sieur de La Salle, in a direct challenge to existing Spanish territorial sovereignty, attempted to establish a permanent French colony in Texas at Fort St. Louis.

### VENADO CREEK SITES

The following is a summary of the general appearance of the two proposed pipeline crossings; physical characteristics of the proposed impact zones in relation to the creek, other existing natural features, and artificial structures in the area; current land usage; and activities and findings of the CAR-UTSA team at these localities during the subject investigations. Geographic locations of the pipeline crossings are shown in Figure 1.

### Crossing A

The proposed construction excavation at Crossing A is a rectangular area (the length of which trends approximately perpendicular to the existing channel of Venado Creek) approximately 6 m wide and 30 m in length that will, after completion, be more or less evenly distributed on each side of Venado Creek. At the time of the CAR-UTSA on-site investigation, this proposed excavation area was entirely within the path of an old but well-maintained *sendero* (Spanish for path through brush) approximately 20 m wide that had been cut through the entire area and that apparently extended for quite a distance on both sides of the creek. The *sendero* was being actively used by cattle, wild game, human pedestrians, and motor vehicles. The portion of this *sendero* near Crossing A ran parallel to the long axis of the rectangular excavation area, and the center line of that part of the *sendero* was approximately congruent to that of the excavation area. At its juncture with Crossing A, the water-filled channel of Venado Creek was only about 3-4 m wide, and the water was probably only a meter to two deep. The creek is apparently spring fed from a source near the town of Vanderbilt about 2.5 km away.

Soils in the immediate crossing zone were medium to dark gray sandy loams (with fairly high proportions of clay) of the primary alluvial terraces located just above and adjacent to the creek channel. Natural vegetation on both sides of the *sendero* in the Crossing A area was apparently largely unmodified by artificial activities and consisted (as per a nonintensive examination by the CAR-UTSA team) of a mature forest of mostly oak and mesquite trees with a very dense, mesic, deciduous understory of thorn brush, cacti, vines, and woody shrubs. The area was being used as a ranch for raising longhorn cattle, which were present in large numbers. An active natural gas discharge that was bubbling from a pool of water just beyond the proposed impact zone was further evidence of prior disturbances in the area.

The survey was done at the height of an unusually wet late summer-early fall growing season, and the *sendero* containing the proposed crossing zone was somewhat overgrown with grasses and low herbaceous shrubs. Nevertheless, ground surface visibility was reasonably good. The entire surface of the proposed impact area was carefully examined, and four shovel tests were placed in the area directly over the proposed pipe crossing center line in the primary terrace alluvium of Venado Creek. The tests were spaced at intervals of about

15 m from the creek channel, two on each side of the creek. Each test consisted of an excavation about 30 cm in diameter and 50-75 cm deep. No cultural materials were found on the surface or in the test holes.

### Crossing B

The overall situation at Crossing B was much like that at Crossing A. The size, depth, and orientation with respect to Venado Creek of the proposed impact zone were similar at both crossings. The creek was of generally the same width and depth, and was bordered by generally the same type of terraces and soils, ground covers and other natural vegetation, and modern land uses were the same in both areas. An artificial *sendero* averaging about 30 m wide and containing an 8-inch water pipe had been cut at an unknown time in the past (probably prior to the discovery and recording of site 41 JK 133 in 1972) across the creek in this area. On-site Mobil personnel informed the CAR-UTSA archaeologists that the water pipe was stubbed on each side of the creek and would be connected by the proposed crossing. A natural levee-secondary terrace existed on the east side of the creek, and the surface of this natural feature was about 3-5 m above the surface of the water in Venado Creek.

