

**AN ARCHAEOLOGICAL SURVEY ALONG A SEISMIC LINE IN  
VILLAGE CREEK STATE PARK HARDIN COUNTY, TEXAS**

**Antiquities Permit 1064**

**By**

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AN ARCHAEOLOGICAL SURVEY ALONG A SEISMIC LINE IN  
VILLAGE CREEK STATE PARK, HARDIN COUNTY, TEXAS

Project Number 91-7

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## ABSTRACT

An Archaeological Survey was conducted along 6600 feet of seismic line with a right-of-way of ten feet for TGS Onshore Geophysical Company by Brazos Valley Research Associates on November 7, 1991. The area examined is located in Village Creek State Park in Hardin County about 15 miles north of Beaumont, Texas. The pedestrian survey, accompanied by shovel testing, failed to produce evidence of a prehistoric or historic site within the proposed right-of-way. It is, therefore, recommended that the seismic survey be allowed to proceed, and monitoring by an archaeologist is not considered necessary. All records pertaining to this project are permanently curated at the Texas Archeological Research Laboratory in Austin, Texas. The Texas Antiquities Committee served as the regulatory agency for this survey which was carried out under Texas Antiquities Permit Number 1064.

## ACKNOWLEDGMENTS

I would like to thank those whose assistance made the completion of this project possible. Terry Gore of TGS Onshore Geophysical Company provided me with maps, helped coordinate the project, and served as my link with his company. John C. Parker, Park Manager at Village Creek State Park, also provided assistance and support as well as a brief history of land use in the area. The cooperation of these individuals helped create a working situation that was both enjoyable and efficient. Saul Aronow, a professional geologist employed by Lamar University in Beaumont, Texas, examined the topographic map of the project area and offered his advice regarding the potential of site occurrence.

At the state level I was aided by Carolyn Spock, Head of Records, and her assistant, Rosario Casarez at the Texas Archeological Research Laboratory; Mark H. Denton and Kathleen McLaughlin at the Texas Antiquities Committee; and Stephanie S. Strickland of the Texas Historic Commission. Art Black and Juliann C. Pool of the Texas Parks and Wildlife Department provided me with information regarding previous work at Village Creek State Park.

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## INTRODUCTION

TGS Onshore Geophysical Company plans to conduct a seismic survey within the boundaries of Village Creek State Park in Hardin County, Texas. This newly created state park is located near the town of Lumberton, Texas about 15 miles north of Beaumont (Figure 1). The park is situated within the Upper Texas Coastal Plain with the topography described as generally flat and is part of the Austroriparian biotic province as defined by Blair (1950). Vegetation consists of a mixed forest characterized primarily by hardwood trees and scattered pines. Along the creeks and sloughs stands of large Cypress were observed. The park is adjacent to Village Creek, a major tributary of the Nueces River.

According to the General Soil Map for Hardin County (Soil Conservation Service 1991), the project area is located within the Mantachie Owentown soil units. These soils are described as loamy to clayey, poorly to moderately well drained soils of flooded bottomlands. In terms that may relate to occupation of the area by prehistoric and historic groups, this area is listed as a place of moderate to severe flooding in describing its usefulness for camping and other recreational uses.

The following description of that part of the park surveyed by Kotter (1985:1) is relevant to this study (brackets are mine).

The park occurs at the western edge of the paleo-floodplain of the Nueces River and is a complex of active and relic stream channels. Both sloughs [Sandy and Cane] apparently represent old channels of Village Creek, which may in turn be an old river channel. Numerous additional channels of various sizes were observed during the current project. Relatively elevated levees and lower backwater areas occur along drainage channels especially nearer Village Creek. Relatively elevated flats occur in areas further from the creek. Surface soils are universally sandy and uncompacted.

The proposed seismic line extends through park property for a distance of 6600 feet and has a right-of-way of ten feet. Its location as plotted on topographic maps Silsbee and Voth is depicted in Figures 2-3. That portion of the line within the park begins with Station Number 1650 and extends to Station Number 1714 (Figure 4). The interval between each station number is 110 feet, and at the time of this survey was marked by orange pin flagging. Testing will occur at intervals of 440 feet. Thus, drilling and testing will occur at thirteen points along the line. These points are represented by Station Numbers 1652, 1656, 1660, 1664, 1668, 1672, 1676, 1680, 1684, 1688, 1692, 1696, and 1700.

