

**AN ARCHAEOLOGICAL SURVEY OF THE
FIRE LANE TANK PROJECT
FOR THE WEST BELL COUNTY
WATER SUPPLY CORPORATION
IN BELL COUNTY TEXAS**

Antiquities Permit 4514



***By
William E. Moore and Edward P. Baxter***

***Brazos Valley Research Associates
Contract Report Number 178***

2007

AN ARCHAEOLOGICAL SURVEY OF THE FIRE LANE TANK PROJECT
FOR THE WEST BELL WATER SUPPLY CORPORATION
IN BELL COUNTY, TEXAS

Brazos Valley Research Associates

Project Number 07-08

Principal Investigator:

William E. Moore

Prepared for

West Bell Water Supply Corporation
Post Office Box 1422
Killeen, Texas 76540

by

Brazos Valley Research Associates
813 Beck Street
Bryan, Texas 77803

ABSTRACT

An archaeological survey along a proposed pipeline (1.83 miles) and the site of two proposed ground water storage tanks (1/4 acre) in Bell County, Texas was performed by Brazos Valley Research Associates (BVRA) for the West Bell County Water Supply Corporation (WSC) in May of 2007. William E. Moore was the Principal Investigator, and Edward P. Baxter was the Project Archaeologist. This study was carried out under Texas Antiquities Committee Permit Number 4514. The project area was investigated using the pedestrian survey method supported by shovel probing. In all, the project area consisted of 2.5 acres. Altered chert cobbles were found on the talus slope below the site of the proposed water storage tank, but laboratory analysis found them to be not cultural. They appear to have been modified by natural fires. There is, however, a source of chert that is probably in the ledge just below the summit of the hill where the ground storage tanks will be constructed. These materials were returned to the landowner who discarded them. Copies of the final report are housed at the Texas Historical Commission (THC), Archeology Division, the Texas Archeological Research Laboratory (TARL), and BVRA.

ACKNOWLEDGMENTS

Brazos Valley Research Associates is grateful to those who helped ensure the success of this project. At the West Bell County WSC, John R. Whitson (General Manager) provided support and visited the project area with the Project Archaeologist to ensure he was in the right area. Steve Kallman of Steve B. Kallman Engineers in Round Rock and Steve D. Kelley of Kelley Environmental Consulting in Georgetown provided additional assistance. The records check was performed by Jean Hughes at TARK. Jennifer McMillan helped format the report, and Nora Rogers edited the manuscript. The figures were prepared by Edward P. Baxter and by Lili Lyddon. The chert samples collected during this survey were analyzed by William A. Dickens.

CONTENTS

| | |
|------------------------------|-----|
| ABSTRACT | ii |
| ACKNOWLEDGMENTS | iii |
| INTRODUCTION | 1 |
| ENVIRONMENTAL SETTING | 4 |
| CULTURE SEQUENCE..... | 9 |
| PREVIOUS INVESTIGATIONS..... | 14 |
| METHODS..... | 15 |
| RESULTS AND CONCLUSIONS..... | 16 |
| RECOMMENDATIONS | 17 |
| REFERENCES CITED..... | 18 |

FIGURES

| | |
|--|---|
| Figure 1. General Location..... | 2 |
| Figure 2. Project Area..... | 3 |
| Figure 3. Soils in the Project Area..... | 6 |
| Figure 4. View Along Proposed Pipeline..... | 8 |
| Figure 5. View at Site of Proposed Ground Water Storage Tanks..... | 8 |

INTRODUCTION

The West Bell County WSC proposes to upgrade its service to rural Bell County by increasing the size of an existing water pipeline from six inches to twelve inches and construct two above ground 5000-gallon water storage tanks on top of a large hill south of Long Mountain. The length of the pipeline upgrade is 1.83 miles, and the site where the tanks will be constructed is one-quarter acre. The pipeline will be in a trench twenty-four inches wide and three feet deep. The construction easement will be ten feet. The pipeline will be placed on private property when possible, but it will be moved to the public right-of-way if there is a problem with the preferred location. The proposed line parallels three county roads. They are County Road 2484, Tally Ho Road, and Fire Lane Road. There is an existing road that leaves Fire Lane Road and traverses the slope to the top of the hill. This road will be used during the construction of the water storage tanks. Therefore, no disturbance to the hill will be created except for the route of the pipeline and the construction of the storage tanks.

The general location of the project area within the county is depicted in Figure 1, and the area investigated is illustrated in Figure 2. An archaeological assessment of the Area of Potential Effect (APE) was required by the THC, Archeology Division. Since the water supply corporation is considered to be a public entity, a permit from the THC was required and Antiquities Permit 4514 was issued to BVRA by this agency. The project area is depicted on two 7.5' United States Geological Survey topographic quadrangles. These are Killeen (3197-212) and Youngsport (3097-343). The official title for this project is the West Bell County WSC Fire Lane Tank Project.

