

AN ARCHAEOLOGICAL SURVEY FOR THE DUKE VINTEX SCHENDEL PIPELINE IN GOLIAD COUNTY TEXAS



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AN ARCHAEOLOGICAL SURVEY FOR THE
DUKE VINTEX SCHENDEL PIPELINE IN GOLIAD COUNTY, TEXAS

BVRA Project Number 06-05

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ABSTRACT

An archaeological survey of four miles of natural gas pipeline in central Goliad County, Texas was conducted by Brazos Valley Research Associates (BVRA) in March of 2006 for Duke Energy Field Services. In all 7.3 acres were examined. No previously recorded archaeological sites have been recorded within any portion of the project area, and no new sites were found. No artifacts were collected.

ACKNOWLEDGMENTS

BVRA is grateful to those individuals who provided assistance during this project. At CSC Engineering, Stephen Swetish provided the project area maps and other information regarding the construction plans. At Duke Energy Field Services, Charlie Witte, Joe Flores, and Kirt Karnei assisted by obtaining landowner permission. Mr. Karnei accompanied the field survey crew to make sure they were able to enter certain pastures that had locked gates. The background search was performed by the Principal Investigator with assistance from Jean Hughes, Records Conservator at the Texas Archeological Research Laboratory (TARL). Jennifer McMillan provided technical support, and Nora Rogers assisted with the editing chores. The maps were prepared by CSC Engineering, and Stephen Swetish is responsible for the excellent photographs.

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INTRODUCTION

Duke Energy Field Services proposes to transport natural gas across portions of rural Goliad County, Texas in an eight-inch diameter pipe. The total length of the gas pipeline is 10 miles, and it is west of Goliad (Figure 1). Only approximately four miles, however, consists of new line and was examined for archaeological sites. The pipe will be placed in a trench about 24 inches wide and will be beneath four feet of cover. The project area is depicted on two USGS 7.5' topographic quadrangles, Charco (2897-314) and Goliad (2897-423) (Figure 2).

Funds for this project will come from Duke Energy Field Services. Therefore, consultation with the Texas Historical Commission was not necessary. The client requested an archaeological survey in order to avoid affecting significant cultural resources that may be present. A review of past work in the area by professional archaeologists revealed a portion of the route of the proposed pipeline traversed an upland ridge overlooking Cabeza Creek, a major stream in the county. The TARL search indicated seven archaeological sites had been recorded along this drainage in the vicinity of the current project area. In addition, Spanish Colonial artifacts have been found in Goliad County sites. Therefore, BVRA viewed portions of the pipeline route to be high probability areas for significant sites.

