



*A Cultural Resources Survey of the Military
West Crossing Subdivision Project Area,
San Antonio, Bexar County, Texas*

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Abstract

In late April, 2006, South Texas Archeological Research Services, LLC, conducted a cultural resources survey of the proposed Military West Crossing Subdivision project area in San Antonio, Bexar County, Texas, for Terracon Consultants, Inc. Because the project area was within the City of San Antonio and federal linkage for the project was impending, the survey was required by the City of San Antonio Unified Development Code and the National Historic Preservation Act, Section 106. The survey targeted discovery, identification, and survey-level assessment of archeological resources.

The area surveyed was 23 acres of unimproved land, most of which was heavily vegetated, in the transition zone between the Balcones Escarpment and Canyonlands and the Gulf Coastal Plain. A Texas Archeological Sites Atlas search conducted prior to the survey indicated that no recorded archeological sites were within or adjacent to the project area and that the area had not been previously investigated archeologically. However, the close proximity of the project area to Leon Creek and to several previously recorded prehistoric archeological sites increased the likelihood that the area could contain previously undiscovered and unrecorded prehistoric sites.

A pedestrian examination of the surface and excavation of 19 archeological shovel tests were performed according to the *Texas Historical Commission's Archeological Survey Standards for Texas: Minimum Survey Standards*. The excavations encountered fairly shallow, natural topsoils over subsoils that apparently originated prior to any human occupations or activities in the area. Except for a few artifacts that could have originated during prehistory that were found in isolated surface contexts, modern trash, and brush piles and markers associated with a recent drainage and sewer line survey, nothing of cultural origins was found during the cultural resources survey, and nothing was collected or curated. No archeological sites were defined or recorded in conjunction with the survey.

No cultural resources were found during the survey that, in the opinion of Principal Investigator, were eligible or potentially eligible as archeological sites or other types of landmarks according to either the historic preservation sections of the City of San Antonio Unified Development Code or the National Register criteria for evaluation. The survey revealed that much of the project area was previously disturbed by modern agricultural activities and was unlikely to contain buried archeological resources or cultural resources with any appreciable research value. The Principal Investigator concluded that development of the project area should not affect any such resources. It was recommended to Terracon Consultants, Inc., the Texas Historical Commission, and to the City of San Antonio Historic Preservation Office that the project should be allowed to proceed without further archeological work. In accordance with applicable antiquities statutes and regulations, the Principal Investigator also recommended that if any cultural resources as defined in those statutes and regulations were encountered during construction, work should immediately be halted in the vicinity until the finds could be examined and evaluated by a qualified archeological consultant, the City Historic Preservation Officer, and/or the Texas Historical Commission.



Acknowledgements

South Texas Archeological Research Services, LLC, was assisted in coordinating and performing the survey of the project area by several persons whose help is gratefully acknowledged: Terracon Consultants, Inc.'s Environmental Scientist David W. Martin; archeological mapping specialist Albert Uecker, Registered Professional Land Surveyor; archeological technician Jay McCracken; City of San Antonio Historic Preservation Office archeologist V. Kay Hindes, and Texas Historical Commission Archeology Division reviewer William A. Martin.

Introduction

On April 24, 2006, South Texas Archeological Research Services, LLC (STARS), conducted the fieldwork phase of a cultural resources survey of the Military West Crossing Subdivision project area (Figure 1), San Antonio, Bexar County, Texas, for Terracon Consultants, Incorporated (TCI). The survey focused on discovery, identification, and preliminary assessment of archeological resources within the project area, which was slated for commercial development. Since the project area was within the City of San Antonio (COSA), its proposed development was subject to review by the city's Historic Preservation Office (HPO) according to Division 3, Sections 35-634 through 35-640 of the city's Unified Development Code. Because the project area or its proposed development was federally linked, the survey was designed to satisfy survey-level requirements of Section 106 of the National Historic Preservation Act for the project. Fieldwork was done according to the THC's *Archeological Survey Standards for Texas, Minimum Survey Standards*, the standard adopted by the HPO and also by the Texas State Historic Preservation Officer (SHPO).