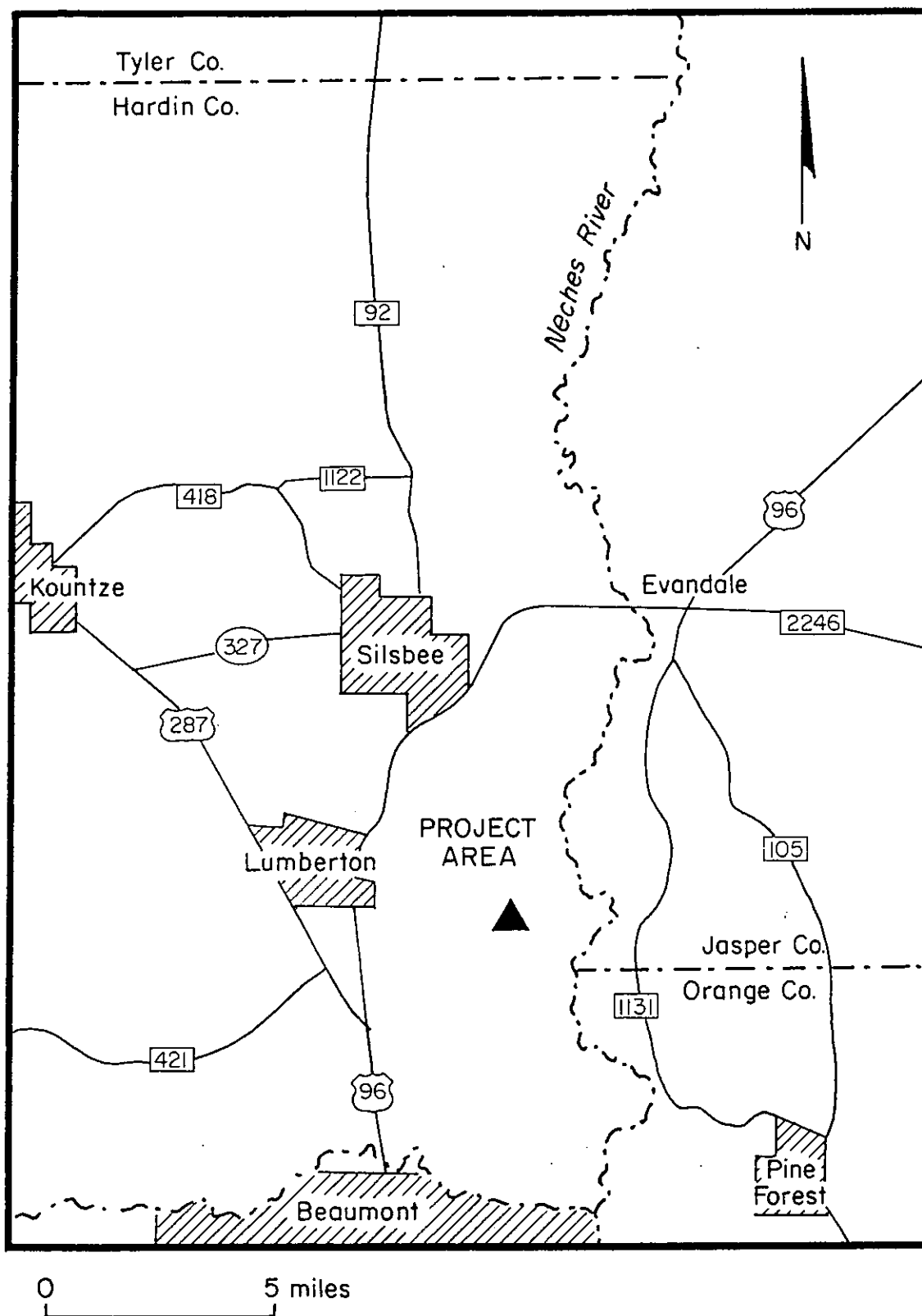


Figure 1. General Location of the Project Area.

