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Cultural Resources Surveys Conducted during August 2015 South Eagle Ford Zone Atascosa, La Salle, and McMullen Counties

Phillip Schoch

Reign Clark

Ron Ralph

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Cultural Resources Surveys Conducted during August 2015 South Eagle Ford Zone Atascosa, La Salle, and McMullen Counties

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**CULTURAL RESOURCES SURVEYS CONDUCTED DURING AUGUST 2015
SOUTH EAGLE FORD ZONE
ATASCOSA, LA SALLE, AND MCMULLEN COUNTIES**

Authors:

Phillip Schoch, Reign Clark, and Ron Ralph

Report Prepared for:

EOG Resources, Inc.
19100 Ridgewood Parkway
San Antonio, TX 78259

Report Prepared by:

Goshawk Environmental Consulting, Inc.
P.O. Box 151525
Austin, Texas 78715



MANAGEMENT SUMMARY

During the month of August 2015, Goshawk Environmental Consulting, Inc. (Goshawk) conducted one cultural resources survey within the Eagle Ford Play, South Eagle Ford Zone, at the request of EOG Resources, Inc. (EOG). The project area, the proposed Cuellar Unit Waterline, was subjected to cultural resources investigations. The Area of Potential Effect (APE) was a 75-foot (23-meter [m]) wide Right-of-Way (ROW) consisting of a 50-foot (15-m) wide permanent easement and a 25-foot (8-m) wide temporary construction easement. Investigations were conducted by Goshawk staff archeologist Phil Schoch with Bear Aspra. Phil Schoch served as primary author and Reign Clark served as contributing author for this report of investigations.

The cultural resources survey was performed according to Council of Texas Archeologists survey standards, in compliance with the Texas Historical Commission's (THC) Rules of Practice and Procedure, Chapter 26, Section 27, and under the general guidelines of the Register of Professional Archaeologists. Site files on the THC's Archeological Sites Atlas (Atlas) website database were consulted prior to the commencement of the field effort for previously recorded site locations, references to previous archeological surveys undertaken, and place names of interest in the vicinity of the proposed projects.

Streams potentially under United States Army Corps of Engineers (USACE) jurisdiction which cross the APE were assessed by an ecologist via desktop and field reviews prior to commencement of the cultural resources survey. As per the established procedure of due diligence, any segment of an APE that falls within an area potentially under federal jurisdiction or any portion of an APE that falls within a 328-foot (100-m) radius of a known cultural site would be subjected to a cultural resources survey. Any segment of an APE to be surveyed under this protocol was labeled as a "review area" and was subjected to cultural resources survey.

During the survey of the project, four shovel tests were placed within one review area. Shovel testing and surface inspection yielded no significant cultural deposits within the survey area. Based on these results, it is Goshawk's opinion that no significant cultural resources will be impacted by construction within the surveyed portion of the proposed ROW. Goshawk recommends that the project be allowed to proceed as planned with the caveat that construction be limited to the surveyed ROW. In the unlikely event that cultural resources (including human remains) are discovered, all construction or maintenance activities should be immediately halted and both the USACE and an archeologist should be notified.



CONTENTS

MANAGEMENT SUMMARY II

CONTENTS III

1.0 INTRODUCTION 1

2.0 ENVIRONMENTAL CONTEXT OF THE SOUTH EAGLE FORD ZONE 1

 2.1 LAND USE 1

 2.2 GEOLOGY AND PHYSIOGRAPHY 4

 2.3 PROJECT AREA SOILS 4

 2.4 FLORA AND FAUNA 4

 2.5 CLIMATE 5

3.0 CULTURAL CONTEXT OF THE SOUTH EAGLE FORD ZONE 5

 3.1 PREHISTORY 6

 3.2 HISTORIC PERIOD (A.D. 1750 TO PRESENT) 8

 3.3 CULTURAL RESOURCES OF THE SOUTH EAGLE FORD ZONE 10

4.0 METHODOLOGY 11

5.0 CUELLAR UNIT WATERLINE 12

 5.1 ARCHIVAL RESEARCH 12

 5.2 SURVEY RESULTS 13

 5.3 RECOMMENDATIONS 13

6.0 DISCUSSION 18

7.0 CONCLUSIONS AND RECOMMENDATIONS 18

8.0 REFERENCES CITED 19



1.0 INTRODUCTION

During the month of August 2015, Goshawk Environmental Consulting, Inc. (Goshawk) conducted one cultural resources survey within the Eagle Ford Play, South Eagle Ford Zone, at the request of EOG Resources, Inc. (EOG). The South Eagle Ford Zone includes portions of La Salle, McMullen, Live Oak, Frio, Webb, and Atascosa Counties (Figure 1-1). The project area subjected to cultural resources investigations during the month of August consisted of the proposed Cuellar Unit Waterline (Figure 1-2). The APE was a 75-foot (23-meter [m]) wide ROW consisting of a 50-foot (15-m) wide permanent easement and a 25-foot (8-m) wide temporary construction easement.