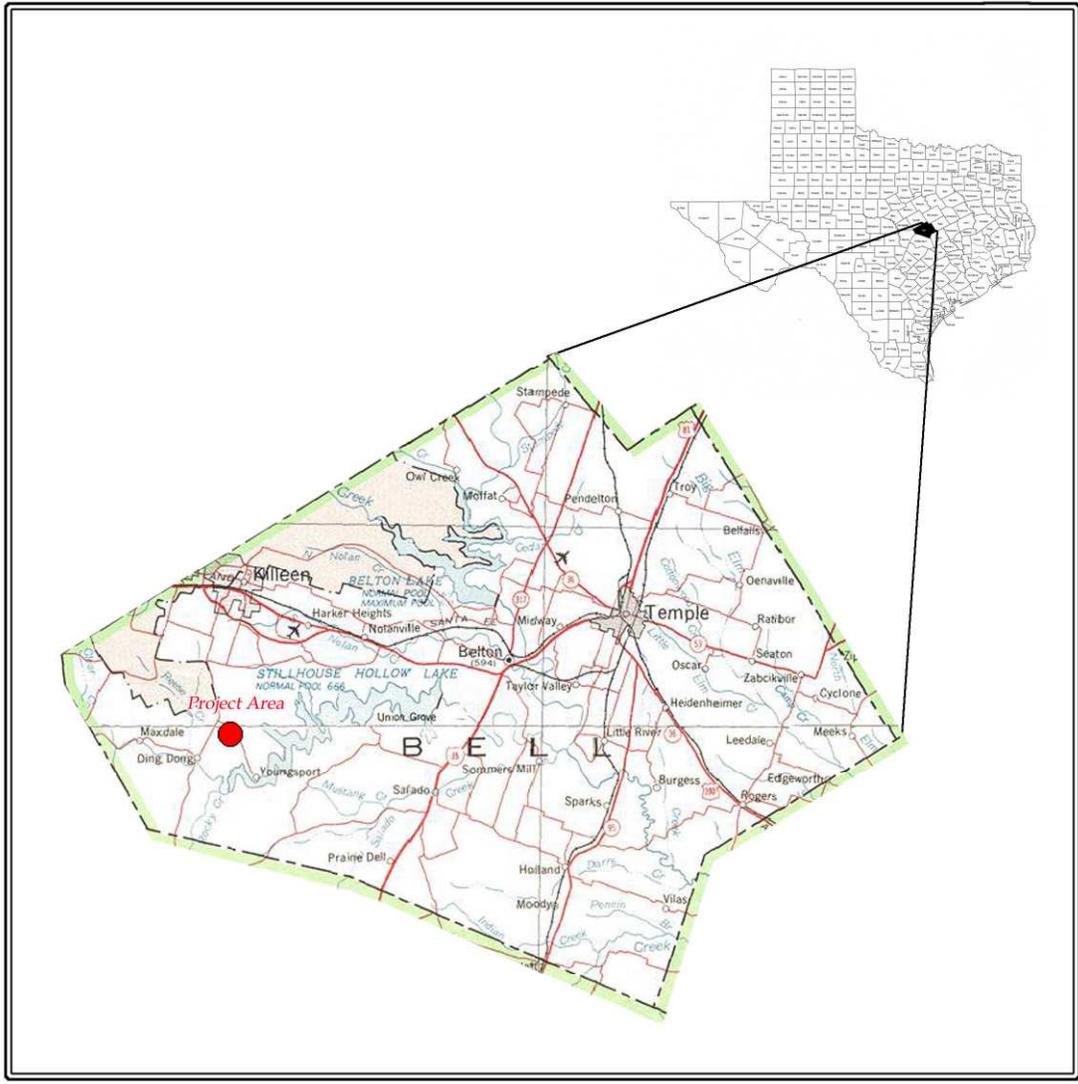
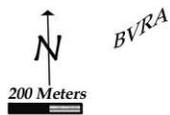
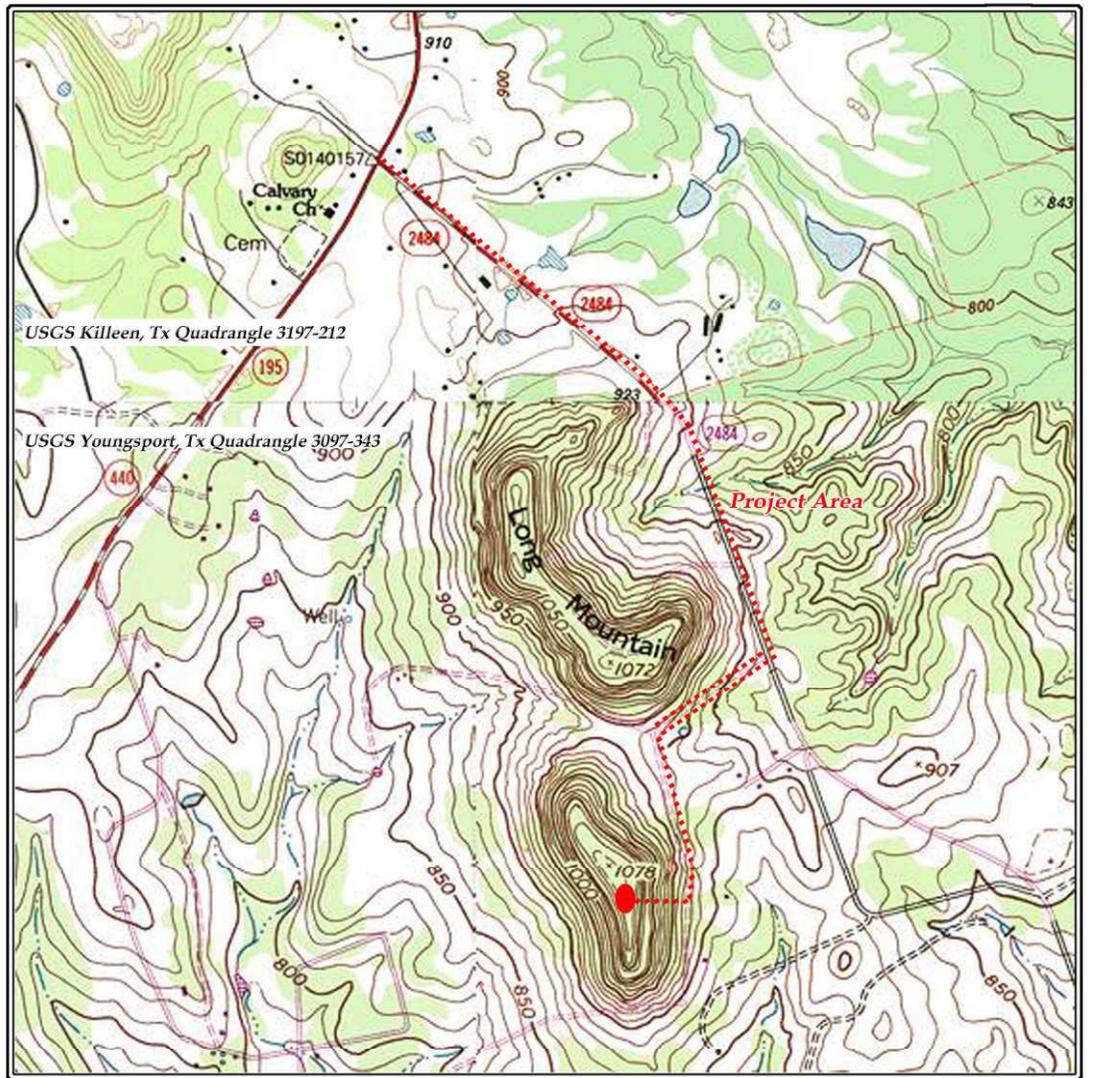