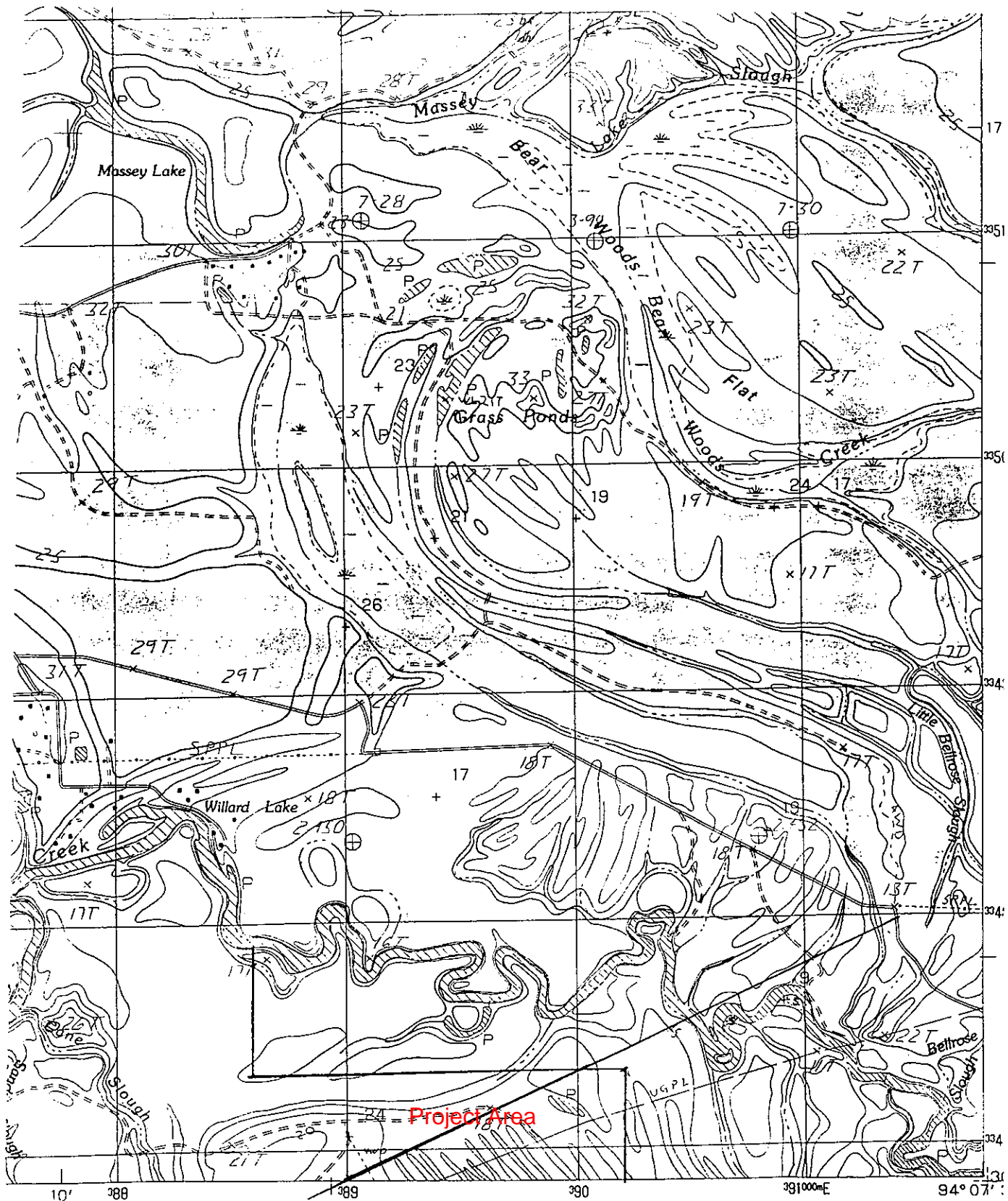


Figure 2. Project Area as Depicted on Topographic Map Silsbee.