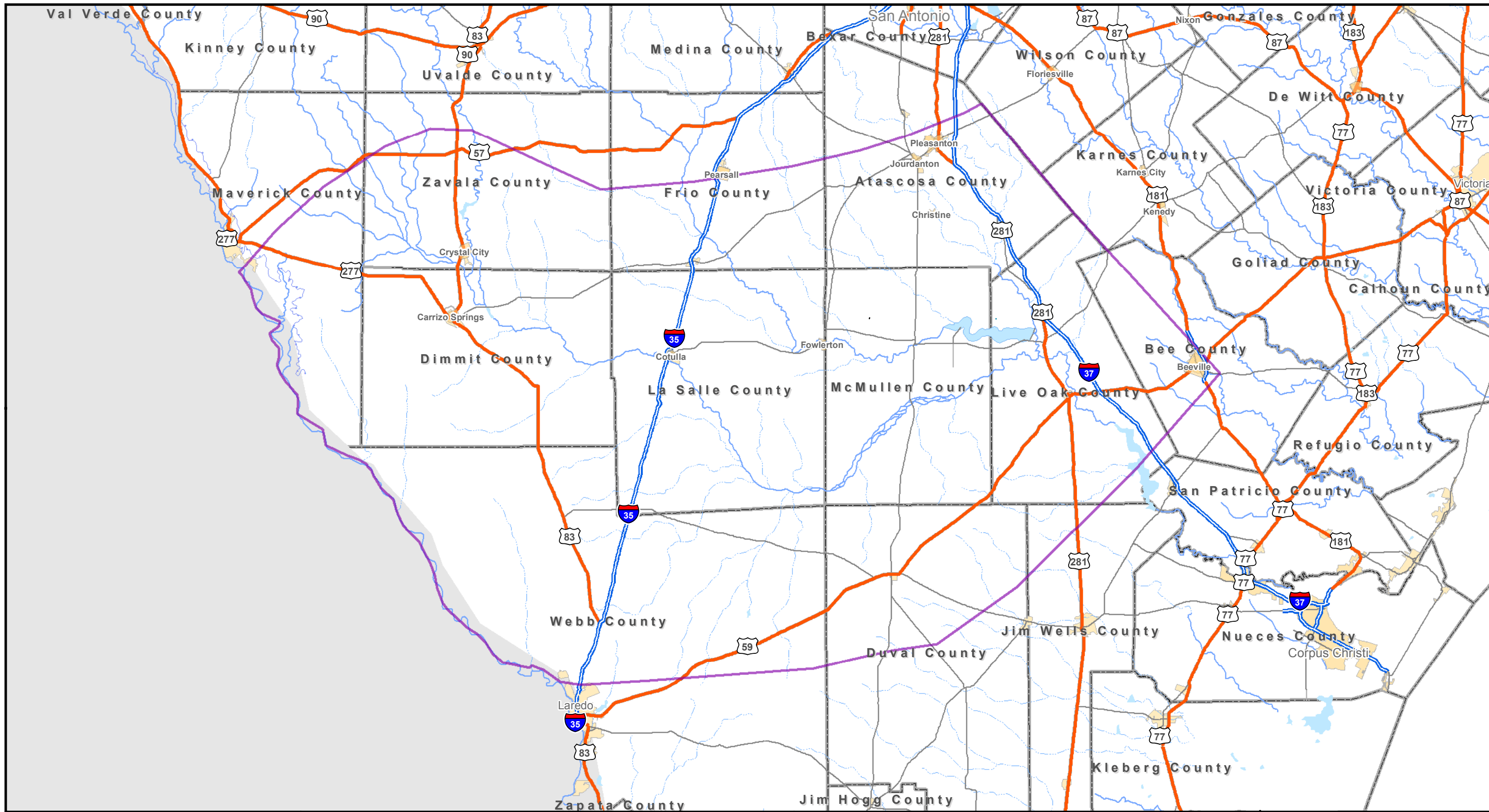
2.0 ENVIRONMENTAL CONTEXT OF THE SOUTH EAGLE FORD ZONE