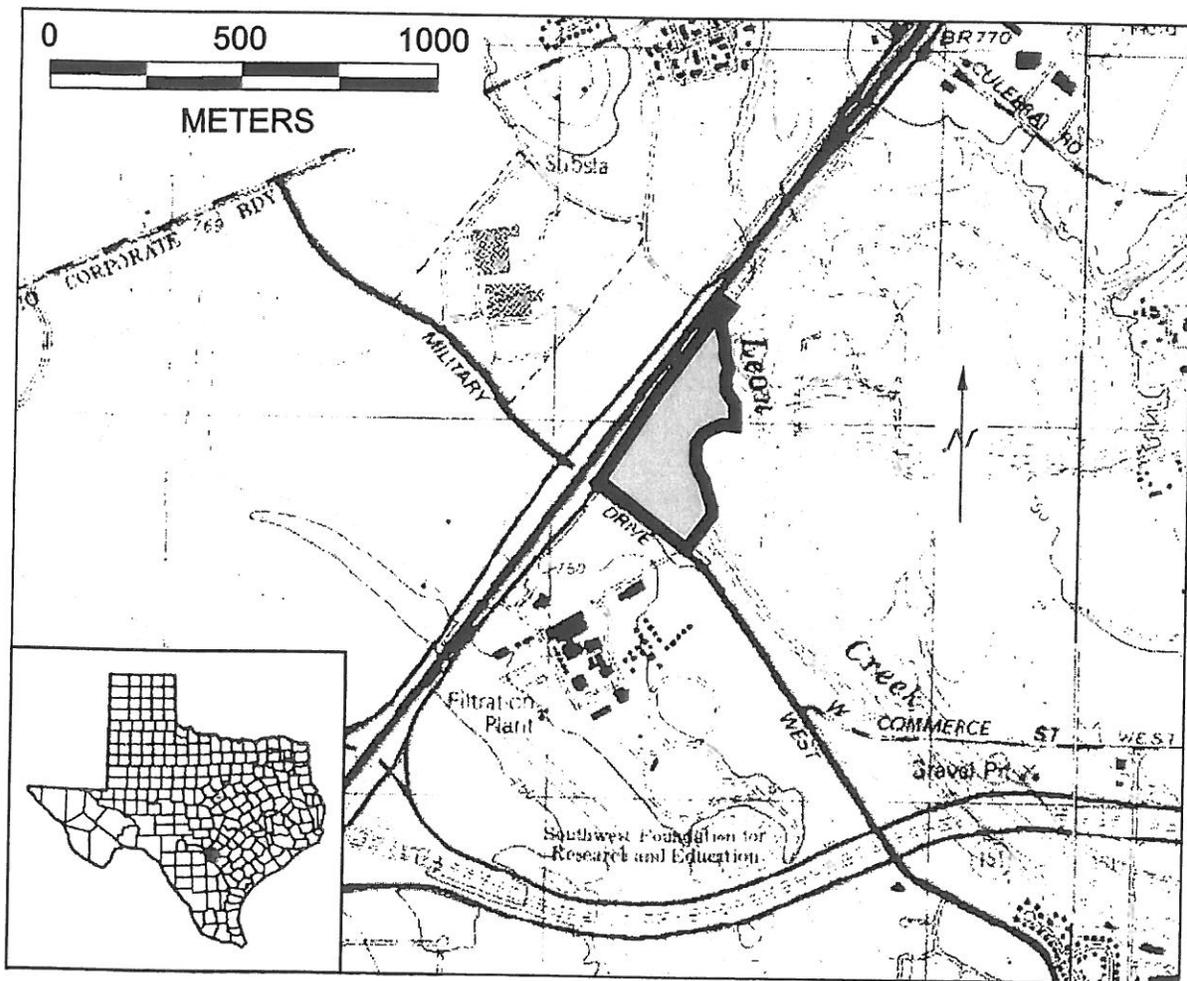


Figure 1. Project area (shaded within bold outline) as plotted on section of *Culebra Hill, Texas*, United States Geological Survey 7.5-minute quadrangle topographic map. Inset shows location of Bexar County in Texas.



The project area was about 23 acres of land in western San Antonio near the southern border of the Balcones Escarpment and Fault Zone. It was roughly triangular in shape and its elevations ranged between about 221 and 229 meters above sea level. One leg of the triangle which formed the border of the project area extended approximately north-northeast to south-southwest along the easternmost edge of Southwest Loop 410. A second leg extended perpendicular to the first leg along the northernmost edge of West Military Drive inside of Southwest Loop 410. Southwest Foundation for Research and Education was across West Military Drive to the south. The eastern border of the project area formed the third and longest leg of the triangle. It was irregular in shape and roughly followed the course of Leon Creek, the channel of which was just to the east of the project area. The creek was dry at the time of the survey.

As evident in the mid-1960s-vintage aerial photograph of the project area and vicinity in *Soil Survey: Bexar County, Texas* (Taylor et al. 1966:Sheet 43), much the project area and surrounding lands were cleared and converted to agricultural fields. The presence within the project area of dense stands of vegetation that appeared to be of secondary origin, including sizeable native mesquite, huisache, hackberry, and persimmon trees, indicated that the fields must have been abandoned at least several decades ago. The abandonment probably occurred in conjunction with construction of the adjoining segment of Southwest Loop 410 during about the 1960s to 1970s, when the expressway separated the project area from parent fields. Other types of vegetation observed within the project area during the survey are elbow bush, narrow-leaf yucca, horse crippler cacti, lotebush, cat claw acacia, and assorted thorn scrub brush.

With the exception of several acres of land near the central part of the portion of the project area bordering Southwest Loop 410, which had recently been cleared for a sewer line and drainage survey, the property appeared relatively undisturbed by artificial activities at the time of the STARS survey. There were several clusters of 55-gallon barrels at the surface in and around the recently cleared zone that were labeled as non-hazardous waste. Numerous rills and several arroyos had formed within the slopes that extended downward from about the middle of the project area eastward to the border near Leon Creek. In several places, the channels of the arroyos contained relatively fresh and fairly extensive soil exposures that obviously resulted from flood scouring, soil slumping, and headward erosion.

A search of the THC's Texas Archeological Sites Atlas (Atlas; Texas Historical Commission 2006) made prior to fieldwork indicated that the project area contained no previously recorded archeological sites and had not been previously investigated. The survey included a 100-percent pedestrian examination of the surface of the project area, excavation of 19 archeological shovel tests throughout the project area and production of this report. It was directed by Principal Investigator Herbert G. Uecker, who was assisted during fieldwork by archeological field technician Jay McCracken and Global Positioning System and archeological mapping specialist Albert Uecker, Registered Professional Land Surveyor. This report conforms to the Council of Texas Archeologists reporting guidelines.

General Background

Regional Natural Setting and Natural History

At the time of the survey, the regional physiographic and geologic setting of the project area had already been described in considerable detail (cf. Abbott and Woodruff 1986; Black 1989a:5-16; Black and McGraw 1985:40-54). Briefly, the project area is located near the southern edge of the Balcones Escarpment and Fault Zone at an average elevation of about 225 meters above sea level. The fault and escarpment region is also known as the Balcones Canyonlands. Intermittent faulting began in the area during the Miocene geologic epoch about 15-21 million years ago and continued until about a million years ago.



The regional geomorphology consists of a series of northeast to southwest trending fault scarps and associated erosional features. The regional drainage pattern is dendritic and major drainages in the region include the Medina, Guadalupe, and San Antonio Rivers. Many prominent streams, such as Cibolo, Culebra, Elm, Helotes, Leon, Mud, and Salado Creeks, also dissect the general area.

Base or parent rocks in the canyonlands zone include several members of the Lower Cretaceous series including the Del Rio shale formation, the Austin chalk, and the Buda, Edwards, and Glenrose limestones. These formations collectively range up to as much as 10,000 meters thick over much of central and south Texas. They were formed during the Cretaceous geologic period between about 120 and 65 million years ago. During the last several million years, numerous karst features have formed within the limestone formations, which also house the Edwards aquifer (cf. Veni 1988:11-26; 1998). The aquifer is a regional-scale phenomenon composed of porous beds of limestone and shale sandwiched between less permeable calcareous strata and it is virtually the sole source of potable water for much of central Texas. Soils in the canyonlands region are derivatives of the local bedrock and are typically very thin, stony, and underdeveloped in the uplands.