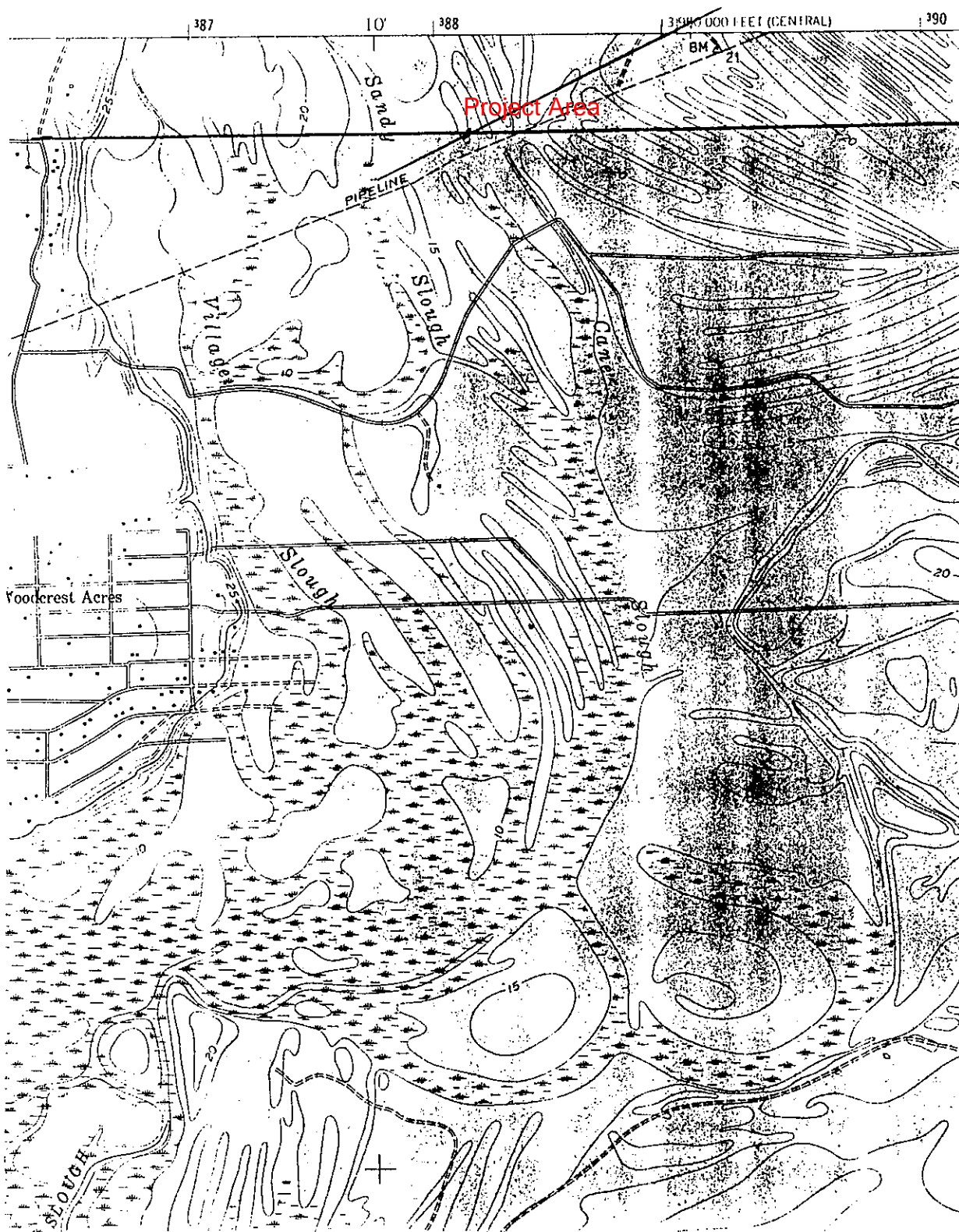


Figure 3. Project Area as Depicted on Topographic Map Voth.