Figure 1. General Location



USGS Killeen and Youngsfort, Texas
 Quadrangles 3197-212 and 3097-343

- Proposed Waterline
- Proposed Water Tanks

Figure 2. Project Area

ENVIRONMENTAL SETTING

Bell County is located within the Balconian biotic province as defined by Blair (1950:112-116) and includes the Gulf coastal plain from the Atlantic Ocean to eastern Texas. The size and location of this province is described below by Blair (1950:112):

The Balconian province, as here defined, takes in most of the Edwards Plateau as limited by Sellards, Adkins and Plummer (1933): (figures 3 and 4), the Lampasas Cut Plain and Comanche Plateau of Raisz (1939 [cited as 1946 in Blair]), and the Central Mineral or Llano Uplift region. That part of the Edwards Plateau lying west of the Pecos, and often referred to as the Stockton Plateau, is not included, but is referred instead to as the Chihuahuan province.

The Balconian climate is characterized by a decrease in rainfall from east to west. Bell County is located in the eastern half of the province that has been classified by Thornwaite (1948) as dry subhumid, mesothermal with average annual potential evapotranspiration of between 39.27 and 44.88 inches. The annual rainfall for Bell County is 34 inches, the January minimum temperature is 37 degrees Fahrenheit, the July maximum temperature is 96 degrees Fahrenheit, and the growing season is 258 days (Kingston and Harris 1983).

According to Blair (1950:113), the most characteristic plant association of this province is a scrub forest of Mexican cedar (*Juniperus mexicana*), Texas oak (*Quercus texana*), stunted live oak (*Quercus virginiana*), and various less numerous species. The project area is also located well within the Prairies Vegetation Region and the Edwards Plateau Vegetation Region (Gould 1962). Vegetational species characteristic of the region include Plateau live oak (*Quercus fusiformis*), Texas oak (*Quercus texana*), ashe juniper (*Juniperus ashei*), honey mesquite (*Prosopis glandulosa*), cedar elm (*Ulmus crassifolia*), cottonwood (*Populus deltoides*), pecan (*Carya illinoensis*), elm (*Ulmus* spp.), sumacs (*Rhus* spp.), Texas persimmon (*Diospyros texana*), agarita (*Berberis trifoliolata*), Texas stillingia (*Stillingia texana*), yucca (*Yucca* spp.), Texas prickly pear (*Opuntia Lindheimeri*), yaupon (*Ilex vomitoria*), and American beautyberry (*Callicarpa americana*). Grasslands include seep mulhy (*Muhlenbergia reverchnoii*), Canadian wildrye (*Elymus canadensis*), dichanthelium (*Dichanthelium* spp.), Texas grama (*Bouteloua rigidiseta*), and red grama (*Bouteloua hirsuta*). The project area is now primarily overgrown with juniper and mixed oaks and grasses.

The Balconian Biotic Province is characteristically represented by a general mixture of fauna from nearby surrounding provinces (Blair 1950). Typical species found within the project area include White-tailed deer (*Odocoileus virginianus*), cotton-tailed rabbit (*Sylvilagus floridanus*), nine-banded armadillo (*Dasypus novemcinctus*), black-tailed jack rabbit (*Lepus californicus*), racoon (*Prycon lotor*), hispid cotton rat (*Sigmodon hispidus*), wild turkey (*Melagris gallopavo*), mourning dove (*Zenaida macroura*), scissor-tailed flycatcher (*Tyrannus forficatus*), northern bobwhite (*Colinus virginianus*), western coachwhip (*Masticophis flagellum testaceus*), and the bullsnake (*Pituophis melanoleucus sayi*).

The project area is located within the Lampasas River drainage basin. The nearest drainages to the project area are two unnamed tributaries of Rock Creek, a tributary of the Lampasas River.

The water pipeline passes through five soil types (Figure 3). These are Altoga silty clay, 2 to 5 percent slopes (AIC), Brackett association, rolling (BRE), Denton silty clay, 1 to 3 percent slopes (DeB), Lewisville silty clay, 1 to 3 percent slopes (LeC), and Lewisville-Altoga complex, 2 to 5 percent slopes (LgC). They are described briefly as follows:

AIC soils are discussed by Huckabee et al. (1977:6) as gently sloping soils on rounded hilltops, hillsides, and oblong foot slopes and consist of silty clays containing chalky fragments. They are often gullied. BRE soils are discussed by Huckabee (1977:10) as soils that formed mostly on the lower two-thirds of the sides of hills. Included within these soils are fragments of limestone. DeB soils are discussed by Huckabee et al. (1977:14) as gently sloping soils on low ridges. Limestone fragments occur at various depths, and a fractured hard limestone is usually found at 40 to 60 inches. LeC soils are discussed by Huckabee et al. (1977:22) as gently sloping soils on foot slopes. From the surface to 60 inches, this soil consists of silty clay. The soil survey does not discuss this soil past this depth. LgC soils are discussed by Huckabee et al. (1977:22) as gently sloping soils on convex slopes. This complex is made up of about 50 percent Lewisville silty clay and 50 percent Altoga silty clay. The Lewisville silty clay extends to a depth of 60 inches, while the Altoga silty clay contains an underlying chalky marl that reaches to a depth of 62 inches.