Ecologically, the area has been a resource-refugium zone since the middle of the Holocene geologic epoch about 7,000 years before present (B.P. [present being arbitrarily defined by culture historians as A.D. 1950]). It was at that juncture in time that the onset of the Altithermal climatic episode (Nance 1972) began to substantially alter the climate of the North American southwest, including Texas. The Altithermal was a period of relatively intense heating and drying that lasted, with many short breaks, until the present time. As the lush tall-grass steppes and mixed-grass prairies of south and west Texas were reduced to thorn scrublands and semiarid deserts over several millennia, both animal and human populations congregated in such areas as the Rio Grande basin and the mountain forests of west Texas and northern Mexico, and also in the central Texas Hill Country. South and west of the Hill Country, riparian zones slowly evolved into isolated ribbons of resources, and many unique places along the area's rivers and streams became centers of human population.

The project area is situated within a broad ecotonal zone that exhibits characteristics of three major natural regions (cf. Blair 1950; Riskind and Diamond 1988): (1) the Balconian Biotic Province, a subtropical, subhumid mixed woodland or parkland that is geographically congruent with much of the Texas Hill Country and is dominated by juniper-oak scrub forests; (2) the Tamaulipan Biotic Province, a subtropical to megathermal desert steppe or thorn scrubland that ranges southward from central Texas into the coastal and Rio Grande plains and well into northern Mexico that is dominated by huisache and mesquite; and (3) the Blackland Prairie, a subtropical, subhumid area characterized by mixed savannah grassland or prairie and by post oak-blackjack oak woodlands that ranges northward and eastward to the Red River area near the Texas-Oklahoma border. The climate of these regions during the last several millennia has been typified by short mild winters and long hot summers. Modern annual precipitation in the area averages about 700-800 mm and follows a bimodal pattern with maxima in May and September. The Balcones tablelands have sometimes been the locus of world record precipitation events triggered by tropical waves of warm moist air from the Gulf of Mexico colliding with colder dryer air of arctic and subarctic origins surging southward from the high plains (Caran and Baker 1986).

In the mid 2000s, there were hundreds or even thousands of species of plants, animals, and insects thriving in central Texas. It is beyond the scope of this report to include a comprehensive listing or description of these species but the interested reader is referred to publications by Davis (1960), Enquist (1987), Everitt and Drawe (1993), Kutac and Caran (1994), Neck (1986), Riskind and Diamond (1986), Simpson (1988), and Vines (1984). Major terrestrial faunal species and avifaunal species of the area include the white-tailed deer, javalina, coyote, red fox, opossum, raccoon, ringtailed cat, squirrel, striped skunk, armadillo, wild turkey, bobwhite quail, Inca dove, white-winged dove, box tortoise, and western diamondback rattlesnake. Prominent raptors of the region include turkey and black vultures and various species of owls; and red-tailed hawks, eagles, and peregrine falcons. Also, modest numbers of cougar and bobcat are present in the less populated areas.



Prominent plant species and communities of the project area and immediate vicinity are typical of those found throughout much of central Texas. Live oak, mountain laurel, persimmon, and juniper are major tree varieties of the hill country scrub forests. Tree species such as mesquite, huisache, and blackbrush acacia; and many cacti and yuccas including prickly pear, Spanish dagger, and sotol are prevalent in lowland thorn shrub thickets. Stream courses and river bottoms of the region contain a broad spectrum of native deciduous trees including Spanish oak, cedar elm, hackberry, pecan, walnut, cherry, and ash. Whitebrush, giant ragweed, cockle burrs, snow-on-the-prairie, frost plant, and numerous other herbs and forbs cover the forest floors. Dozens of types of short and mid grasses carpet the region's prairies and savannas.

Regional Culture History and Cultural Ecology

Probably attracted by the abundance of pristine water, the steep ecological gradients, and the rich biotic microenvironments present, humans first occupied the central Texas area at least 11,000 years B.P. The local culture history contains four broad divisions (cf. Black 1989b:25-33, 1989c:48-57; Black and McGraw 1985:35-40; Hester 1980:27-37; Turner and Hester 1999:50-63): the Paleoindian period (ca. 11,000-8000 B.P.), the Archaic period (ca. 8000-1500 B.P.), the Late Prehistoric period (ca. 1500 B. P. to A.D. 1528), and the Historic period (ca. A.D. 1528 to present). During all but the Historic period, humans in the area were engaged in a nomadic to semi-sedentary hunting and foraging lifeway. Archeological evidence indicates that they were organized as small groups or bands that traveled much of the time in regular patterns, known as subsistence forays, in order to exploit a variety of seasonably available natural resources. This lifeway was practiced in most of North America for many thousands of years before the fifteenth century infusion of Europeans to the New World.

Such peoples were largely of Asiatic origin, but are variously referred to as aboriginals, native Americans, American Indians, ancient Americans, or early Americans. Apparently many of these pioneers entered North America from eastern Siberia via the Bering Strait sometime prior to about 15,000 B.P., probably during a major episode of global cooling and glaciation when an ice sheet or bridge connected Siberia to Alaska. They eventually spread throughout the Americas, and their cultures flourished and greatly diversified, especially during the last few thousand years. By the early eighteenth century when the Spanish established missions in Texas, several hundred Indian groups, each having a fairly distinct linguistic or socio-political identity, lived in the southwestern United States, Texas, and northern Mexico (cf. Campbell 1979:1, 1988:39; Schuetz 1976:1). The story of these peoples' prehistoric past encompasses the first three major periods in the culture history of the central Texas area.

The Paleoindian period includes the terminus of the Pleistocene geologic epoch and the beginning of the Holocene. The climate of the period was generally somewhat cooler and more humid than that of later periods. The natural landscape in much of central Texas during this period consisted mostly of forest parkland, i.e., savannah grasslands with numerous clusters of trees. The lush vegetation of the period provided a trophic base which supported many large ice-age herbivores and carnivores. Sea level along the Texas coast is estimated to have been about 120 m lower than at present; thus, a broad seaward expanse of land, which is now inundated, existed during those times. Paleoindians were typically organized as small, nomadic, stone-age, hunting and foraging bands that often pursued such large game as bison, mammoth, and mastodon. The fact that they supplemented their diets with wild plant foods has been documented only occasionally in much of Texas because of the poor preservation of pollen and plant fibers in most local soils. The relatively few Paleoindian sites documented in Texas consist primarily of isolated finds of chipped stone spear points that exhibit highly distinctive styles and workmanship, and rare kill and butchering sites of Pleistocene game animals.