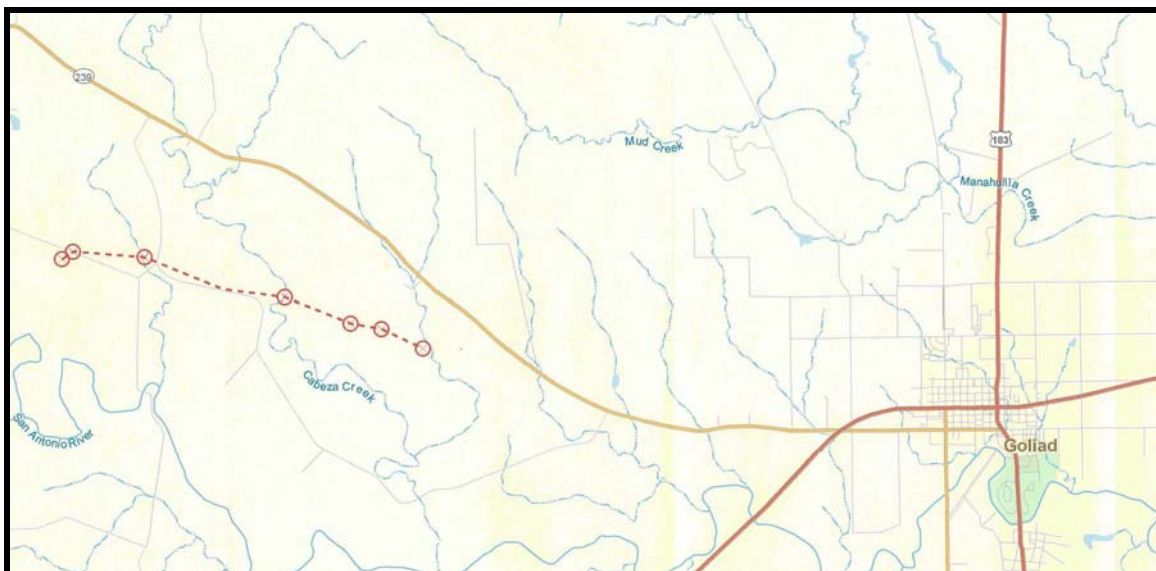


Figure 1. Project Area

(Map prepared by CSC Engineering and Environmental Consultants, Inc.)

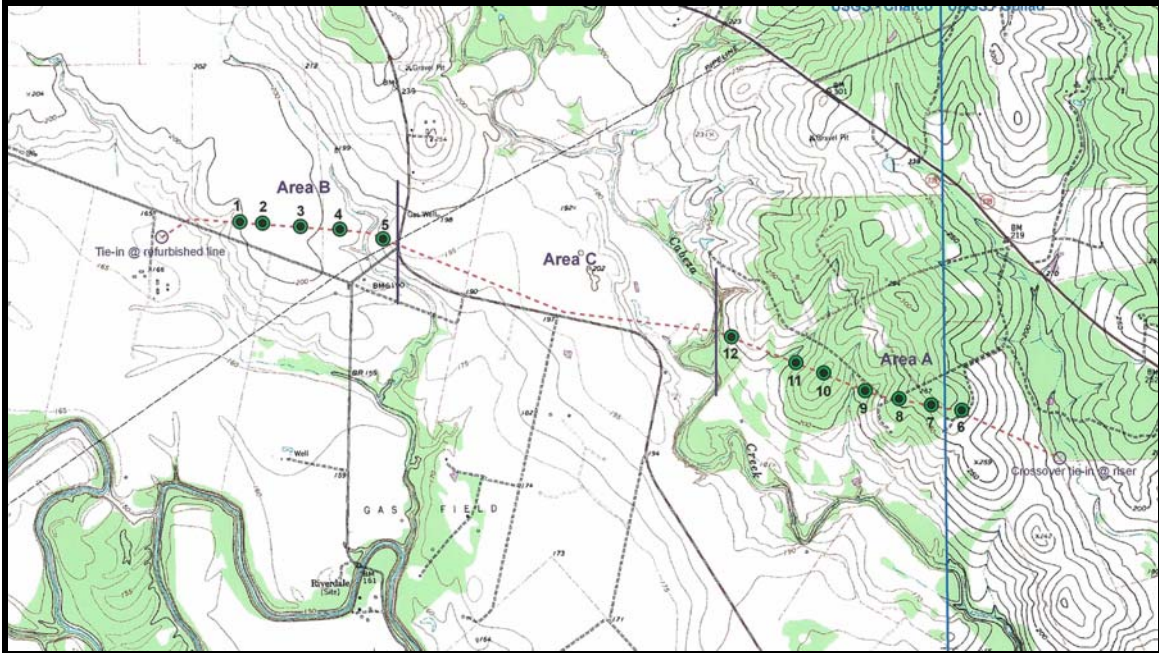


Figure 2. Project Area on Topographic Quadrangles
(Map prepared by CSC Engineering and Environmental Consultants, Inc.)

ENVIRONMENTAL SETTING

The following information was taken from The Handbook of Texas Online (2001). Goliad County is located on the Texas coast 25 miles inland from Copano Bay in Southeast Texas. It is bounded by Bee, DeWitt, Karnes, Refugio, and Victoria counties. The county is 859 square miles in size, and most of the terrain is the nearly level to gently rolling Rio Grande Plain.