This feature apparently contained the artifacts and cultural deposits of site 41 JK 133 as documented by Gail Fritz and Doug Comstock in November 1972, during the Matagorda Bay survey (Fritz 1972). The site form on file at UT-TARL for 41 JK 133 indicates that at that time Fritz and Comstock observed a low density surface scatter of flint chipping debris, clam and oyster shell fragments, and a few chert cobbles within an area about 60 m in diameter on the terrace surface. They also noted that the site appeared to have been disturbed by sand borrowing for road construction. No mention is made on the site form of the discovery of temporally diagnostic artifacts or of the determination of cultural affiliation by other means by Fritz and Comstock at that time, and no further records regarding the site are known to exist as of the writing of this report. Although a very few chert flakes and a light scatter of small marine shell particles were observed on the levee surface by the CAR-UTSA team, the visible surface of the primary terrace within the proposed impact area was completely devoid of artifacts. Shovel tests were spaced and excavated in that primary terrace in the same manner at Crossing B as were done for

Crossing A. No artifacts or culturally altered soils were observed in those tests.

### RECOMMENDATIONS

Since neither surface nor subsurface cultural materials or features were discovered within the proposed impact zones by the CAR-UTSA field team, and since both crossing areas have experienced significant natural and artificial disturbances in the recent past, it is the opinion of the CAR-UTSA field team that neither area merits further archaeological work prior to the proposed construction activities. Also, based on the aforementioned facts and the small size and depth of the proposed impact zones, the CAR-UTSA team believes that archaeological monitoring of the construction of the pipeline crossings is not necessary.

### REFERENCES CITED

- Arnold III, J. B.  
1982 A Matagorda Bay Magnetometer Survey and Site Test Excavation Project. *Texas Antiquities Committee Publication 9*. Austin.
- Aten, L. E.  
1983 *Indians of the Upper Texas Coast*. Academic Press, New York.
- Bailey, G. L., H. Simons, and P. A. Mercado-Allinger  
1987 Archeological Bibliography of the Southern Coastal Corridor Region of Texas. *Office of the State Archeologist, Special Report 29*. Texas Historical Commission, Austin.
- Bernard, H. A., C. F. Major, Jr., B. S. Parrott, and R. J. LeBlanc  
1970 Recent Sediments of Southeast Texas. *Bureau of Economic Geology, Guidebook 11*. Austin.
- Birmingham, W. W.  
1980 Scottsbluff Points from Victoria and De Witt Counties. *La Tierra* 7(4):27-29.
- Birmingham, W. W. and J. A. Huebner  
1991 Incised Bone and Conch Shell Artifacts from the Texas West Indies Site (41 VT 9). *La Tierra* 18(3):8-20.