The Archaic period is characterized by a shift to generally dryer and warmer conditions, sometimes referred to as the Altithermal climatic period (Nance 1972). The Altithermal of Texas apparently was punctuated by alternating mesic and xeric episodes that were sometimes of significant duration and magnitude. In spite of these erratic patterns, the landscape gradually evolved into a mosaic of alternately sparse and lush savannah grasslands with isolated stands of trees on the uplands and heavier arboreal growth in the riparian zones. This drying out of the



land after the Pleistocene corresponds to broad changes in the lifeways and cultures of native peoples. The archeological record indicates that a substantial degree of diversification in human subsistence patterns occurred. Emphasis shifted from the hunting of large Pleistocene mammals, by then extinct, to a new focus on the hunting of smaller game and on plant food gathering, processing, and consumption. During most of the period the dominant lifeway continued to be nomadic hunting and foraging by small egalitarian bands who exploited scattered seasonal resources. As evinced principally by the appearance in the archeological record of large communal or clan cemeteries toward the end of the period, population growth resulted in land and other resource scarcities, prehistoric peoples began to form into large groups, and territorialism, sociopolitical complexity, and semi-permanent or permanent settlements formed.

The predominant type of central and south Texas archeological site of the period is the occupational refuse pile, or midden. Such midden sites are frequently large, open, seasonally occupied base camps located along rivers and streams. They were central places used for the accumulation, processing, cooking, and consumption of foods, and presumably for habitation as well. They were also occasionally used for burying the dead (Hester 1985). Burned rock middens are the most common type present at interior sites. At such sites, foods were often cooked in earthen pits lined with rock slabs or boiled in hide pouches filled with water, food, and hot stones. The rocks had to be routinely replaced as they disintegrated from continual exposure to the intense heat. This resulted in the gradual accumulation of large heaps of thermally fractured and discolored rocks mixed with food scraps, discarded tools, and tool manufacturing debris. Diagnostic projectile points, radiocarbon dates, and other archeological data from burned-rock-midden sites indicate that many of them were occupied intermittently for several hundreds or even thousands of years by peoples who normally wandered about in small bands, but who gathered into much larger bands for special seasonal activities and ceremonies. Additional information about burned-rock-midden sites is provided in the section on interpretation of research findings of this report. Other types of sites that are associated with the Archaic period include smaller, shorter-term occupancy or use sites such as upland hunting-butcherer camps, quarry-workshop sites for the procurement of raw stone for the manufacturing of chipped stone tools, cavern or rockshelter habitation sites, isolated hearths and stone chipping scatters, burial and cemetery sites, and isolated finds or caches of projectile points or other tools.

During the Late Prehistoric period, plant domestication and other agricultural practices were gradually adopted. Due to the poor preservation of plant remains in prehistoric archeological deposits of central and south Texas, the extent to which these new subsistence activities were used is not known. The bow and arrow and ceramic technology were introduced from neighboring regions. Permanent settlements arose and trade networks for the routine exchange of goods with neighboring regions were greatly expanded. Sociopolitical relationships were elaborated and the concepts of local group identity and coherence were undoubtedly strengthened.

The impact of these changes on the lifeways of the native peoples living in central and south Texas during the period is just beginning to be known. Apparently with few exceptions, the Archaic lifeways practiced in south and south-central Texas continued largely unmodified into the Late Prehistoric period. The modifications in the technological and cultural inventory that occurred there during the Late Prehistoric period and that manifest archeologically include the production and widespread distribution of smaller, lighter stone tips for arrows and the routine production and use of ceramics. The subsurface remains of prehistoric houses or village sites, and the attendant traces of nearby activity areas, fortification features, agricultural plots, and irrigation systems from the period are present in Texas, but are confined mostly to the northern, eastern, and western margins of the state. Ethnographic accounts from European explorers who ventured into the south Texas or Texas coastal areas during the sixteenth and seventeenth centuries also mention the existence of villages of crude structures, but at this writing there was little known archeological evidence for the existence of such structures (cf. Johnson 1997).

Many of the indigenous Texas Indian groups, including such long term residents of the central Texas region as the Coahuiltecan and Tonkawas, continued to engage primarily in nomadic hunting and foraging well into historic times. This was the case in spite of the fact that some of their Late Prehistoric predecessors had begun the



routine practice of horticulture or agriculture, and had apparently settled in permanent or nearly permanent villages by about A.D. 500. Archeological evidence has recently emerged that indicates that small permanent or semi-permanent villages were probably present in what is now central Texas as early as the Middle Archaic period (Johnson 1997). Shortly after the accidental introduction of horses into American Indian culture in the sixteenth century by the Spanish, bison-hunting became the way of life for many tribes on the Great Plains, where nomadism also continued. The Apaches and Comanches are the main southern plains tribes that invaded the central Texas area from the west and north during the 1600s and 1700s, displacing, absorbing, or exterminating many of the original inhabitants of the area (cf. Hester 1980; Newcomb 1961; Sjoberg 1953). They also frequently raided European-American settlements in or near the Texas Hill Country. During the eighteenth century, most of the surviving indigenous groups apparently fled to outlying regions or sought protection from invaders in the Spanish missions.

The Historic period in Texas began in the early sixteenth century (ca. 1528-1536). The first Spaniard, if not the first European, to set foot on Texas soil was probably Alvar Núñez Cabeza de Vaca. He was sailing the Caribbean with an exploratory Spanish expedition and was shipwrecked off the Florida coast in 1528. For about the next eight years, he allegedly wandered along the gulf coast, well into Texas, and finally arrived in Mexico in 1536. By that time, the Spanish had conquered and dominated many of the aboriginal cultures that occupied Mexico, Central America, and a sizeable portion of South America, and thus established a foothold of European-style civilization in those areas. During the period from roughly the second decade of the sixteenth century to the terminal seventeenth century, the Spanish colonized all of what is now Mexico to the Rio Grande. In 1691, an expedition of Spaniards from Mexico penetrated Texas to San Pedro Springs, now located in the northern portion of San Antonio's central business district. In an often-quoted report to the viceroy, explorer Domingo Terán de los Ríos related:

We marched five leagues over a fine country with broad plains--the most beautiful in New Spain. We camped on the banks of an arroyo, adorned by a great number of trees, cedars, willows, cypresses, osiers, oaks and many other kinds. This I called San Antonio de Padua, because we reached it on his day [Terán de los Ríos 1691 as quoted in Crook 1967:1-2].