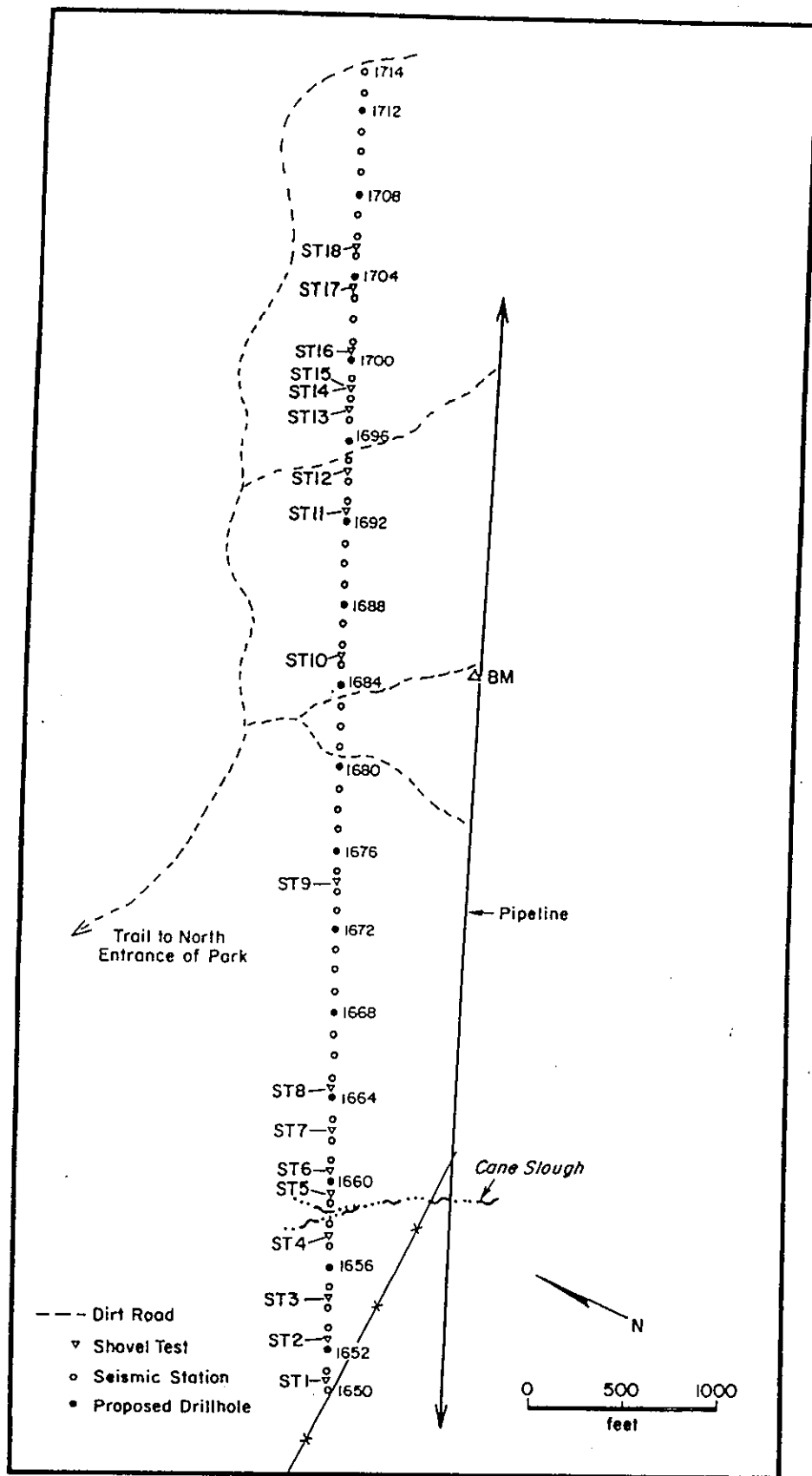


Figure 4. Proposed Seismic Line Depicting Points to be Tested and Shovel Test Locations.

The major impact of the seismic survey on the landscape will be in the form of drilling and vehicular traffic. Due to the small diameter of the drill used and the depth of the explosive charges, it is anticipated that this activity will have minimal affect on archaeological sites, if any, in the area. Damage from vehicular traffic, however, may be much greater. The fragile sandy soils which are present on the surface may be disturbed to a depth of 30 cm by vehicle movement. At drainage crossings if the gradient of cut banks must be reduced, deeper soils may be affected. No large trees will be removed.

Prior to the archaeological survey, the right-of-way was cleared by hand for line-of-sight only. The area was marked with flagging for the convenience of the seismic crew and the archaeological survey. Once the operation is finished, all markings and flaggings must be removed, and the site left in a condition acceptable to the Park Manager. After the seismic survey begins, the holes that will receive the explosive charges will be dug at 440 foot intervals. Each hole will be 3.5 inches in diameter and 120 feet deep and will be backfilled following the seismic survey.

Since the proposed seismic line is on State land in an area considered suitable for the occurrence of significant cultural resources, a permit was required by the Texas Antiquities Committee. Therefore, TGS Onshore Geophysical Company contracted with Brazos Valley Research Associates to conduct a cultural resources survey in order to identify all prehistoric and historic sites along the proposed route of the seismic line and determine if the proposed seismic survey would impact significant cultural resources on state property,

The field survey was conducted with William E. Moore acting as Principal Investigator under Texas Antiquities Permit Number 1064. All records pertaining to this project have been placed in permanent curation at the Texas Archeological Research Laboratory (TARL) in Austin, Texas.