- Birmingham, W. W., E. H. Schmiedlin, and T. R. Hester  
 1976 Archaeology at the Wells Site (41 JK 146), Jackson County, Texas. *La Tierra* 3(4):29-33.
- Black, S. L.  
 1989 South Texas Plains. In *From the Gulf Coast to the Rio Grande: Human Adaptation in Central, South, and Lower Pecos Texas*, by T. R. Hester, S. L. Black, D. G. Steele, B. W. Olive, A. A. Fox, K. J. Reinhard, and Leland C. Bement:39-62. *Arkansas Archeological Survey Research Series* 33. Final report submitted to the U.S. Army Corps of Engineers, Southwestern Division. Study Unit 3 of the Southwestern Division Archeological Overview. Prepared by the Center for Archaeological Research at The University of Texas at San Antonio, Texas A&M University, and the Arkansas Archeological Survey. Printed by the Arkansas Department of Corrections, Wrightsville, Arkansas.
- Bryant, V. W., Jr.  
 1978 Pollen Analysis of Recovered Samples from Sediments at 41 JK 41 and 41 JK 91. In *Prehistoric Archeological Investigations at Palmetto Bend Reservoir: Phase I, Jackson County, Texas*, assembled by P. R. McGuff:276-278. *Texas Archeological Survey, The University of Texas at Austin, Research Report* 58. *Palmetto Bend Reservoir Series* 4.
- Button, V. T.  
 1984 Little Mound Site (41 JK 163): A National Register of Historic Places Eligible Site in Jackson County, Texas. *U.S. Bureau of Reclamation, Southwest Region, Erosion Monitoring Report* 2. Amarillo.
- n.d. Report on Little Mound Site (41 JK 163): An Archeological Site on Bureau of Reclamation Palmetto Bend Project Lands in Jackson County, Texas. Unpublished report, U.S. Bureau of Reclamation, Southwest Region, Amarillo.
- Campbell, T. N.  
 1960 Archeology of the Central and Southern Sections of the Texas Coast. *Bulletin of the Texas Archeological Society* 29: 145-171.
- 1962 Origins of Pottery Types from the Coastal Bend Region of Texas. *Bulletin of the Texas Archeological Society* 34:5-30.
- 1976 Archaeological Investigations at the Morhiss Site, Victoria County, Texas, 1932-1940. In *An Archaeological Survey of Coletto Creek, Victoria and Goliad Counties, Texas*, edited by A. A. Fox and T. R. Hester:81-85. *Center for Archaeological Research, The University of Texas at San Antonio, Archaeological Survey Report* 18.
- Campbell, T. N. and T. J. Campbell  
 1981 Historic Indian Groups of the Choke Canyon Reservoir and Surrounding Area, Southern Texas. *Center for Archaeological Research, The University of Texas at San Antonio, Choke Canyon Series* 1.
- Carlson, D. L.  
 1982 *Surface and Subsurface Archeological Survey on Tejano Farms in Jackson County, Texas*. Texas A&M Cultural Resource Laboratories, College Station, Texas.
- 1988 *Rangia cuneata* as a Seasonal Indicator for Coastal Archeological Sites in Texas. *Bulletin of the Texas Archeological Society* 58:201-214.
- Celmer, G.  
 1985 Letter report: Cultural Resources Survey South of Carancahua on Carancahua Bay, Jackson County, Texas. Prepared for the U.S. Army Corps of Engineers, Galveston, Texas. On file at the Texas Historical Commission, Austin.
- Corbin, J. E.  
 1974 A Model for Cultural Succession for the Coastal Bend Area of Texas. *Bulletin of the Texas Archeological Society* 45:29-54.

Corbin (*continued*)

1976 The Archaic of the Texas Coast. In *The Texas Archaic: A Symposium*, edited by T. R. Hester. *Center for Archaeological Research, The University of Texas at San Antonio, Special Report 2*.

1988 Archaeological Survey of Proposed Additions to the Highway 35 Causeway Pier Park, Port Lavaca, Calhoun County, Texas. Texas Antiquities Permit 727. Archaeological Survey Report 88-7. Nacogdoches.

Council of Texas Archeologists

n.d. Council of Texas Archeologists Guidelines. Manuscript on file at the Center for Archaeological Research, The University of Texas at San Antonio.

Crosby, H. A.

1977 Architecture of Texana, 1831-1882, Jackson County, Texas. *Texas Archeological Survey, The University of Texas at Austin, Research Report 57. Palmetto Bend Reservoir Series 2*.

Curry, J. R.

1960 Sediments and History of Holocene Transgression, Continental Shelf, Northwest Gulf of Mexico. In *Recent Sediments, Northwest Gulf of Mexico*, edited by F. P. Shepard, F. B. Phleger, and T. H. Van Andel:222-263. American Association of Petroleum Geologists, Tulsa, Oklahoma.

Dering, P. and D. Ayers

1977 Archeological Investigation in the Village of Oyster Creek, Brazoria County, Texas: A Reassessment of Economic Archeology on the Texas Coast. *Anthropology Laboratory, Texas A&M University, Report 42*. College Station.

Dillehay, T. D., D. A. Grumbacher, E. R. Prewitt, and D. S. Dibble

1975 An Evaluative Synthesis of Impact on Cultural Resources of the South Texas Project Transmission Network. *Texas Archeological Survey, The University of Texas at Austin, Research Report 52*.

Fox, A. A.

1979 Preliminary Report of Archaeological Testing at the Tonkawa Bluff, Victoria City Park, Victoria, Texas. *Center for Archaeological Research, The University of Texas at San Antonio, Archaeological Survey Report 70*.