Fray Damian Massanet, also with the 1691 Spanish expedition, is cited by Crook as attesting that they encountered a very large tribe of Payaya Indians at that same location.

Several more preliminary expeditions into Texas were conducted by the Spanish during the next few decades. The landing of the Frenchman René Robert Cavelier, Sieur de La Salle, on Matagorda Island in 1684 and the subsequent activities of the French in Texas appear to have consolidated the resolve of the Spanish to colonize the region north of the Rio Grande. Some Spanish families had permanently settled in the vicinity of San Antonio by 1715 (Chabot 1936:8), and by 1718 the Spanish officially established the first settlement north of the Rio Grande near San Pedro Park. Called San Antonio de Padua, it consisted of a mission and a presidio based on agriculture employing Indian labor and irrigation. This subsistence base was used by the Spanish for virtually the entire time that they controlled the area.

The Spanish soon expanded their colony southward along San Pedro Creek and the San Antonio River, and by 1726, citizens of the crown numbered about 200 in the San Antonio area. In 1731, a party of about 52 additional settlers arrived from the Canary Islands and joined the fledgling colony. The Bexar County missions south of the present Alamo were imported during the mid eighteenth century from what were originally satellite locations in east Texas, and the relocation constituted a final impetus for Spanish settlement in the vicinity. The missions continued active throughout much of the remainder of the eighteenth century. With the beginning of secularization of the missions in the early 1790s came the granting of what had previously been the mission-controlled lands in Texas to Spanish citizens. By the end of the mission era, the indigenous Indians who were, presumably, descendants of the first human inhabitants of south and central Texas, had been virtually eradicated. Many of those who took refuge in the missions died of European-introduced diseases, and the hunting-gathering lifeways of the remnant populations radically disrupted by mission life and the trials of acculturation.



For many decades after the missions waned, the culture history of much of Texas continued to be dominated by their influences. Throughout the periods of Mexican and Texan independence, the U. S.-Mexican War, and until just prior to the Civil War, the subsistence base of the region was largely agricultural and local population growth was fairly benign. There were very few changes in land usage in the area throughout the reigns of several major imperial powers over almost a century and a half until the railroad and the Industrial Revolution came to the region (Fehrenbach 1978:114-117).

Due principally to the infusion of German culture into Texas, substantial changes in local land usage began to occur during the second quarter of the nineteenth century, and their affects lasted through virtually the remainder of the century. It is clear from the history of immigration in Texas that there were simultaneous appearances of significant numbers of several other ethnic groups, mostly of northern European origins, but German immigrants were remarkably talented and unusually tenacious settlers, organizers, builders, and commercializers in the Central Texas area. The Germans came early, quickly planted deep roots, and spurred much later development. As early as the 1830s, a few Germans had already migrated to Texas (Lich 1986:6). Substantial German colonization in Texas began in about 1845 with Prince Carl of Solms-Braunfels's founding of New Braunfels (Biesele 1930:119). During the next decade, the German settlements of Fredericksburg and Boerne developed in the Hill Country north of San Antonio. Contemporaneously, the Germanic population of San Antonio was on the increase and by 1876, according to the town assessor, totaled 5,630 Germans and Alsatians (Fehrenbach 1978:117).

The Germans settled principally along the Balcones Escarpment in central Texas. The Escarpment is the most prominent landform in the Central Texas region and has served as a transitional zone between broadly different lifeways throughout most of the Historic period: "Since earliest European settlement, the Balcones Escarpment stood as a cultural frontier, a dividing line between the farming economy of the coastal plain and the ranching economy of the Texas Hill Country. The Escarpment has greatly influenced the cultural development in the land which it transects [Palmer 1986:153]." Since about the beginning of the nineteenth century, and especially prior to the Civil War, the Escarpment has been the physical and cultural boundary between the Old South and the Old West. Before the coming of the Industrial Revolution to the area during the late-nineteenth century, the economy of the Old South was based primarily on the growing of cotton, while that of the Old West was based mainly on livestock production (Abbott and Woodruff 1986:Preface). Many German-American settlers were attracted to the escarpment region because of its general physiological similarities to certain portions of Germany, such as Bavaria.

Local Environmental Setting, Culture Historical Context, and Archeological Background

Much of this subsection is adapted or excerpted from, or closely follows, Texas State Historical Association (2006) and The University of Texas at Austin College of Liberal Arts (2006).

Leon Creek rises seven miles northeast of Leon Springs in northwestern Bexar County and extends southeast for 36 miles through Leon Valley and the western portion of San Antonio to its mouth on the Medina River, just west of Cassin. The stream traverses flat to gently rolling terrain surfaced by clay loam that supports mesquite, liveoak, cacti, and grasses.

The Leon Creek valley is a natural corridor linking the Hill Country of the southern Edwards Plateau, the Blackland Prairie to the east, and the Gulf Coastal Plain to the south. The project area is within the Balcones Fault zone just below the Balcones Escarpment, once known as the margin of Apachería and Lomería Grande. The edge of the Edwards Plateau is also known as the Balcones Canyonlands because of the many deeply entrenched streams and rivers that drain the plateau.

Historically, an old trail ran through the natural pass formed by the Leon Creek Valley and linked Bexar (modern San Antonio) and a Spanish Colonial presidio popularly known as San Sabá (Presidio San Luis de las Amarillas) in present-day Menard County. Early settlers called this



pass, la puerta (de las casas) viejas (roughly translated as, "gateway to the old houses" or "old pass"). The nearby pass... ..became a documented Comanche trail leading northward from the springs of San Pedro Creek in San Antonio. In the early history of the settlement, the historical trail also may have been called the camino de tehuacanas (an apparent reference to the Tawakonis, a Wichita group commonly associated with north-central Texas throughout the 18th century). By the mid-19th century, this ancient trail became a major route of German immigration from San Antonio into the Hill Country (The University of Texas at Austin 2006).