The Eagle Ford Shale Region covers a large portion of south and southeast Texas totaling approximately 22,000 square miles. This region of Texas can be broken down into zones reflecting biologic, geologic, physiographic, and cultural diversity within the Eagle Ford Shale. The South Eagle Ford Zone is an area characteristic of the Tamaulipan Biotic Province (Blair 1950). The area is semi-arid brush land, extending north from Laredo, Texas into Zavala County, eastward across La Salle, McMullen, and Live Oak Counties, and continuing to the northeast to the central portion of Atascosa County (Figure 1-1). The area is a series of level to gently rolling uplands supporting mixed thorny trees, shrubs, cacti, and grasses. Streams within the South Eagle Ford Zone drain generally southwest toward the Rio Grande River or to the east and northeast toward the Frio and Nueces Rivers. The northern boundary of the South Eagle Ford Zone corresponds with Blair's division between the Tamaulipan and Texas Biotic Provinces. Coincidentally, the division falls directly along where Atascosa County meets Wilson and Karnes Counties.

2.1 LAND USE

At current, the most common uses for land falling within the South Eagle Ford Zone includes cattle ranching, oil and gas development, lease hunting, and limited agriculture. Many of the common land uses result in the clearing of the omnipresent invasive thorn brush so that development can proceed. The persistent problem of invading brush and cacti is often addressed by "chaining," whereby a heavy chain is dragged across the landscape by bulldozers, uprooting unwanted brush. Additionally, large senderos are often cut through the vegetation to facilitate wildlife management and seismic surveys. Root plowing, using a large tracked bulldozer and a dragging blade, is also used to clear brush. All clearing methods are disruptive to archeological sites. Poor soil conservation practices have resulted in the depletion of top soil, exposing clay pans across much of the area. Many of the soils originally mapped by the Natural Resources Conservation Service (NRCS) had pronounced A-horizons over distinct clays. It is thus particularly noteworthy that A-horizons across much of the survey areas are virtually non-existent, indicating disturbances and erosion of topsoil. Thin gravel outcrops with sand over clay are common across the uplands while shallow alluvial clay and clay loams blanket most areas along the creeks. The areas most likely to contain intact, stratified soil deposits and significant archeological sites are located along the rivers and larger creeks including Cibolo and Esperanza Creeks, the Frio River, and the Dull Flats Stream Complex.





Source: ESRI, Maps & Data 10.2, 2013, EIA, 2011
 Projection: NAD 1983 UTM 14N

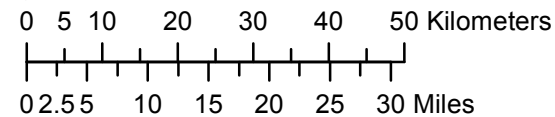
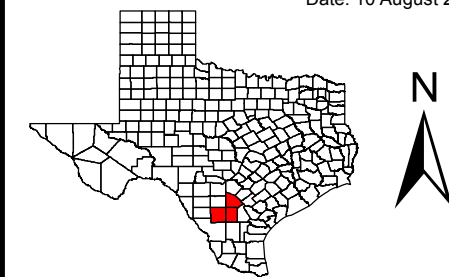