## PREVIOUS INVESTIGATIONS

### General

A review of site records at TARL revealed no archaeological sites recorded within the right-of-way of the proposed seismic line or in the boundaries of the park. An upland lithic scatter and a canoe, have been reported within the park (Kotter 1984:4). The location of the lithic scatter has not been confirmed and remains unrecorded at this time. According to the Park Manager, John C. Parker, the canoe was visited by Margaret E. Leshikar in May of 1983. No record of this visit was found during this project except for a letter from Ms Leshikar to Ron Ralph stating her plans to travel to the site with Mr. Parker and a Mr. Henry Pickering. Mr. Parker believes the canoe is not on park property

Hardin County is located in the Southeast Texas cultural-geographical region as defined by Biesaart et al. (1985:76) in a statistical overview published by the Texas Historical Commission. This is an area well documented in terms of numbers of sites when compared to other regions in Texas. When the statistical overview was compiled in 1985, a total of 1630 sites (8.06% of the state) was recorded in the entire region. Only four of the thirteen regions reported more sites or had a higher percentage statewide. In terms of county statistics, however, Hardin County was last in the region with only nine recorded sites (Biesaart 1985:143). At the time this number represented was described as Late Archaic, 1 was Late Prehistoric, and 1 was a State Archeological Landmark. Only two of the sites had been tested by hand; information regarding the other was obtained by surface collecting. A review of the site files at TARL revealed that at the time of this survey only sixteen sites have been recorded in the county.

The literature search revealed that most archaeological investigations in Hardin County have been the result of work in the Big Thicket and small area surveys such as oil and gas related projects. According to a bibliography of the Southeastern Region of Texas published in 1989 (Moore 1989), 17 of the 30 entries for Harding County document work in the Big Thicket. Five entries are for research projects not involving field work.

Several general works have been published that are germane to a better understanding of the project area. These include bibliographies by Moore (1989), Moore and Moore (1986), Patterson (1986) and the statistical overview by the Texas Historical Commission (Biesaart et al. 1985). Overviews of the archaeology of the area have been prepared by Keller (1974) in his discussion of subsistence Paleoecology of the Middle Neches region of Texas, Shafer (1975) in his treatise of Woodland cultures of East Texas, and Story (1981) in her detailed review of East Texas prehistory. Most recently, the Houston Archeological Society published a collection of papers in an effort to synthesize current data for Southeast Texas (Wheat and Gregg 1988).

## Previous Work in the Project Area

Prior to this survey five previous investigations have been conducted at Village Creek State Park. In 1979, Ronald W. Ralph expended six man-days surveying the park for cultural resources (Texas Parks and Wildlife Department 1989). His reconnaissance showed that 75% of the 1000 acre park is subject to flooding one or more times a year. These low-lying areas, generally located below the 20 foot contour line, were deleted from his survey, and a more intensive effort was made to shovel test and scrape the higher elevations of the park. This survey included a canoe trip along Village Creek. No sites were found, and additional work was recommended in two areas of higher ground with elevations greater than 25 feet above mean sea level. These areas include a knoll located at the extreme northeast corner of the park, reportedly the site of an old sawmill, and a 17 acre portion of the bluff overlooking the Neches floodplain located at the proposed entrance to the park.

In 1984, a two day survey for a requested seismic line and access road was conducted by Steven M. Kotter (1984), an independent archaeological contractor. The area examined was approximately 1.2 miles in length. A pedestrian survey which included shovel testing and investigation of stream cut banks and levee slopes failed to locate any sites in the project area. In an effort to explain the lack of cultural resources, in the park, Kotter (1984:6) reasoned that "the potential for shallowly-buried archeological sites within the park, with the possible exception of stream levees, is felt to be low."

Ronald W. Ralph (1988) again visited the area in April of 1988 and conducted an intensive surface survey and shovel testing program on certain areas to be impacted by proposed park development in areas not previously surveyed. The focus of this investigation was the entrance area recommended for additional work in 1979 and a canoe/boat launch area and parking lot location. Twenty shovel tests were dug in the entrance area and all exposed areas were closely checked. No sites were located. The canoe/boat launch area was also probed and scraped with a shovel. One historic site believed to represent a small one-family subsistence farm dating to the late 1950s or early 1960s was documented. This site was not given a TARK number.

On August 16, 1991, Raymond Neck and Ronald W. Ralph examined access roads, camping loops, the creek crossing, and parking lot adjacent to the creek (Ralph 1991). Scattered bricks and other historic debris along the entrance road and a utilized chert flake from the top of the high point overlooking the steep descent to the creek crossing were observed. No site numbers were assigned to these areas.

## METHODS

### Background Research

Prior to the field survey a check was made of site records at TARL in an effort to identify known sites in the project area and vicinity. A literature search was also conducted to collect data on previous surveys and projects relevant to the project area. In addition, the Texas Parks and Wildlife Department was queried as to the history of work at Village Creek State Park.