The Leon Creek corridor is rich in archeological resources. During the early 1970s, two student archeologists, Bill Fawcett and Paul McGuff, conducted a volunteer archeological survey along upper portions of the corridor from about Leon Springs to the vicinity of Charles W. Anderson Loop 1604 on the north side of San Antonio. They discovered and documented numerous prehistoric archeological sites along that portion of the corridor. During the mid 1970s, an archeological survey of portions of the campus of The University of Texas at San Antonio (UTSA) was conducted by students and archeologists with the university's Center for Archaeological Research (CAR). The survey revealed the presence of several previously unknown prehistoric sites along the segment of the creek within the campus (cf. Gunn n.d., 1976; Hester n.d.; Huebner 1986; Mahula 1976; Scott 1986a, 1886b; Troutman and Karbula 1986).

The Pavo Real site (41BX52) is one of several prehistoric campsites discovered by Fawcett and McGuff. Data recovery excavations were conducted at the site in 1979 and 1980 led by archeologists Jerry Henderson and Glen T. Goode with the Texas Department of the Highways and Public Transportation (now the Texas Department of Transportation). The site, which is near the intersection of Charles W. Anderson Loop 1604 and Interstate Highway 10 West, was found to contain archeological deposits from camping, hunting, and stone tool manufacturing activities spanning the Paleoindian through Middle Archaic periods of regional culture history. The Paleoindian artifacts collected during the investigation include several stone projectile points of the Clovis and Folsom types, several chert cores, and numerous chert blade flakes which originated from stone tool manufacturing activities about 12,000 to 13,000 years before present. Excavations at the site recovered important evidence of early Paleoindian lifeways and stone tool technologies (cf. Collins 1999; Collins et al. 2003) and provided some new insights into Archaic-period lifeways as well.

In 1991, a group of archeologists with the CAR-UTSA and members of the Southern Texas Archaeological Association excavated the remains of an adult human skeleton and associated artifacts from a prehistoric cairn gravesite within an alluvial terrace of Leon Creek in the Leon Springs vicinity. An Edwards arrowpoint made of Edwards formation chert was found between two of the skeleton's thoracic vertebrae, establishing a probable cause of death for the individual interred and dating the find to the Late Prehistoric period of regional culture history.

In 1992, in conjunction with a development feasibility assessment, Uecker (1992) conducted an initial archeological survey of about 60 acres of land along UTSA Boulevard, just south of the UTSA campus. Three prehistoric archeological sites along the Leon Creek corridor that were previously recorded by Fawcett and McGuff were rediscovered and reassessed during the survey. One of the sites, 41BX231, apparently contained well-preserved archeological deposits within a sizeable burned-rock-midden feature. A projectile point of the Middle Archaic period was found during shovel testing at the site. It was recommended that all of the sites within the property should be avoided by the proposed project and that archeological monitoring should accompany any ground-disturbing activities within the property. Uecker (2004, 2005a, 2005b) also conducted archeological surveys of three contiguous parcels of land along Leon Creek in southern Bexar County in conjunction of development of those properties into residential subdivisions by Habitat for Humanity of San Antonio. The three tracts contained about 51 acres. No archeological resources or other cultural evidence was found during the surveys and no further work was recommended.



Soils and Geoarcheological Context

According to the *Soil Survey: Bexar County, Texas* (Taylor et al. 1966: 20-21, 26-27, 33, Sheet 43), the principal surface soils within the project area were Houston Black clay (HsB), Patrick soils (PaC), and Venus Clay loam (VcA). A narrow strip of Trinity and Frio soils (Tf) bordered the channel of Leon Creek. Houston Black clay is a thick black gumbo soil with a generally greasy consistency that is well known for its high shrink-swell and particle migration properties. It is typically very turbaceous, and slowly convects or "boils" over long periods of time.

In recent decades, Collins (1997) noted similar soils during geoarcheological work at the Alamodome development site and at several other locations in the San Antonio/Bexar County areas. At those locales, the soils are generally about 2-3 meters deep and rest above very ancient deposits of caliche-laden gravels. In several Houston Black clay profiles observed by the Principal Investigator at similar locations, columns were comparatively uniform in composition. The upper dark clay deposits had virtually no visible inclusions and were readily distinguishable from the light-colored caliche gravels below them, and no cultural evidence was present.

According to Collins (1997), the upper, dark-colored clays are very turbaceous and extend several meters to the bottom of the Holocene deposits. Thus, prehistoric archeological resources, which are found only rarely within such soils, are almost always poorly preserved due to the high shrink-swell and particle migration characteristics of the deposits. Collins has further asserted that, because these soils are so turbaceous, accurate dating of archeological resources found within them is usually not possible unless time-diagnostic artifacts are found in good associations with those resources. Based on the established ages of similar soils in the region, Collins speculated that the dark clays above the caliche gravels are of Holocene age and the caliche gravels are of Pleistocene vintage.

Patrick soils (PaC) typically occupy escarpments between first- and second-level terraces, above the flood plains of streams that drain the limestone prairies in the northern part of the county. The surface layer is clay loam, gravelly clay loam, or loam and is typically about 10 inches thick. The subsurface layer is usually clay loam or loam that has granular structure, is moderately permeable, friable when moist, and strongly calcareous.