Fox, D. E.

1979 Archaeological Investigations of Two Prehistoric Sites on the Coletto Creek Drainage, Goliad County, Texas. *Center for Archaeological Research, The University of Texas at San Antonio, Archaeological Survey Report 69*.

1983 *Traces of Texas History: Archeological Evidence of the Past 450 Years*. Corona Publishing Company, San Antonio.

Frazier, D. E.

1974 Depositional-Episodes: Their Relationship to Other Quaternary Stratigraphic Frameworks in the Northeastern Portion of the Gulf Basin. *Bureau of Economic Geology, The University of Texas at Austin, Geologic Circular 71-1*.

Freeman, M. D. and W. B. Fawcett, Jr.

1980 The Antebellum Period in the Stephen F. Austin Colony: Historical and Archeological Research in the Palmetto Bend Reservoir Area, Jackson County, Texas. *Texas Archeological Survey, The University of Texas at Austin, Research Report 70. Palmetto Bend Reservoir Series 5*.

Fritz, G.

1972 *Pilot Archeological Field Survey, Cox Bay, Calhoun County*. Matagorda Bay-Estuarine Resource Management Study, Environmental Planning Division, Texas General Land Office, Austin.

1975 Matagorda Bay Area, Texas: A Survey of the Archeological and Historical Resources. *The University of Texas and Texas General Land Office Research Report 45*.

- Gilmore, K.  
1973 The Keeran Site: The Probable Site of La Salle's Fort St. Louis in Texas. *Office of the State Archeologist, Texas Historical Commission, Report 24*. Austin.
- Good, C. and J. Stokes  
1985 Letter report: Project Area, Jackson County, Texas. United States Army Corps of Engineers, Galveston.
- Hall, G. D.  
1981 Allens Creek: A Study in the Cultural Prehistory of the Brazos River Valley, Texas. *Texas Archeological Survey, The University of Texas at Austin, Research Report 61*.
- Hall, G. D., S. L. Black, and C. Graves  
1982 Archaeological Investigations at Choke Canyon Reservoir, South Texas: The Phase I Findings. *Center for Archaeological Research, The University of Texas at San Antonio, Choke Canyon Series 5*.
- Hester, T. R.  
1976a The Texas Archaic: A Symposium. *Center for Archaeological Research, The University of Texas at San Antonio, Special Report 2*.  
1976b *Hunters and Gatherers of the Rio Grande Plain and the Lower Coast of Texas*. Center for Archaeological Research, The University of Texas at San Antonio.  
1980 A Survey of Paleo-Indian Archaeological Remains Along the Texas Coast. In *Papers on the Archaeology of the Texas Coast*, edited by L. Highley and T. R. Hester:1-12. *Center for Archaeological Research, The University of Texas at San Antonio, Special Report 11*.
- Hester, T. R. and H. J. Shafer  
1969 An Initial Study of Blade Technology on the Central and Southern Texas Coast. *Plains Anthropologist 20*:175-185.
- Hodge, F. W. and T. H. Lewis  
1984 *Spanish Explorers in the Southern United States 1528-1543*. The Texas State Historical Association, Center for Studies in Texas History, The University of Texas at Austin.
- Huebner, J. A.  
1988 Archaeology of Blue Bayou: A Late Prehistoric and Archaic Mortuary Site, Victoria County, Texas. Unpublished M. A. thesis, The University of Texas at San Antonio.
- Inglis, J. M.  
1964 A History of Vegetation on the Rio Grande Plain. *Texas Parks and Wildlife Bulletin 45*.
- Jackson, M. F.  
1977 Texana: Excavations at a Nineteenth-Century Inland Coastal Town, Jackson County, Texas. *Texas Archeological Survey, The University of Texas at Austin, Research Report 56. Palmetto Bend Reservoir Series 1*.
- Janota, B.  
1980 A Preliminary Study of the Shell Ornaments of the Texas Coast between Galveston Bay and the Nueces River. In *Papers on the Archaeology of the Texas Coast*, edited by L. Highley and T. R. Hester:29-49. *Center for Archaeological Research, The University of Texas at San Antonio, Special Report 11*.
- Kelley, J. C.  
1955 Juan Sabeata and Diffusion in Aboriginal Texas. *American Anthropologist 57*: 981-995.
- Landar, H.  
1968 The Karankawa Invasion of Texas. *International Journal of American Linguistics 34*:242-253.
- Mallouf, R. J.  
1985 Preliminary Reconnaissance of Garcitas Ranch, Jackson County, Texas. Manuscript on file, Texas Historical Commission, Austin.