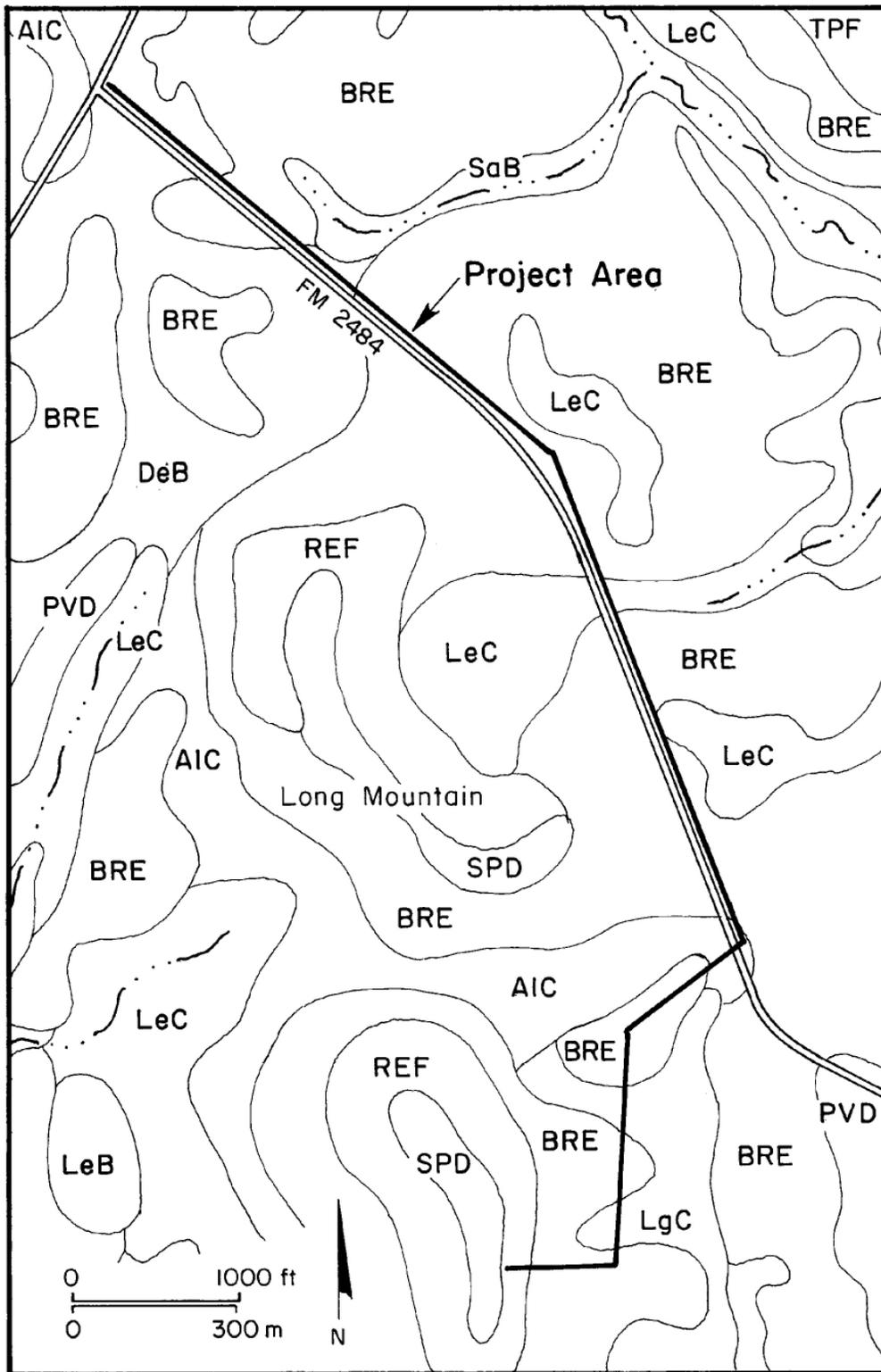


Figure 3. Soils in the Project Area

It should be stated here that soil was virtually non-existent within the current project area. Surface visibility was at least 50% throughout the area examined. The field survey encountered, in most cases, a thin (0-10 cm) layer of clayey soil over caliche, bedded cretaceous marine fossils, or limestone.

The large hill encompasses two soil types. The top of the hill is composed of the Speck association, undulating (SpD) as defined by Huckabee et al. (1977:29) and illustrated in the Bell County soil survey on Sheet 55. This association is made up of stony and gravelly soils. Areas containing these soils are irregular in shape and contain slopes from 1 to 8 percent. The slopes leading to the crest of this hill are composed of the Real association, hilly (REF) as defined by Huckabee et al. (1977:27) and illustrated in the Bell County soil survey on Sheet 55. This association consists of long narrow strips along canyon walls and hills. Slopes range from 10 to 30 percent. These soils consist of gravelly soils and limestone with little soil formation present.

This survey encompassed two different environmental settings. First, the pipeline traversed a landscape consisting of ridges, terraces, and slopes of hills (Figure 4). Second, the proposed site of the ground water storage tanks occupies the top of a steep hill (Figure 5).