### Field Survey

Fieldwork consisted of a 100% Pedestrian Survey along the entire length of the seismic line right-of-way. The field survey began at Station Number 1650 and was terminated at Station Number 1714 (Figure 4). All exposed areas such as road cuts, ditches, animal burrows, and uprooted trees were inspected for cultural materials. In general, ground visibility was poor due to a mantle of leaves and other forest debris, and subsurface investigation was necessary. Shovel testing was carried out in areas of high site probability and randomly along the right-of-way. All excavated dirt was screened through 1/4 inch hardware cloth. In all, 18 shovel tests were dug. The depth of these tests varied in depth from 10 cm to 80 cm. The project was documented by field notes and a shovel test log. Since all shovel tests were sterile and no sites were located, shovel test forms were not used, profiles were not drawn, and photographs were not taken.

The field survey was supported by topographic maps Silsbee and Voth, provided by the client; a sketch map of the seismic line depicting station numbers; and a general soil map for Hardin County. No soils book was available at the time of the survey. Soil Aronow, a professional geologist, was interviewed in an effort to better understand the geomorphology of the project area.

## RESULTS AND CONCLUSIONS

A Pedestrian Survey of approximately 6600 feet of ten-foot right-of-way failed to produce evidence of a prehistoric or historic site in the project area. Eighteen shovel tests, all negative, revealed the presence of fine sandy loam and clay loam overlying sterile clay throughout much of the area examined (Appendix I). In some cases a dark clay was observed between 10 cm and 43 cm. Many of the tests, however, were terminated before clay was encountered with the deepest being 80 cm. An imposing root system, described by Ralph (1988) as "almost impenetrable," was the major reason for certain shovel tests not reaching clay. The soil observed in many of the areas tested consisted of a light powdery sand that was virtually absent of rocks or other materials.

The only channel with standing water crossed by the right-of-way was Cane Slough. According to Saul Aronow (personal communication, November 11, 1991), this slough is probably an old course of Village Creek. This crossing is located between Station Numbers 1658 and 1659 and drains Village Creek to the north. The west bank of the slough at Station Number 1658 was found to have clay at the surface, while the east bank at Station Number 1659 contained deep sandy loam to a depth of 80 cm. Although both banks failed to produce cultural materials, the ridge that forms the east bank appeared to be a suitable location for a prehistoric site. The age of this landform is not known, but it may be part of the Deweyville formation which was formed about 12000 years Before Present (B.P.). If this is the case, there is a chance that the area was utilized by prehistoric groups. Therefore, it cannot be stated with confidence that sites are not present somewhere on the east bank of Cane Slough based on the two shovel tests excavated at this location during the survey.

The right-of-way also crossed several low areas along the seismic line. The long, narrow fingers above these low-lying areas are believed to represent levees or point bars formed during or after the Deweyville formation was deposited. Shovel tests were dug at each of these areas, and not one was positive. Soils varied from clay at or near the surface to sandy loam or clay loam to depths of 60 cm without reaching clay. These areas appeared to be lower than the east bank of Cane Slough, and are considered to be low probability areas for prehistoric or historic occupation. Since this is an area that has been documented as flooding annually in historic times, it is likely that the area has always been marshy and may have been avoided by aboriginal groups except for temporary activities such as hunting or food gathering.

In the vicinity of Station Number 1684 Cane Slough turns to the east and parallels the seismic line to the park boundary at Station Number 1714. This ridge contained fine sandy loam that is at least 80 cm deep. Clay was never reached in any of the tests along this ridge. This ridge may also have been formed

during or after the Deweyville formation was deposited, and a better understanding of the geomorphology of this area is necessary before the presence of prehistoric sites can be ruled out.

The only evidence of historic utilization observed was a hunting cabin just outside the park boundaries at Station Number 1716. This site is recent in age and not eligible for State Archeological Landmark status or for inclusion to the National Register of Historic Places. Since it was out of the project area it was not examined closely. It is located on the same knoll as shown on the map prepared by the Texas Parks and Wildlife Department in their Master Plan (1989) to be the site of an old saw mill. This is one of the areas recommended by Ralph to be examined in the future.

Several hypotheses have been offered as explanations for the absence of prehistoric sites in parts of the Big Thicket area of which Village Creek State Park was once a part. Shafer et al. (1975:57-67) in an excellent summary of their survey give the following reasons for this phenomenon.

Hypothesis 1: Prehistoric sites are most likely to be found on elevated landforms such as abandoned stream levees, terrace remnants, and upland features located in the proximity of larger streams or rivers.