Figure 1-1
Vicinity Map

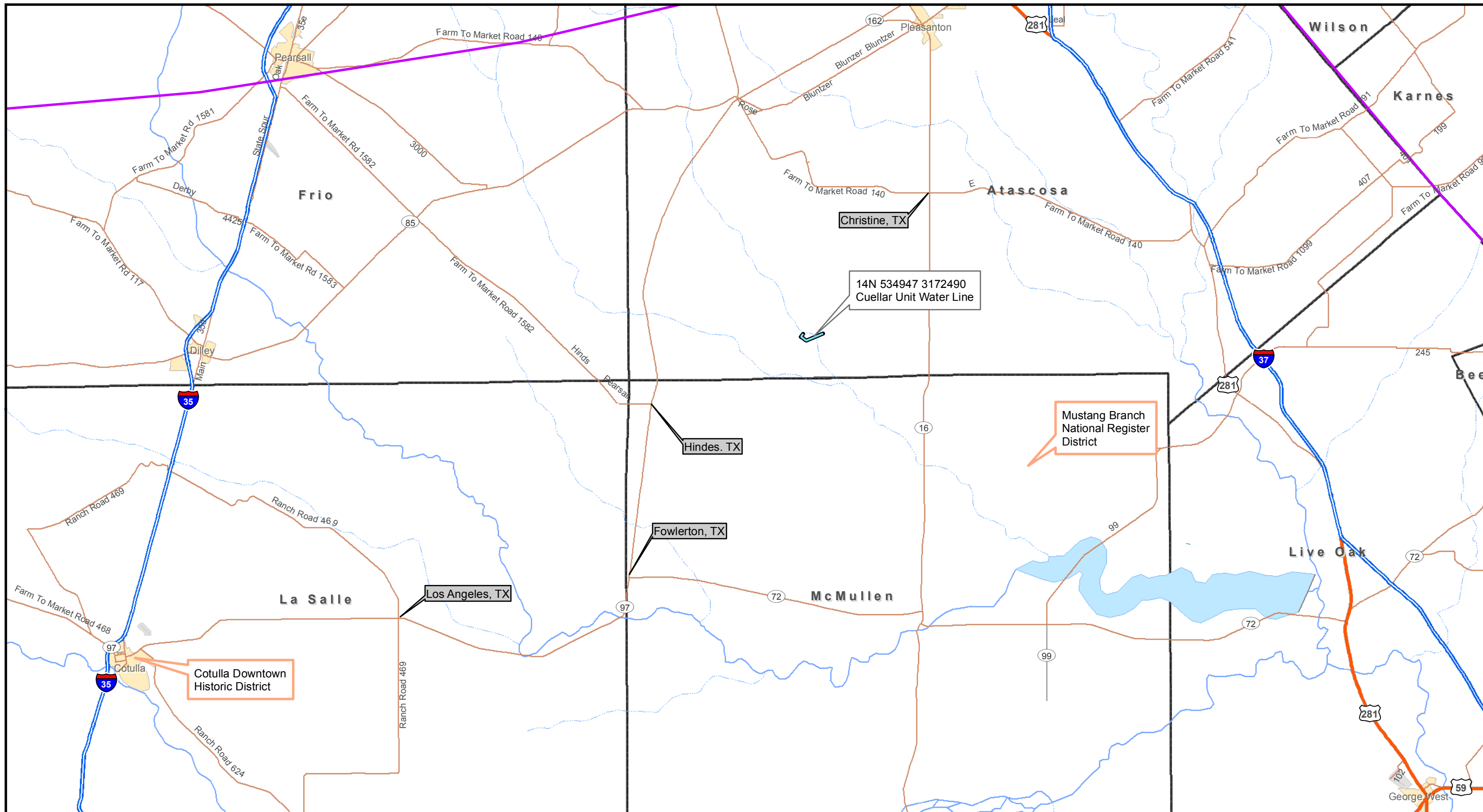
 South Eagle Ford Zone Perimeter

Date: 10 August 2015



South Eagle Ford Zone





Source: ESRI, Maps & Data 10.2, 2013
 Projection: NAD 1983 UTM 14N

Date: 25 September 2015

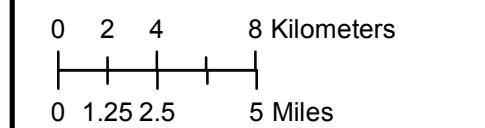
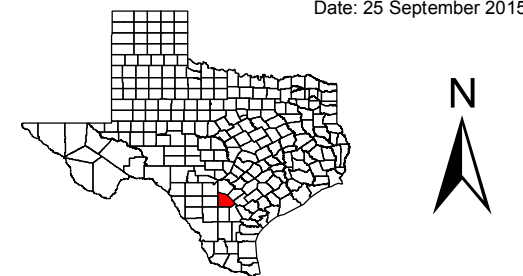


Figure 1-2
 Project Locations
 Atascosa County, Texas

- Boundary of South Eagle Ford Zone
- Proposed Waterline Alignment



South Eagle Ford Zone

2.2 GEOLOGY AND PHYSIOGRAPHY

Geology within the South Eagle Ford Zone encompasses the recent alluvium and fluvial terrace deposits overlying older Eocene Yegua Formations (Barnes 1976). Alluvium or floodplain deposits consist of gravels, sand, clay, silt, and organic materials along with a variety of igneous and sedimentary rock washed down from the Rocky Mountains to the northwest and deposited as lag gravels on low terraces. Recent alluviums were deposited during the Pleistocene flanking streams. The surrounding fluvial terrace deposits consist of the same clay and clay loam soils, but often contain discontinuous sheets or pavements of let-down gravels. These concentrations of stone have been of great interest to prehistoric populations as source material for tools.