Much of Goliad County lies within the post oak savannah belt and contains mixed forests that include blackjack, post oak, live oak intermixed with huisache, red cedar, cacti, and various forms of brush and other vegetation. Along the river stands of pecan and elm are present. The elevation of Goliad County reaches 250 feet in places, and the climate is humid-subtropical. The average growing season lasts 285 days and extends from late February to early December. The average annual precipitation is 33.79 inches. Typical mammals in the county include bobcats, opossums, squirrels, foxes, armadillos, skunks, bats, rabbits, Plains pocket gophers, and mice. There are habitats that support numerous species of reptiles, fish, and birds.

At the time of this survey, there was no published soil survey for Goliad County. According to the General Soil Survey for Goliad County, there are three soil associations present in the project area. These are the Weesatche-Pettus-Olmos association (3), the Runge-Sarnosa association (5), and the Aransas-Sinton association (7).

The Weesatche-Pettus-Olmos association consists of gently sloping to strongly sloping, deep to very shallow, neutral to moderately alkaline, loamy soils of the uplands, the Runge-Sarnosa association consists of gently sloping to deep, neutral to moderately alkaline, loamy soils of the uplands, and the Aransas-Sinton association consists of nearly level, deep, moderately alkaline, clayey and loamy soils of the bottomlands.

At the time of this survey the vegetation in the uplands east of Cabeza Creek (Area A) consisted mainly of huisache, mesquite, mixed brush, and scattered live oaks (Figure 3). In the area west of Cabeza Creek (Area B), the vegetation consisted mainly of pasture dominated by Bermuda grass, Klein grass, and various native grasses (Figure 4). In the floodplain, pasture was present (Figure 5) but stands of huisache, mesquite, and hackberry were present adjacent to an old oxbow near the creek (Figure 6).



Figure 3. Area A (facing northwest)



Figure 4. Area B (facing east)



Figure 5. Area C (facing east)



Figure 6. Cabeza Creek (facing east)

ARCHAEOLOGICAL BACKGROUND

According to a statistical overview published by the THC (Biesaat et al. 1985:76), Goliad County is located in the Central Coastal Plain Cultural-Geographical Region of Texas. In 1985, when the overview was published, the number of archaeological sites in the region was 1067 or 5.28% of the state. In 1985, there were 37 recorded sites in the county. * This accounted for 3.47% of the region and .18% of the state. Although three Paleo-Indian sites were reported, the majority of sites in 1985 were listed as Archaic (n=6) and Late Prehistoric (n=5). No age is given for the remaining 23 sites.

Site disturbance is common in the area. Biesaat et al. (1985:139) mention 30 sites affected by erosion disturbance and 2 sites affected by construction disturbance. One site is described as dispersed, 1 site is described as destroyed, and 2 sites are described as pristine. Two sites have been excavated, 18 sites have been tested by hand, and 37 sites have been surface collected. Sites with hearths (n=1) and midden soil (n=1) were known to exist in 1985, and one site containing a burial was documented. In 1996, there were four sites with burials (Mercado-Allinger et al. 1996).

According to a planning document for the Central and Southern Planning Region of Texas as defined by the Texas Historical Commission (Mercado-Allinger et al. 1996:13), Goliad County is located in the Southern Coastal Corridor Archeological Region. This is one of the major oil and gas producing areas in the state.

The major drainages in the county are the San Antonio River and Coleta Creek, and most of the sites are found along these streams. Significant prehistoric sites are present in the county. The main cluster of important sites is located along Coleta Creek. Each one of these sites (41GD13-21; 41GD30-41GD31, 41GD33-41GD35; 41GD39-41GD42, and 41GD46) has received the designation of a State Archeological Landmark. Evidence of Paleoindian activity in the county was found at one of these sites. The Berger Bluff site (41GD30) produced "a wealth of early Paleoindian environmental and radiocarbon data but did not yield artifacts in association with the dated early deposits" (Brown 1986). According to Mercado-Allinger et al. (1996:63), the importance of this site is its deep subsurface context which points to the importance of understanding the geomorphic history of the region in order to be able to locate deposits of sufficiently early age to further study the Paleoindian period. Work at Coleta Creek has been conducted by The University of Texas at San Antonio (Fox and Hester 1976; Fox 1979; Brown 1986) and Burns and McDonnell, Inc. (2003).