- Mallouf, R. J., D. E. Fox, and A. K. Briggs  
1973 An Assessment of the Cultural Resources of Palmetto Bend Reservoir, Jackson County, Texas. *Texas Historical Commission and Texas Water Development Board, Archeological Survey Report 11*. Austin.
- Mallouf, R. J. and P. Mercado-Allinger  
1986 Survey and Testing on Garcitas Ranch, Jackson County, Texas. Manuscript on file, Texas Historical Commission, Austin.
- Mayhall, M. P.  
1939 The Indians of Texas: The Atakapa, the Karankawa, and the Tonkawa. Unpublished Ph. D. dissertation, The University of Texas at Austin.
- McGowan, J. H. and J. L. Brewton  
1975 *Historical Changes and Related Coastal Processes, Gulf and Mainland Shorelines, Matagorda Bay Area, Texas*. Bureau of Economic Geology, The University of Texas at Austin.
- McGuff, P. R.  
1978 Prehistoric Archeological Investigations at Palmetto Bend Reservoir: Phase I, Jackson County, Texas. *Texas Archeological Survey, The University of Texas at Austin, Research Report 58. Palmetto Bend Reservoir Series 4*.
- McGuff, P. R. and W. B. Fawcett  
1978 Phase II: Palmetto Bend Archeological Investigations, Re-evaluative Survey and Testing. *Texas Archeological Survey, The University of Texas at Austin, Research Report 67. Palmetto Bend Reservoir Series 4*.
- McReynolds, R. L.  
1981 Additional Paleo-Indian Artifacts from the Coletto Creek Project Area of Southern Texas. *La Tierra* 8(3):28-31.  
1983 Two Late Paleolithic Tools from Coletto Creek, Victoria County, Southern Texas. *La Tierra* 10(4):26-30.
- Mitchell, J. and L. Highley  
1982 Notes of a Metal Projectile Point from Southern Texas: The Brom Cooper Collection. *La Tierra* 9(1):21-23.
- Moore, W. E., J. Murray, and W. A. Martin  
1990 Abstracts in Texas Contract Archeology 1988. *Department of Archeological Planning and Review, Abstracts in Texas Contract Archeology 1*, Texas Historical Commission, Austin.
- Newcomb, W. W., Jr.  
1960 The Indian Tribes of Texas. *Bulletin of the Texas Archeological Society* 29:1-34.
- Nunley, P.  
1989 *A Field Guide to Archeological Sites of Texas*. Texas Monthly Press, Austin.
- Rawn, V.  
1977 Faunal Analysis of Twenty-five Archeological Sites at Palmetto Bend Reservoir, Jackson County, Texas. Manuscript on file, Texas Archeological Survey, The University of Texas at Austin.
- Ricklis, R. A.  
1990 A Historical and Cultural Ecology of the Karankawan Indians of the Central Texas Coast: A Study in the Roots of Adaptive Change. Unpublished Ph. D. dissertation, Department of Geology, The University of Texas at Austin.
- Robinson, R.  
1979a Biosilica and Climatic Change at 41 GD 21 and 41 GD 21A. In *Archeological Investigations at Two Prehistoric Sites on the Coletto Creek Drainage, Goliad County, Texas*, by D. E. Fox:102-113. *Center for Archeological Research, The University of Texas at San Antonio, Archeological Survey Report 69*.  
1979b Biosilica as an Indicator of the Paleoenvironment of the South Texas Coastal Plain. Manuscript on file at the Center for Archeological Research, The University of Texas at San Antonio.
- Salinas, M.  
1990 *Indians of the Rio Grande Delta: Their Role in the History of Southern Texas and Northeastern Mexico*. University of Texas Press, Austin.
- Shafer, H. J. and C. L. Bond  
1983 An Archeological Review of the Central Texas Coast. *Bulletin of the Texas Archeological Society* 54:271-286.