Figure 4. View Along Proposed Pipeline



Figure 5. View at Site of Proposed Ground Water Storage Tanks

CULTURE SEQUENCE

Bell County is located in the North Central Texas cultural-geographical region as defined by Biesart et al. (1985:76). This area is referred to as Central Texas by most archaeologists and is rich in archaeological sites.

Summaries relevant to the prehistory of Bell County and vicinity have been prepared by various archaeologists, primarily as a result of work at Fort Hood in Bell and Coryell counties, Texas (Guderjan et al. 1980; Skinner et al. 1981, 1984; Thomas 1978; Roemer et al. 1985; Carlson et al. 1986), Belton Reservoir (Shafer et al. 1964), the Youngsfort site (Shafer 1963), and Stillhouse Hollow Reservoir (Shafer et al. 1964; Sorrow et al. 1967). Summaries of the region have been published by Suhm (1960), Weir (1976), and Prewitt (1981, 1985). Most recently, two thorough articles concerning Central Texas were published in Volume 66 of the *Bulletin of the Texas Archeological Society*. These works, entitled "Forty Years of Archeology in Central Texas," by Michael B. Collins (1995) and "Implications of Environmental Diversity in the Central Texas Archeological Region" by Linda Wootan Ellis, G. Lain Ellis, and Charles D. Frederick (1995), represent a major synthesis of the vast amount of collected data for the region. The following discussion is taken primarily from the works cited above.

Paleoindian Period

Although, according to Willey and Phillips (1958:80), problems exist with the term "Paleo-Indian," it is so widely accepted that it is used in this discussion. Paleo-Indian typically refers to those cultures that were oriented toward big game hunting with food collecting not a major pursuit. Eileen Johnson (1977:65-77) states that it has been erroneously stereotyped as a migratory systematic big game procurement adaptation. Collins (1995:381) argues that subsistence in Clovis times, for example, Paleo-Indian exploited a diverse fauna base that not only included large herbivores such as mammoth, bison, and horse but also included smaller animals such as water turtles, land tortoises, alligator, mice, badger, and raccoon. At Kincaid Rock Shelter, a paved floor suggests that the inhabitants of this site returned to the same site as part of a regular hunting and gathering strategy in contrast with nomadic hunters who only pursued big game. It is, therefore, assumed that an array of plants presumably also constituted part of Clovis subsistence (Collins 1990; Collins et al. 1989)

According to Skinner et al. (1981:13), the Paleo-Indian period is one of the least understood time periods in Central Texas prehistory, primarily because few sites have been excavated. Evidence of this period often occurs in the form of surface collected materials found over much of Central Texas. At Fort Hood, this period is represented by distinctive projectile points found in multi-component surface sites and as isolated finds (Carlson et al. 1986:15). Generally, it is believed that this period lasted from about 10,000 B.C. until 6000 B.C. Diagnostic artifacts of the period include dart point types *Angostura*, *Clovis*, *Folsom*, *Golondrina*, and *Plainview* as defined by Suhm and Jelks (1962) and Turner and Hester (1985).

These early sites are often found on old terraces of major river drainages and may be more distant from major streams than some more recent occupations (Bryan 1931). Some rock shelters, such as the Levi site, were intensively occupied even though they are located a considerable distance from major rivers. The only example of a rock shelter in Central Texas immediately adjacent to a major drainage known to contain Paleo-Indian occupation is the Horn Shelter (41BQ46) in Bosque County (Redder 1985).

Archaic Period

The Archaic represents a broad cultural time period that lasted from approximately 8500 Before Present (B.P.) to 1250 B.P. in Central Texas. According to Prewitt (1981:71), "The Archaic Stage dominates all other remains in Central Texas." Prewitt (1981) has subdivided the Archaic into eleven phases. LeRoy Johnson (1987) has questioned the validity of the phase concept as used by Prewitt, especially the phases occurring before the Middle Archaic. These have been grouped into Early, Middle, Late, and Terminal periods by Carlson et al. (1986:15). According to Prewitt (1981:77-78), during the Early Archaic there was a "strong orientation toward the gathering aspect rather than the hunting, and a mobile population was of low density." This occurred during the Circleville, San Geronimo, and Jarrell phases (8500 B.P. - 5000 B.P.). In the Middle Archaic, food gathering had become very specialized as evidenced by the presence of numerous burned rock middens/mounds (Prewitt 1981:78-80). The Middle Archaic is seen by Prewitt to have taken place during the Oakalla, Clear Fork, Marshall Ford, and Round Rock phases (5000 B.P. - 2600 B.P.). An overall decrease in burned rock middens took place during the Late Archaic. Bison were important as a food resource, but did not dominate subsistence activities (Prewitt 1981:80-81). The Late Archaic occurred during the San Marcos and Uvalde phases (2600 B.P. - 1750 B.P.). The Terminal Archaic, according to the classification by Carlson et al. (1986), includes the Twin Sisters and Driftwood phases (1750 B.P. - 1250 B.P.). An increase in the importance of gathering and an apparent peak in site density seem to have occurred during Prewitt's (1981:82) Driftwood phase.

According to the statistical overview (Biesart et al. 1985) published by the Office of the State Archeologist in 1985, the prehistoric site inventory for Bell County was heavily skewed towards the Archaic. Of the 197 recorded sites, 2 were classified as Paleo-Indian, 10 Early Archaic, 37 Middle Archaic, 32 Late Archaic, 52 General Archaic, and 29 Late Prehistoric. These statistics suggest that Bell County was occupied mainly during the Archaic period which, according to Prewitt (1981:Figure 3), lasted from 8500 years B.P. to 1250 B.P. This is supported by the statement by Collins (1995:383) that "two-thirds of the prehistory of Central Texas is 'Archaic' in character."