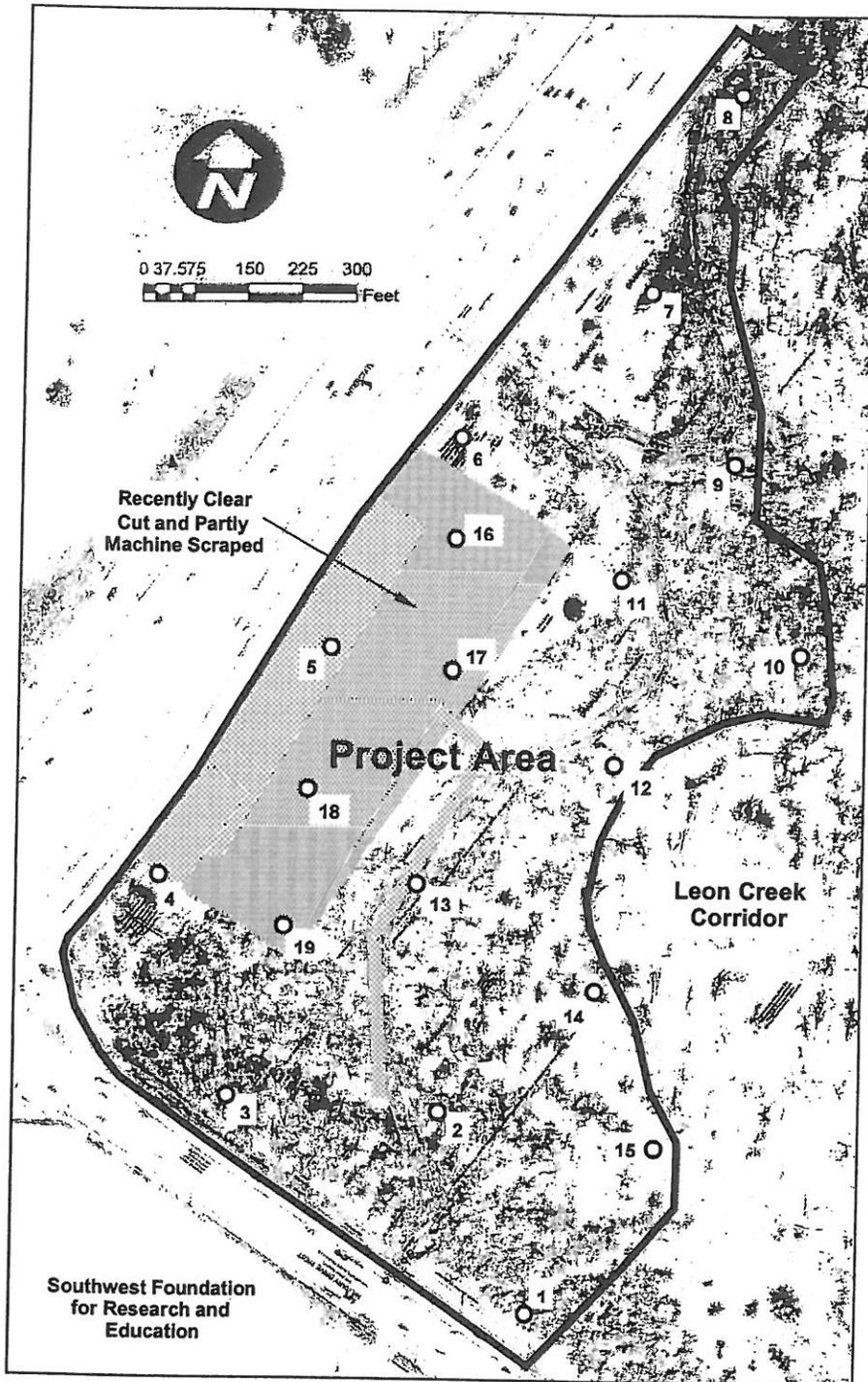
Venus clay loam (VcA) typically occurs as smooth terraces 20 to 40 feet above the flood plains of rivers and their main tributaries in the southern and southwestern parts of the county. The surface layer is usually about 16 inches thick and the subsurface layer is about 20 inches thick and less clayey than the surface layer.

Trinity Frio series soils are deep, dark, calcareous clays that range in texture from clay loam to gravelly clay and that typically occupy bottomlands that are frequently flooded. They are usually derivatives of the surrounding upland soils. Because they are ideal for cultivation, such soils were farmed intensively during the historic era wherever they were present in Bexar County and surrounding areas.

Topsoils and subsoils encountered by the STARS survey team at the surface and in shovel tests within the project area closely matched the descriptions for these types.

Field Investigation Rationale, Methods, and Results

By 2006, numerous prehistoric archeological sites were previously found along the Leon Creek corridor, including open camp and lithic scatter sites 41BX1534-41BX1536, which were just to the north of the project area. Previous archeological investigations at several sites along the corridor yielded very important information about the prehistory of the San Antonio-Bexar County areas and the regional culture history. Such finds substantially increased the odds that the project area could contain previously unidentified prehistoric sites and prompted the COSA-HPO to recommend that an archeological survey of the project area should be conducted prior to any ground-disturbing activities associated with development of the property under the COSA's Master Development Plan and platting procedures.



In the recently cleared zone previously noted, which was several acres in extent (Figure 2), woody vegetation had been cut just above ground level and some of the ground surface had been exposed by shallow machine scraping to facilitate survey and staking of artificial drainage improvements and a sewer line. Thus, ground surface visibility within that portion of the project area was approximately 50-70 percent. However, due to the presence of an abundance of leaf litter, logs, and other forest floor debris and a thick growth of spring weeds and grasses, ground surface visibility was poor throughout the remainder of the project area. Nevertheless, the surface of the entire project area was walked and visually examined. Pedestrian transects averaged about 20 meters apart.

Figure 2. Project area (within bold outline) as plotted on aerial photograph segment provided courtesy of TCI. STARS shovel tests are shown as small white circles with numbers. Stippled area indicates recently cleared zone described in text.

Fortunately, natural exposures within several arroyos that cut through the project area afforded an excellent means of examining soil strata to depths of a meter or more in some exposures (Figure 3). All of the arroyo channels