Other major geological formations underlying the South Eagle Ford Zone are Quaternary alluvium and the undivided Manning/Wellborn Sandstone/Caddell Formations of the Jackson Group. These formations are composed of sandstones, clay, tuff, and siltstone; some fossiliferous and one with fossil wood. To the southeast of the project area lay remnants of Uvalde Gravels, a source of lithic material much prized by prehistoric peoples (Barnes 1976, Harshbarger, et al 2010). Uvalde Gravel occurs as deposits up to 30 feet (9 m) thick or as lag gravels on rounded hills. Within the South Eagle Ford Zone, much of the Holocene age alluvial deposits have eroded away due to land clearing and maintenance practices.

2.3 PROJECT AREA SOILS

The Web Soil Survey of the Natural Resources Conservation Service (NRCS 2014), the Atascosa County Soil Survey (Dittmar, et al., 1980), the La Salle County Soil Survey (Gabriel, et al., 1994), and the McMullen County Soils Survey (Harshbarger, et al., 2010) were consulted for each project within the South Eagle Ford Zone. Generally, soils encountered consist of clay, clay loam, and sandy loam along benches and terraces adjacent to smaller streams. In situ clay soils are commonly found on the wider floodplains of named creeks. Occasionally, expansive outcrops of chert gravels and cobbles are found on eroded uplands and shoulder slopes which prehistoric native groups used as raw material quarries for tool making.

2.4 FLORA AND FAUNA

Within the South Eagle Ford Zone, native tree species include mesquite, huisache, pecan, live oak, Texas wild olive, and Texas persimmon. Common shrubs and succulents in the region include prickly pear, fiddlewood, desert yaupon, agave, yucca, and autumn sage. Native grass species include sideoats grama, slender grama, buffalograss, inland sea-oats, plains lovegrass, and little bluestem (Gould 1978; TPWD 2014a). The Tamaulipan Biotic Province is characterized by semi-arid, megathermal conditions. Although moisture levels are low, temperatures allow for certain plant growth to occur year-round (Blair 1950).

There are at least 61 mammal species, 57 reptile species, and 22 amphibian species within the South Eagle Ford Zone (Schmidly 2004). Common small mammals in the region include several species of rats, mice, and bats; the Texas pocket gopher; the eastern mole; the eastern cottontail rabbit; and the Mexican ground squirrel (Blair 1950). Medium to large mammals include white-tailed deer, American hog-nosed skunk, and armadillo. Another of the mammalian species located in the ecoregion is the Virginia opossum, also the only marsupial in the ecoregion. Rare or extinct



mammalian species in the area include ocelot, jaguar, javelina, bison, and jaguarondi (TPWD 2014b). Reptile species within the region include the western box turtle, Texas banded gecko, Texas spiny lizard, red racer, western diamondback rattlesnake, and diamond-backed water snake (Blair 1950, TPWD 2014a). Rare reptilian species include the Texas tortoise, indigo snake, and Texas horned lizard (TPWD 2014b). Despite the drier climate within the Tamaulipan Biotic Province, the region is host to several water-loving urodeles (salamanders and newts) and anurans (frogs and toads) (Blair 1950; Davis 1978). There are three species of urodeles and 18 species of anurans. Raptors, songbirds, doves, gulls, and terns are the dominant birds near the APE (Bryan, et al. 2006). The rare Cactus Ferruginous pygmy-owl is also occasionally found within the ecoregion (TPWD 2014a, TPWD 2014b).

2.5 CLIMATE

The South Eagle Ford Zone exhibits a tropical, sub-humid climate with average high temperatures of 98 degrees Fahrenheit in July and an average yearly high of 83 degrees. The average low of 42 degrees occurs in January with an average yearly low of 60 degrees. The yearly average rainfall is 22 inches (56 centimeters [cm]). Rainfall is bimodal with early summer and late summer accounting for 65 percent of the yearly average. The growing season averages over 250 days with only one year in two having a yearly low below 28 degrees (Gabrial, et al., 1994).