Significant Historic sites dating to the Spanish Colonial period include Mission Espiritu (41GD1), Mission Rosario (41GD2), the Presidio la Bahia (41GD7), and La Villa de la Bahia (41GD112). Sites 41GD1, 41GD2, and 41GD7 are listed in the National Register of Historic Places, while site 41GD112 has been designated as a State Archeological Landmark. The most recent large-scale survey in Goliad County was conducted by Archaeology Consultants, Inc. of George West, Texas (Moore et al. 2005). This project examined an area around the presidio and adjacent cemetery. One new prehistoric site (41GD122) was recorded, and the cemetery was assigned the trinomial 41GD123.

Cabeza Creek and two unnamed tributaries of the San Antonio River cross the route of the pipeline as currently proposed. Several sites have been recorded on these drainages. On Cabeza Creek, Archeological Steward Smity Schmiedlin recorded six prehistoric sites south of the pipeline. These sites consist of two prehistoric camps (41GD87 and 41GD88), a lithic quarry (41GD89), a lithic scatter (41GD109), a creek crossing where lithic artifacts were found (41GD108), and an unknown prehistoric site on the high bank overlooking Cabeza Creek (41GD111). Schmiedlin recorded one historic site consisting of ceramics and other artifacts along a cow trail (41GD110) next to Cabeza Creek. James E. Warren recorded three historic farmsteads (41GD69, 41GD72, and 41GD73) on or near the unnamed tributaries of the San Antonio River.

Additional small area surveys have been conducted in Goliad County. For more information regarding other work in the area researchers are advised to consult the site files at TARL and the THC. For additional information regarding the prehistory and history of Goliad County, the interested reader is referred to those reports cited above as well as those discussed below.

Gail L. Bailey (1987) compiled a bibliography of the Southern Coastal Corridor Region of Texas, which includes Goliad County. There is a published series entitled *Abstracts in Texas Contract Archeology* (published by the THC and compiled by William E. Moore) that documents all work in Texas from 1988 through 1992. Other sources include *Digging Into South Texas Prehistory: A Guide for Amateur Archaeologists* (Hester 1980b), *Texas Graveyards: A Cultural Legacy* (Jordan 1988), and *Traces of Texas History: Archeological Evidence of the Past 450 Years* (Fox 1983).

* This number does not agree with data presented in the planning document by Mercado-Allinger et al. (1996). According to Table 2.1.3 of this document there were 47 sites recorded prior to 1980.

METHODS OF INVESTIGATION

Prior to the field survey, the Principal Investigator conducted a review of previous work in the general area and talked with other archaeologists. The Texas Historic Sites Atlas was checked for previously recorded sites and areas surveyed, and a records check at TARL was performed.

Initially, the entire route of the pipeline was to be examined through a 100% Pedestrian Survey with shovel testing and backhoe trenches as needed. The vegetation was too thick in places to allow for the survey crew to walk the pipeline completely. Therefore, three high probability areas were identified based on the topographic maps. These areas are an upland ridge east of Cabeza Creek (Area A), an upland area between two unnamed tributaries of the San Antonio River (Area B), and the floodplain west of Cabeza Creek (Area C).

The field crew visited Area B first and dug shovel tests 1-5 (Figure 2). Since clay was encountered near the surface, additional tests were not excavated. The use of a backhoe in an upland setting was not considered necessary. Next, the crew walked the floodplain (Area C) and dug one shovel probe and found clay to be at or near the surface. Therefore, no additional shovel tests were excavated. Use of a backhoe near the creek was considered; however, landowner permission could not be obtained in time to perform this task prior to construction of the pipeline.