Hypothesis 2: The accumulation of soil and humus through time could have buried cultural materials so deep that even extensive inspection of surface exposure could not detect the evidence.

Hypothesis 3: The paucity of archeological sites is due to the manner in which the aboriginal populations utilized the Big Thicket area. Accessibility to this area was limited mainly to water travel along the larger streams.

Hypothesis 4: The meander pattern of large streams such as the Neches River has removed a significant number of archaeological sites.

All of these arguments are relevant to the current project area. If the ridge above Cane Slough was a suitable location for habitation in prehistoric times as defined in Hypothesis 1 then each of the other three hypotheses may explain the negative results of this survey in this area, although hypotheses 2 and 3 seem the most applicable. Since this is an area of constant flooding, the possibility of deeply buried sites seems to be a reasonable assumption. Only more testing will prove or disprove this hypothesis. If the Big Thicket area was utilized primarily by water travel along major streams then the suitability of Village Creek and/or Cane Slough as transportation routes must be determined. It is always possible that less dependable streams away from the major waterways were utilized as well. As stated by Shafer et al. (1975:65), the use of these areas may have been



restricted to temporary activities such as hunting. They argue that "the temporary nature of the occupation plus the restricted activities carried out at the campsites left little to be preserved in the archeological record." A utilized flake found in the park (Ralph 1991) is proof that aboriginal activity has taken place there. The lack of additional artifacts at this locality seems to support the statement that sites along lesser streams may be evidence of temporary occupation.

In summary, except for the recent hunting cabin just outside the park boundaries, there is no evidence of prehistoric or historic occupation along the proposed seismic line right-of-way surveyed by Brazos Valley Research Associates. Landforms crossed by the line in parts of the right-of-way appeared to be suitable locations for prehistoric or historic sites. At this time it is not known if the project area was largely avoided by prehistoric groups and utilized primarily for temporary activities as suggested above or if more permanent campsites exist. That much of the park is in an area that floods often, argues for the lack of permanent settlement.

According to John C. Parker, the current park area was utilized in historic times. Farming was a major activity until the Depression with cotton a chief crop. Kieth Field, a former cotton field, is marked on the project map in the Master Plan (Texas Parks and Wildlife Department 1989) and lies in the path of the area surveyed. Logging was also conducted as evidenced by the site of an old sawmill in the park referred to as the Brady Place by locals. The northeast end of the seismic line passed very close to this site as depicted on the project map in the Master Plan (Texas Parks and Wildlife Department 1989). It is the opinion of Mr. Parker that due to the amount of logging in the area none of the large trees in the park are older than 70 years. He states that the park was used as a hunting club by a local law firm for the past 40 years prior to acquisition by the State of Texas.

The hypotheses stated above are offered as possible explanations for the absence of prehistoric sites. Without additional shovel testing and possible backhoe trenching in conjunction with geomorphological studies, the probability of prehistoric utilization in Village Creek State Park cannot be adequately resolved. This park consists of 1000 acres in an area that is poorly understood by archaeologists, and a thorough examination of this tract is viewed as an excellent opportunity to further our knowledge of the archaeology of this part of Southeast Texas.

## RECOMMENDATIONS

It is recommended that TGS Geophysical Company be allowed to proceed with their plans to conduct a seismic survey along the proposed right-of-way as planned. The presence of a professional archaeologist during the seismic survey is not considered to be necessary. It is always possible that sites are overlooked during an archaeological survey. Therefore, if any cultural materials are encountered during the seismic survey, the Texas Antiquities Committee must be notified immediately and all work terminated until the situation has been evaluated.

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## APPENDIX I

# Shovel Test Log

Test	Depth	Diameter	Results	Dug to Clay
1	20 cm	25 cm	sterile	yes
2	36 cm	25 cm	sterile	yes
3	43 cm	25 cm	sterile	yes
4	26 cm	25 cm	sterile	yes
5	32 cm	25 cm	sterile	yes
6	80 cm	25 cm	sterile	no
7	30 cm	25 cm	sterile	no
8	45 cm	25 cm	sterile	no
9	67 cm	25 cm	sterile	no
10	60 cm	25 cm	sterile	no
11	35 cm	25 cm	sterile	no
12	10 cm	25 cm	sterile	yes
13	70 cm	25 cm	sterile	no
14	50 cm	25 cm	sterile	no
15	50 cm	25 cm	sterile	no
16	50 cm	25 cm	sterile	no
17	50 cm	25 cm	sterile	no
18	50 cm	25 cm	sterile	no