- Shepard, F. P. and D. G. Moore  
1960 Bays of the Central Texas Coast. In *Recent Sediments, Northwest Gulf of Mexico*, edited by F. P. Shepard, F. B. Phleger, and T. H. Van Andel:117-152. American Association of Petroleum Geologists, Tulsa.
- Skinner, A. S.  
1985 Cultural Resource Survey at Lake Texana State Park. *AR Consultants Cultural Resources Report 85-6*. Dallas.
- Steele, D. G.  
1987 Utilization of Marine Mollusks by Inhabitants of the Texas Coast. *Bulletin of the Texas Archeological Society* 58: 215-248.
- Steele, D. G. and E. R. Mokry  
1985 Archeological Investigations of Seven Prehistoric Sites along Oso Creek, Nueces County, Texas. *Bulletin of the Texas Archeological Society* 54:287-308.
- Story, D. A.  
1968 Archeological Investigations at Two Central Texas Gulf Coastal Sites. *Office of the State Archeologist, Texas State Building Commission Report 13*. Austin.
- Taylor, A. J. and C. L. Highley  
n.d. Archeological Investigations at the Loma Sandia Site (41LK28): A Prehistoric Cemetery and Campsite in Live Oak County, Texas. Texas State Department of Highways and Public Transportation, Austin. In preparation.
- Texas Archeological Survey  
1981 Phase III: Prehistoric Archeological Research within Palmetto Bend Reservoir, Jackson County, Texas. *Texas Archeological Survey, The University of Texas at Austin, Research Report 82. Palmetto Bend Reservoir Series 6*.
- Texas State Department of Highways and Public Transportation  
1975 Letter report: Cultural Resources Assessment, F.M. 3280, from S.H. 35 0.2 Miles West of Matagorda County Line South to Matagorda Bay. Manuscript on file, Texas Historical Commission, Austin.
- 1984 Letter report: Cultural Resources Assessment, U.S. 59, at the Lavaca River West of Edna. Manuscript on file, Texas Historical Commission, Austin.
- Turner, S. E. and T. R. Hester  
1985 *A Field Guide to Stone Artifacts of Texas Indians*. Texas Monthly Press, Austin.
- Uecker, H. and Kelly, T. C.  
1979 A Report on Literature Search and Archaeological Survey in the Vicinity of Point Comfort, Calhoun County, Texas. *Center for Archaeological Research, The University of Texas at San Antonio, Archaeological Survey Report 82*.
- United States Army Corps of Engineers  
1984 Letter report: Cultural Resources Survey, Area on Lavaca River, Jackson County, Texas. United States Army Corps of Engineers, Galveston.
- 1985a Letter report: Cultural Resources Survey, Area at Mouth of Fivemile Br. Creek, Carancahua Bay, Jackson County, Texas. United States Army Corps of Engineers, Galveston.
- 1985b Letter report: Cultural Resources Survey, Area Near Garcitas Creek, Jackson County, Texas. United States Army Corps of Engineers, Galveston.
- Wakefield, W. H.  
1968 Archeological Surveys of Palmetto Bend and Choke Canyon Reservoirs, Texas. *Texas Archeological Salvage Project, The University of Texas at Austin, Survey Report 5*, Austin.
- Wingate, R. J. and T. R. Hester  
1972 Ten Burials from Green Lake, Texas. *Florida Anthropologist* 25:119-126.
- Wulfkuhle, V. A.  
1982 Archeological Manifestations of the Jumano: A Reassessment. Manuscript on file, Texas Historical Commission, Austin.