3.0 CULTURAL CONTEXT OF THE SOUTH EAGLE FORD ZONE

The South Eagle Ford Zone is located in the South Texas Archeological Region where nomadic hunter-gatherer groups migrated seasonally, following resources and sharing cultural traits with other groups. This is evidenced in the dispersal of point types and ceramic styles across the region (Prewitt 1995). Open camps are the most common type of archeological site found in the South Texas Archeological Region. Open camps can be shallow or deeply buried and are often adjacent to streams and usually contain clustered archeological material such as burned rocks, lithic debris, hearths, or middens. Bone and shell are less common in the assemblages, as organics rarely survive due to the alkaline nature of the soils.

Notable work in South Texas archeological research has been conducted by Fox et al. (1974), Mallouf et al. (1977), Mercado et al. (1996), Hall et al. (1986), Black (1989), and Hester (1980). However, the lack of intensive investigations, high rate of looting, and levels of erosion that occur throughout South Texas have left barriers to fully understanding and dating the periods of occupation in the area (Perttula 2004).

The following cultural background is divided into several periods in this portion of the state: Paleoindian (9500 to 6000 B.C.), Early Archaic (6000 to 2500 B.C.), Middle Archaic (2500 B.C. to A.D. 400), Late Archaic (A.D. 400 to 700), Late Prehistoric (A.D. 700 to 1750), and Historic (A.D. 1750 to present) (Aten 1983; Perttula 2004; Turner and Hester 1999). Some scholars include another period, the Protohistoric, but it will not be included here due to the lack of a useful definition and contextual information available in this region.



3.1 PREHISTORY

3.1.1 *Paleoindian Period (ca. 9500 to 6000 B.C.)*

Recent archeological evidence indicates prehistoric people may have occupied this area prior to the Paleoindian Period. However, the controversial sites that show evidence of an earlier period of habitation have not yet been widely accepted by the archeological community. For this reason, the prehistoric period will begin with Paleoindians.

Beginning around 9500 B.C., the Paleoindian is the earliest identified cultural period in the vicinity of the South Eagle Ford Zone. It spans over 3,000 years to about 6000 B.C. (Ensor and Ricklis 1998). According to some authors, the Paleoindian period begins approximately 1,200 years earlier (11,500 B.C.) further to the south in the South Texas region. It has been postulated that this is most likely due to the earlier habitation of the Paleoindian Clovis peoples coming north from central Mexico (Perttula 2004).

Coinciding with the decline of the Wisconsin glaciation, the Paleoindian period is characterized by a relatively cool, moist climate that encouraged the development of now-extinct species of Pleistocene megafauna, such as bison. This period is sometimes called the Big Game Hunting tradition (Willey 1966), due to a presumed heavy reliance by Paleoindian peoples on megafauna as a food source during the earlier portion of the period. Environmental changes that brought about the extinction or dislocation of megafauna precipitated a shift toward smaller game, creating the transition into the Archaic (Aten 1983:146-148; Willey and Phillips 1958:107).

Temporally diagnostic tool types attributed to this period include a variety of finely chipped, sometimes fluted, lanceolate projectile point styles, such as Clovis, Folsom, Plainview, and Scottsbluff (Meltzer and Bever 1995; Prikryl 1990; Willey 1966). The Paleoindian projectile point types show a transitional change between the earlier Paleoindian points and the Early Archaic. By the late Paleoindian period, unfluted lanceolate projectile points such as Plainview, Golondrina, and Angostura were more common (Story, et al. 1990).

3.1.2 *Archaic Period (6000 B.C. to A.D. 400)*

Following the close of the Pleistocene, the South Texas region experienced a trend toward a warmer and drier climate. It has been postulated that this climate shift was at least partially responsible for the extinction of megafaunal species. The archeological record of this period exhibits evidence of a gradual diversification in subsistence patterns. This is the beginning of the Archaic, which lasts from about 6000 B.C. to A.D. 400 (Aten 1983:152-157). The Archaic period is divided into three time periods: the Early Archaic (6050 to 2500 B.C.), the Middle Archaic (2500 B.C. to 1000 B.C.), and the Late Archaic (1000 B.C. to A.D. 400) (Perttula 2004; Turner and Hester 1999). Few Archaic sites are recorded on the Upper Texas Coast (Aten 1983:153; Story 1985:28-29). Story (1985:31-34) suggests site density was low on the coastal plain during this period. Archaic sites tested or excavated near the modern shoreline generally consist of shell-bearing sites with varying degrees of lithic tools and debitage, shell or bone tools, and the bones of fish, mammals, and reptiles (Ambler 1967, 1970, 1973; Aten 1979, 1983; Ensor 1998; Howard et al. 1991). Inland sites tend to contain more lithic artifacts and debitage with terrestrial mammal bones comprising the bulk of the inland



faunal assemblages. Archaic patterns in tool-making for the South Texas region are centered on corner-notching technology and triangular points, moving away from the basal-notching technology.