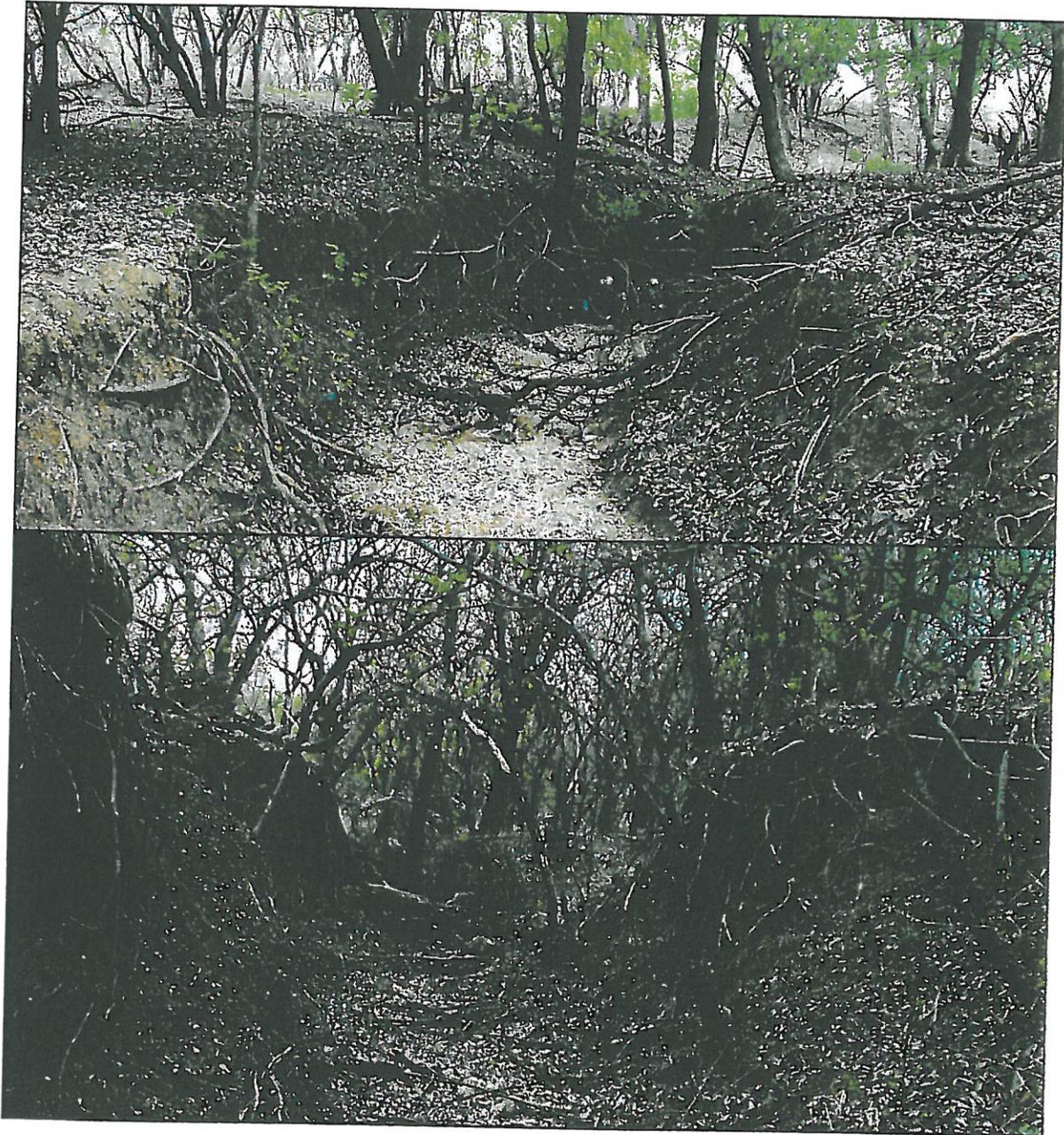


Figure 3. Examples of arroyo channel soil exposures within the project area.

were visually inspected and 19 archeological shovel tests were excavated and recorded throughout the project area (Figure 4). Those investigations revealed that topsoils were relatively shallow and were mostly within shovel testing



Figure 4. Shovel Tests 1 (top) and 5 in progress.



range in the areas investigated. Shovel tests ranged in depth between 65-105 centimeters and averaged about 85 centimeters deep. In most excavations and exposures, topsoils were medium to dark tan (about 10YR4/3 to 10YR3/4) clay loams or silty clay loams with nominal sand content that were about 40-90 centimeters thick. Subsoils were of generally similar composition, but were slightly lighter in color (about 10YR5/4) and contained nominal amounts of small limestone or chalky gravels and a bit more sand than was present in topsoils. Vertical boundaries between soil zones ranged from gradual to sharp in various contexts. No cultural evidence was found during shovel testing or within the arroyo exposures examined.

A few fist-sized chunks of thermally discolored and fractured limestone, two chert flakes, and one chert core were seen at the surface in isolated contexts within the cleared zone previously described. The surface in that vicinity was also strewn with copious quantities of prairie land snail shells of the type *Rabdotus alternatus*, which are often associated with prehistoric archeological sites. Whereas the chert flakes and core are probably of prehistoric origins, they could have originated elsewhere and washed into the project area during major floods along Leon Creek. It is plausible that the burned limestone fragments might have been deposited by the same means or could have originated during late nineteenth- or twentieth-century brush clearing fires when the project area and surrounding lands were developed into agricultural fields. Shovel tests 16-19 were excavated in the vicinity of those surface finds specifically to test for the presence or absence of buried archeological resources that might have been associated with the finds, but the tests yielded negative results. Since the matrix excavated from the shovel tests contained very few land snail shells, virtually all of which were just beneath the surface, it is likely that the shells in the vicinity were of fairly recent natural origins.

The only other cultural evidence observed within the project area was scattered modern trash; stakes, markers, and freshly cut brush from the sewer line and drainage survey; and the chemical drums previously noted. No standing buildings, structures, or objects, nor any remnants of same, were seen during the survey. Because only temporally non-diagnostic artifacts were found, in very small quantities and in isolated surface contexts, and because no artifacts were found in shovel tests in the vicinity, the chert core and flakes were not collected or documented and the vicinity of the finds was not documented or recorded as an archeological site. Nothing was collected or curated in conjunction with the survey.

Conclusions and Recommendations

The survey team encountered no cultural resources that, in the opinion of Principal Investigator, were eligible or potentially eligible as archeological sites or other types of landmarks according to either the historic preservation sections of the COSA Unified Development Code or the National Register criteria for evaluation. Considering the relatively isolated, disturbed contexts and geomorphic settings of the few burned limestone fragments and temporally non-diagnostic chipped stone artifacts found, the Principal Investigator concluded that the artifacts were probably not associated with any important undiscovered archeological resources and were of negligible research value. Background information indicated that much of the project area had been substantially disturbed by modern human activities since at least about the mid 1960s. The survey revealed that soils in most of the project area that could contain buried cultural deposits were relatively shallow. The Principal Investigator believed that the area was therefore unlikely to contain any important archeological resources and recommended to the COSA-HPO, the Texas SHPO, and to TCI that the proposed development project should be allowed to proceed without further archeological work, except in the event of finds during construction of cultural resources that might be significant. It was recommended that in the event of such finds, in accordance with applicable COSA codes and the SHPO's requirements, work should be stopped in the vicinity and the finds should be examined by a qualified archeological consultant, the COSA-HPO, or the SHPO.



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