Finally, the crew visited the high points along the upland ridge east of Cabeza Creek (Area A). Shovel testing revealed clay and/or caliche at or near the surface. When the ground surface was visible, the area was visually inspected for cultural materials. It was determined that no buried sites are likely to be present on this ridge or on the slopes. Seven shovel tests (6-12) were excavated in Area A (Figure 2). Excavated earth from each shovel test was screened using quarter-inch hardware cloth, and a shovel test log was maintained (Appendix I). All shovel tests were terminated when clay or caliche subsoil was encountered.

RESULTS AND CONCLUSIONS

A search of the site records at TARL revealed no previously recorded sites in the Area of Potential Affect (APE). Several professional and amateur surveys have been conducted in the area, and some of these recorded sites (see *Archaeological Background* above).

At the time of this survey much of the project area was covered with dense vegetation making a 100% Pedestrian Survey impossible. Three areas were investigated (see *Methods of Investigation* above). Prior to the survey, one of the upland areas overlooking Cabeza Creek (Area A) was considered to be a very high probability area for a prehistoric site. However, the lack of sandy soils appears to be the reason for the absence of a site in this area. No rocks large enough to be used for stone tool manufacture were observed. It is, therefore, not likely that a significant lithic scatter is present in the thick brush where the surface was not visible. A small rise to the west of the creek that lies between two tributaries of the San Antonio River (Area B) was considered to be a medium probability area for a prehistoric site. However, the lack of sandy soils appears to be the reason for the absence of a site in this area. Area C is the flat area between one of the tributaries of the San Antonio River and Cabeza Creek. It was considered to be a low to medium probability area for a prehistoric site. The lack of sandy soils appears to be the reason for the absence of a site in this area. Cabeza Creek is deeply entrenched into the landscape and contained water at the time of this survey. Since buried sites have been found in similar settings in Goliad County, portions of this area were considered to be a medium to high probability area for a prehistoric site.

BVRA was aware of the possibility of the presence of Spanish Colonial sites and/or later historic sites anywhere within the project area. No evidence of historic utilization of the project area was observed. It is possible that parts of the project area may have once been part of larger farms or ranches, but no evidence of this was noted

RECOMMENDATIONS

No prehistoric or historic archaeological sites were found to be within the APE. It is, therefore, recommended that Duke Energy be allowed to proceed with construction as planned throughout the project area. If any prehistoric or historic sites within the APE are encountered during construction, all work should cease until the site or sites can be evaluated. Should construction plans change to include new areas that will affect undisturbed ground, a return visit by a professional archaeologist may be necessary.

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APPENDIX I: SHOVEL TEST LOG*

Test	Area	Depth	Comments
01	B	50 cm	0-40 cm - clay (10YR 4/1) 40-50 cm - clay (10YR 4/2)
02	B	40 cm	0-30 cm – clay (10YR 4/1) 30-40 cm – clay (10YR 4/2)
03	B	50 cm	0-40 cm – clay (10YR 4/1) 40-50 cm – clay (10YR 4/2)
04	B	50 cm	0-40 cm – clay (10YR 4/1) 40-50 cm – clay (10YR 4/2)
05	C	40 cm	0-30 cm – fine sandy loam (10YR 6/3) 30-40 cm – clay (10YR 6/4)
06	A	10 cm	0-10 cm – fine sandy loam (10YR 4/2) 10 cm + - caliche
07	A	15 cm	0-15 cm – fine sandy loam (10YR 4/2) 15 cm + - caliche
08	A	15 cm	0-15 cm – fine sandy loam (10YR 4/2) 15 cm + - caliche
09	A	50 cm	0-40 cm – fine sandy loam (10YR 4/2) 40-50 cm – fine sandy loam (2.5 YR 3/3) 50 cm + - caliche
10	A	5 cm	0-5 cm – fine sandy loam (10YR 4/2) 5 cm + - caliche
11	A	40 cm	0-30 cm – clay (10YR 4/1) 30-40 cm – clay (10YR 4/2)
12	A	30 cm	0-20 cm – clay (10YR 4/1) 20-30 cm – clay (10YR 4/2)

* All tests were negative