Late Prehistoric Period

This period has been referred by some as the Neo-American Stage (Suhm et al. 1954), Neo-archaic (Prewitt 1981), and Post-Archaic (Johnson and Goode 1994). Technological changes are the primary distinguishing characteristics of this stage. The Austin (1250 B.P. - 650 B.P.) and Toyah (650 B.P. - 200 B.P.) phases belong to this stage of prehistory. During this time arrow points first appeared as well as ceramics and possibly horticulture.

According to Collins (1995:385), there is now evidence that only the bow and arrow appeared initially in Central Texas; pottery was added later, and agriculture developed last and was of minor importance. Because Late Prehistoric groups continued to practice hunting and gathering, a division or two sub-periods seem to have taken place. These are referred to as early and late by Collins (1995:385) with the break between the long-standing Archaic period and the Late Prehistoric period occurring at circa 800 B.P. when Toyah replaced Austin as the prevailing archeological manifestation.

The most obvious change that emerged at the beginning of the Late Prehistoric period is the introduction of the bow and arrow and decreased use of the *atlatl* or spear thrower. Otherwise, subsistence lifeways in the Late Prehistoric were probably little different from those in the earlier Archaic period (Prewitt 1981:74; Weir 1976). A chronological model by Dillehay (1974) of bison presence and absence periods on the southern plains suggests that bison were present during the Toyah phase but not during the preceding Austin phase.

Historic Period

Collins (1995:386) divides the Historic period of Central Texas into three sub-periods: early, middle, and late. During the first two, vestiges of both indigenous and European peoples and cultures were present; however, in the third the indigenous peoples had virtually disappeared. The early Historic sub-period in Central Texas began in the late 17th century with the first documented arrival of Europeans. Bell County is situated within the historic range of the Tonkawa Indians who inhabited the area in the 16th Century (Newcomb 1986). By the 19th Century, they had broken ties with the Comanche and Wichita and were associated with the Lipan Apache (Aten 1983:32). They have been described as typical southern Plains Indians who were hunters and gatherers and who lived along the streams and rivers of Central Texas. Remains of this group have not been found in an historic context in Bell County.

During this period, Texas was occupied by numerous aboriginal groups including the Caddo, Jumano, Tonkawa, Comanche, and Lipan Apache (Newcomb 1986). Trade is known to have existed between the Jumanos and the Caddos. The Lipan Apaches and subsequently the Comanches entered the region from the Plains while following key animal resources as they migrated into Texas. Contact period occupations are often identified by the occurrence of glass beads, gun parts, gunflints, metal projectile points, and European manufactured ceramics. The archival search did not locate any Historic Indian sites in Bell County; however, Texas Archeological Society (TAS) member Bob Burleson (1995:6) reports finding a metal arrow point cut from a barrel strap in fresh gravels placed on the road to his farm. In adjacent Coryell County, a blue glass bead was found with one of the burials at 41CV1, a group burial along the Leon River (Jackson 1931), and a steel arrow point has been reported as an isolated find on Horse Creek in the extreme east corner of Coryell County (Campbell 1952).

Historically, Bell County was first settled in 1834 and 1835 by colonists who settled along Little River. The area was abandoned during the "Runaway Scrape" of 1836, reoccupied, and deserted again after the fall of Fort Parker in June 1836. The early settlements were constantly harassed by hostile Indians and, although several forts were established, by 1838 all settlers had left the county. On May 26, 1839, the Indians suffered a decisive defeat at what is referred to as the "Famous Bird Creek Fight" about one and a half miles northwest of the present site of Temple, Texas. However, settlement did not return to the Bell County area until after 1843.

Bell County was created on January 22, 1850 and was named for Peter H. Bell. Nolan Springs was chosen as the county seat and named Nolanville, but on December 16, 1851 the name was changed to Belton. Early settlement was along the creeks and rivers. Early histories of Bell County refer frequently to the Shallowford Crossing on the Leon River as an important transportation route for wagon traffic. The exact location of this crossing has not been identified, but it substantiates the importance of this part of Bell County during its early settlement. By 1860, most of the land had been taken. The last serious Indian raid occurred in 1859. With the Indian problem apparently resolved, settlement increased and the county grew from 4799 in 1860, to 9771 in 1870, and to 20,518 in 1880. The number of farms in the county increased from 640 in 1869, to 2231 in 1871, and to 4249 in 1889. Bell County is chiefly an agricultural region with cotton and corn the leading crops. The construction of Fort Hood led to a population increase in the county from 44,863 in 1940 to 74,145 in 1950.

PREVIOUS INVESTIGATIONS

According to *Prehistoric Archeological Sites in Texas: A Statistical Overview* (Biesaart et al. 1985:111), there were 197 sites recorded at TARL in 1985 when this study was published by the Office of the State Archeologist. At this time, Bell County was third in the North Central Texas region, and the 197 sites represented 7.35% of the region and .97% of the state. The archaeological significance of this area is further indicated by the fact that 61 of the 197 sites recorded in 1985 were registered as State Archeological Landmarks. This figure represents 30.96% of all sites in Bell County.

Since 1985, however, the number of recorded sites has greatly increased; more than 1240 sites were on file at TARL as of May 10, 2007 (TARL site files). Although sites have been recorded by private contract archaeology firms, local archaeological societies, and interested individuals, this increase in the number of sites in the county is mainly due to large-scale federal projects such as Lake Belton, Stillhouse Hollow Reservoir, and Fort Hood.

The efforts of members of the Central Texas Archaeological Society and Bell County Archeological Society have made notable contributions. These include articles in the form of bulletins, newsletters, special reports, and unpublished manuscripts on file at TARL or with society members. Bell County has been the subject of intensive investigations by members of the Central Texas Archeological Society. As a result of the above-mentioned investigations, "Bell County is one of the better known Central Texas counties and has provided significant information toward the understanding of prehistoric chronologies in this part of Texas" (Young 1987:9).