3.1.2.1 Early Archaic Period (6000 to 2500 B.C.)

Late Paleoindian unfluted lanceolate projectile points such as Plainview, Golondrina, and Angostura were replaced by un-stemmed triangular points and basal or corner notched points in the Early Archaic. The Early Archaic in the South Texas region is significantly shorter than in other regions due to the onset of specific regional cultural patterns occurring around 2500 B.C., which emphasized un-stemmed dart points and smaller bifacial and unifacial beveled tools (Perttula 2004). In addition to these cultural patterns, the archeological record shows the diet of the people in this area consisted of turtles, snails, and freshwater mussels. Land snails (*Rabdotus* sp.) are often present at prehistoric sites, but there is debate regarding whether the prehistoric peoples were consuming them or if the snails were merely “cleaning up” after the group moved out of the area.

3.1.2.2 Middle Archaic Period (2500 to 1000 B.C.)

For the South Texas region, the Middle Archaic is more thoroughly represented in the archeological record than the Early Archaic. It is during this time period that the triangular Tortugas and Abasolo points were developed. In addition, the archeological record shows the development of smaller, unifacial, distally beveled tools that show a high amount of reworking and resharpening. Evidence supports that these common tools were used in wood-working (Perttula 2004). During this period, most open campsites were placed in flood-prone zones along low terraces, and while information concerning their diet is scant, numerous types of fuel materials have been identified including mesquite, acacia, oak, and hackberry (Perttula 2004). There is also significant data concerning treatment of the dead in this area and time frame (Patterson et al. 1998). Especially later in the period, cemeteries were commonly used, most of which contained grave goods such as points, flakes, cores, and sandstone pieces (Perttula 2004; Hall et al. 1986). One such cemetery, Loma Sandia, is dated to the late Middle Archaic and is located in Live Oak County (Taylor and Highley 1995). With its hundreds of burials and thousands of artifacts, it remains one of the most studied archeological sites in South Texas.

3.1.2.3 Late Archaic Period (1000 B.C. to A.D. 400)

In general, Late Archaic sites in the South Texas Region show a marked increase in site utilization and heavy dependence on seasonal base camps, where various maintenance, extractive, and processing tasks were used in exploiting local resources. Assemblages characterizing these technological activities include a variety of dart point styles, a suite of ground and polished stone tools, and the beginning use of ceramics.

3.1.3 Late Prehistoric Period (A.D. 400 to 1750)

The Late Prehistoric period in the South Texas Region saw a continuation of many of the same cultural and subsistence patterns in place during the Late Archaic (e.g. cemeteries and burned rock features) with two very significant technological adaptations: a heavier reliance on ceramics by certain groups and the introduction of the bow and arrow (Ensor 1998).



3.2 HISTORIC PERIOD (A.D. 1750 TO PRESENT)

3.2.1 *Historic Native Groups in the Area*

Early Spanish expeditions in Texas afford the primary evidence of the relevant historic Indian tribes in the South Texas Region during the late sixteenth through early eighteenth-centuries. Initial exploration of the Gulf of Mexico and the American Southwest was accomplished by Spanish explorers Alonso Alvarez Piñeda (1519) and Alvar Nuñez Cabeza de Vaca (1528). Following Piñeda's initial maritime effort to map the Gulf Coast, the earliest exploration of the South Texas Region was accomplished by de Vaca, who shipwrecked in the Gulf of Mexico in 1528 along with other members of an expedition led by Pánfilo de Narváez (Weddle 1985).

De Vaca's account served as the basis upon which subsequent explorations of the region were conducted by Hernando de Soto (1539) and Luis de Moscoso (1542). By 1561, Spain was facing increasing difficulties in maintaining its few colonies in Florida. The relatively poor economic prospects for these colonies and increasing competition from other colonial powers quelled the Spanish Crown's interest in colonizing their Florida territories which included Texas. As a result, the Texas Gulf Coast remained relatively uninhabited by Europeans for the next two centuries until the threat of increased French exploration in the territory stimulated the Spanish government to establish more permanent settlements in the area (Weddle 1991). In 1685, René Robert Cavelier and Sieur de la Salle established Fort St. Louis along the Gulf Coast (Gilmore 1984, Tunnel and Ambler 1967). Plagued by disease, starvation, and Indian attacks, Fort St. Louis was no longer in use by late 1688 or early 1689 (Bruseth and Turner 2005).