At the time of this survey there were no archaeological sites recorded in the project area or APE. The nearest recorded site to the current project area is 41BL979, approximately 150 meters to the west. This site was recorded by archaeologists from Hicks and Company, Inc, in 1991 following a survey of the proposed Ding Dong to Trimmier Transmission Line for Brazos Electric Cooperative of Waco. This site is described on the site form as a lithic procurement site. Although there was a large quantity of chert in the area, no finished artifacts were found. The site form mentions numerous split cobbles and cores as well as primary, secondary, and tertiary flakes being present. All of the materials exhibited early stages of reduction and were found on the slope just below the base of the summit. These materials are currently housed at Hicks and Company, Inc. in Austin. The authors of the site form believe that the source of this chert is on the summit and adjacent slope. The report documenting their work is not on file at TARL, and BVRA was not able to obtain a copy from Hicks and Company.

METHODS

Background Research

Before entering the field, a background investigation was conducted. Site records at the Texas Archeological Research Laboratory in Austin, Texas were checked for previously recorded sites in the project area and vicinity. In addition, site reports documenting work in the region were examined for information concerning archaeological surveys and other work relevant to the project area. The project was discussed with the engineers and the General Manager of the West Bell County WSC to ensure that the correct route was examined.

Field Survey

The fieldwork was accomplished using the pedestrian survey method supported by limited shovel probing due to a lack of deep soil. The highway right-of-way, as well as the proposed construction easement on private property, was visually inspected. Both sides of Tally Ho Road were examined. Surface visibility was excellent over most of the project area. The two intermittent creek crossings, as well as the section of the pipeline near the recorded lithic procurement area (41BL979) were carefully inspected. Altered chert cobbles were identified during the pedestrian survey along the steep slope of the large hill where the storage tanks are proposed. A sample of chert material was collected for analysis in the laboratory to determine if these objects were cultural and not the result of natural processes. The survey was documented by field notes and images taken with a digital camera. A hand-held GPS was used to document survey locations.

RESULTS AND CONCLUSIONS

The field survey identified a small scatter of altered chert cobbles along the eastern slope of the large hill where the ground storage tanks will be constructed. Only one altered chert cobble was observed on the surface at the summit of the hill. We believe that these nodules originated in a ledge at or below the summit of the hill. No finished tools were found, and no flakes were present. Analysis of these materials in the laboratory determined that they were not modified by man. No bulbs of percussion are present on any of the specimens observed in the field or collected for analysis. The consensus is that they were fractured by a naturally occurring fire.

RECOMMENDATIONS

The current survey identified a small scatter of altered chert cobbles on the steep slope beneath the summit of the hill where the ground water storage tanks are to be constructed. This area is not significant; therefore, it is recommended that construction be allowed to proceed as planned. Should evidence of an archaeological site be encountered during construction, all work in the area of the find must cease until the situation can be evaluated by the THC. Also, if the route of the pipeline or the location of the water storage tanks is changed, the THC must be notified as additional survey by a professional archaeologist may be warranted.

REFERENCES CITED

- Aten, Lawrence E.
1983 *Indians of the Upper Texas Coast*. Academic Press.
- Biesaat, Lynne A., Wayne R. Roberson, and Lisa Clinton Spotts
1985 *Prehistoric Archeological Sites in Texas: A Statistical Overview*.
Office of the State Archeologist, Special Report 28.
- Blair, W. Frank
1950 The Biotic Provinces of Texas. *Texas Journal of Science*
11(1):93-116.
- Bryan, F.
1931 Notes on the Archeology of Central Texas. *American*
Anthropologist 33(1):16-31.
- Burleson, Bob
1995 Letter from Bob Burleson to Roming-Parker Associates, L.L.P.
Consulting Engineers and Beach Engineering dated November
7, 1995. In Improvements and Extension to Pepper Creek
Trunk Sewer: Preliminary Engineering Report, prepared by
Roming-Parker Associates, L.L.P. and Beach Engineering,
November 1995.
- Campbell, Thomas Nolan
1952 Note written by T. N. Campbell dated October 24, 1952. On file
at the Texas Archeological Research Laboratory in Austin,
Texas.
- Carlson, David L., Shawn B. Carlson, Frederick L. Briuer, Erwin Roemer, Jr., and
William E. Moore
1986 *Archaeological Survey at Fort Hood, Texas Fiscal Year 1983,*
The Eastern Training Area. United States Army Fort Hood,
Archaeological Resource Management Series, Research Report
11.
- Collins, Michael B.
1990 The Archaeological Sequence at Kincaid Rockshelter, Uvalde
County, Texas. In *Transactions of the 25th Regional*
Archeological Symposium for Southeastern New Mexico and
Western Texas, pp. 25-33. Midland Archeological Society,
Midland.
- 1995 Forty Years of Archeology in Central Texas. *Bulletin of the*
Texas Archeological Society 66:361-400.

- Collins, Michael B., G. L. Evans, Thomas Nolan Campbell, M. C. Winans, and C. E. Mear
 1989 Clovis Occupation at Kincaid Shelter, Texas. *Current Research in the Pleistocene* 6:3-4.
- Dillehay, Tom D.
 1974 Late Quaternary Bison Population Changes on the Southern Plains. *Plains Anthropologist* 19(65):180-196.
- Ellis, Linda Wootan, G. Lain Ellis, and Charles D. Frederick
 1995 Implications of Environmental Diversity in the Central Texas Archeological Region. *Bulletin of the Texas Archeological Society* 66:401-426.
- Gould, F. W.
 1962 *Texas Plants: A Checklist and Ecological Summary*. Texas Agricultural Experiment Station, Bulletin MP-585. College Station.
- Guderjan, Thomas H., George B. Thomas, and Howard R. Cramer
 1980 Existing Data Inventory of Cultural Resource and Paleontological Information, Fort Hood, Texas. Soil Systems, Inc. Marietta, Georgia.
- Huckabee, J.W., Thompson, D.R., Wyrick, J.C., and Pavlat, E.G.
 1977 *Soil Survey of Bell County, Texas*. United States Department of Agriculture-Soil Conservation Service. United States Government Printing Press, Washington, D.C.
- Jackson, A. T.
 1931 Excavation of a Burial Site on Fred Acree Farm, Coryell County, Texas, January 29 to February 3, 1931. Unpublished manuscript on file at the Texas Archeological Research Laboratory in Austin, Texas.
- Johnson, Eileen
 1977 Animal Food Resources of Paleoindians. *The Museum Journal* 17:65-77. Johnson, LeRoy, Jr.
- Johnson, LeRoy, Jr.
 1987 A Plague of Phases: Recent Soiocultural Taxonomy in Texas Archeology. *Bulletin of the Texas Archeological Society* 57:1-26.

- Johnson, LeRoy, Jr., and Glenn T. Goode
 1994 A New Try at Dating and Characterizing Holocene Climates, as well as Archeological Periods, on the Eastern Edwards Plateau. *Bulletin of the Texas Archeological Society* 65:1-51.
- Kingston, Michael T., and Ruth Harris (editors)
 1983 *The Texas Almanac and State Industrial Guide: 1984-1985*. The Dallas Morning News.
- Newcomb, William W., Jr.
 1986 *The Indians of Texas: From Prehistoric to Modern Times*. The University of Texas Press. (Seventh Paperback Printing)
- Prewitt, Elton R.
 1981 Cultural Chronology in Central Texas. *Bulletin of the Texas Archeological Society* 52:65-89.
 1985 From Circleville to Toyah: Comments on Central Texas Chronology. *Bulletin of the Texas Archeological Society* 54:201-238. (for 1983)
- Raisz, Erwin
 1946 *Map of the Landforms of the United States*. Harvard University. Cambridge.
- Redder, Albert J.
 1985 Horn Shelter Number 2: The South End a Preliminary Report. *Central Texas Archeologist* 10:37-65.
- Roemer, Erwin, Jr., Shawn Bonath Carlson, David L. Carlson, and Frederick L. Briuer
 1985 *Archaeological Surveys at Fort Hood, Texas, The Fiscal Year 1982 Range Construction Projects*. United States Army, Fort Hood Archaeological Resource Management Series, Research Report Number 10.
- Sellards, E. H. Adkins, W. S. and F. B. Plummer
 1933 *The Geology of Texas: Volume I, Stratigraphy*. The University of Texas Bulletin 3232. Austin.
- Shafer, Harry J.
 1963 Test Excavations at the Youngsfort Site: A Stratified Terrace Site in Bell County, Texas. *Bulletin of the Texas Archeological Society* 34:57-81.

- Shafer, Harry J., Dee Ann Suhm, and J. D. Scurlock
 1964 *An Investigation and Appraisal of the Archeological Resources of Belton Reservoir, Bell and Coryell Counties, Texas: 1962.* Texas Archaeological Salvage Project, Miscellaneous Papers, Number 1. The University of Texas at Austin.
- Skinner, S. Alan, Frederick L. Briuer, George B. Thomas, Ivan Show, and Eli Mishuck
 1981 *Initial Archaeological Survey at Fort Hood, Texas, Fiscal Year 1978.* United States Army, Fort Hood Archaeological Resource Management Series, Research Report Number 1.
- Skinner, S. Alan, Frederick L. Briuer, W. A. Meiszner, Ivan Show, and Eli Mishuck
 1984 *Archaeological Survey, at Fort Hood, Texas, Fiscal Year 1979.* United States Army, Fort Hood Archaeological Resource Management Series, Research Report Number 2.
- Sorrow, William M., Harry J. Shafer, and Richard E. Ross
 1967 *Excavations at Stillhouse Hollow Reservoir.* Papers of the Texas Archeological Salvage Project, Number 11. Austin.
- Suhm, Dee Ann
 1960 A Review of Central Texas Archeology. *Bulletin of the Texas Archeological Society* 29:63-107.
- Suhm, Dee Ann, and Edward B. Jelks
 1962 *Handbook of Texas Archeology: Type Descriptions.* Texas Archeological Society, Special Publication Number 1 and Texas Memorial Museum, Bulletin Number 4.
- Suhm, Dee Ann, Alex D. Krieger, and Edward B. Jelks
 1954 An Introductory Handbook of Texas Archeology. *Bulletin of the Texas Archeological Society* 25. (entire volume).
- Texas Historical Commission
 1991 *Endangered Historic Properties of Texas: Second Edition.* Texas Historical Commission. Austin.
- Thomas, George B.
 1978 A Survey and Assessment of the Archeological Resources of Fort Hood, Texas. *Bulletin of the Texas Archeological Society* 49:195-240.

- Thornwaite, C. W.
1948 An Approach Toward a Rational Classification of Climate.
 Geography Review 38:55-94.
- Turner, Ellen Sue, and Thomas R. Hester
1985 *A Field Guide to Stone Artifacts of Texas Indians*. Texas
 Monthly Press.
- Weir, Frank A.
1976 The Central Texas Archaic. Unpublished Ph.D. Dissertation,
 Washington State University. Pullman. On file at the Texas
 Archeological Research Laboratory in Austin, Texas.
- Willey, Gordon R., and Philip Phillips
1958 *Method and Theory in American Archaeology*. The University of
 Chicago Press, Chicago.
- Young, Wayne C.
1987 *Archaeological Testing of Site 41BL260 Bell County, Texas*.
 Texas State Department of Highways and Public
 Transportation, Highway Design Division.