Spanish expeditions to the South Texas Region include the 1689 expedition of Governor Alonso de León, the 1691 to 1692 expedition of Governor Domingo Terán de los Ríos, the Espinosa-Olivares-Aguirre expedition of 1709, Ramón's expedition of 1716, Alarcón's expedition of 1718, and Rivera's inspection tour of 1727 (Campbell 1983; Foster 1995). The Indians encountered during those journeys included indigenous Sanan speakers and displaced and migrating tribes from well outside the region such as the Jumano of west Texas, the Wichita-speaking Yojuane of north central Oklahoma, and the Simaomo and Tusonibi of northeastern Mexico (Campbell 1979). Many other tribes, not so fortunate, had been decimated by European disease in Coahuila and Nueva Leon according to Chapa, an early historian who documented over 160 groups annihilated during the 1600s (Foster 2008:108).

3.2.2 *European Settlement (ca. 1750)*

Although there were no permanent Spanish settlements established in the area now known as La Salle and McMullen Counties, Spaniards did traverse the area at various times. Alonso De León passed through the area in 1689 and 1690, as did Diego Ortiz Parrilla in 1766. In the early 1800s, the Old Laredo-San Antonio road passed to the east of the survey area. Even earlier, a large waterhole on Esperanza Creek was the meeting place where presidio soldier escorts passed off their charges before returning to their posts in Laredo and San Antonio (Leffler 2014).

3.2.3 *La Salle and McMullen Counties*

After Mexican independence in 1810, the Mexican government issued land grants to citizens for settlement. In 1834, Jesús Cárdenas received 31,500 acres of land along the Nueces River,



including about 10,000 acres in what became La Salle County. After the Texas revolution, La Salle County became disputed land lying between the Rio Grande and the Nueces River. Lacking an established government, it became a haven for outlaws (Leffler 2014). The Treaty of Guadalupe Hidalgo on 2 February, 1848 ended the Mexican War and recognized the 1845 annexation of Texas to the United States (Russell 2010:210).

The area now known as McMullen County was originally granted to Benjamin Drake Lovell and John G. Purnell by the Mexican state of Coahuila in 1825, but it was never developed. In 1828, the same land was assigned to John McMullen and James McGloin who intended to settle 200 families. None of the families ever occupied the area, and by the time of the Texas Revolution, the area was still inhabited predominantly by native people.

La Salle County was formed from the Bexar District in 1858, with early villages established along the San Antonio to Laredo road – the old El Camino Real. In the same year, McMullen County was officially established from parts of Bexar, Atascosa, and Live Oak counties. The United States Army established an outpost, Fort Ewell, in 1852 at the road crossing on the Nueces River, but abandoned it in 1854. Guajoco grew up near the outpost and grew larger when the army deserted the post. By 1871, Guajoco had a post office, a saloon, a general store, a stagecoach stop and roughly 60 inhabitants.

From cattle to cotton to oil and gas, the boom and bust cycle has repeated itself in south Texas. It has never been an easy place to live. During the early years, more than 25 ranches were established with the ranch headquarters often becoming a stopping point for cattle buyers, and then growing into small communities. One such ranch was Waugh's Rancho, established in 1861 and granted a post office in 1879. Another was Luka, a small settlement just west of present day Cotulla, the county seat. The 1870 census showed 69 inhabitants in La Salle County, growing to 789 in 1880. La Salle County, named for René Robert Cavelier, Sieur de La Salle, now covers over 1,517 square miles (3,929 sq. km) of south Texas (Leffler 2014)

Formal organization of La Salle County occurred in 1880 with Stuart's Rancho, near Guajoco, designated its first seat of government. The last Indian raid occurred in 1878 as the railroad began building south to the winter garden on the Rio Grande. About the same time, James J. and Andrew J. Dull, two steel-magnet brothers from Harrisburg, Pennsylvania, purchased La Salle County land, including much of W. A. Waugh's property, to put together a vast ranch. The Dull brothers later sold 240,000 acres (97,125 ha) of their ranch, Dull Ranch, to B. L. Naylor and Judge A. H. Jones. Naylor died in 1910 and Jones in 1912.

3.2.4 Fowlerton History

The history of eastern La Salle County and western McMullen County is steeped in actors and actions larger than life. At the turn of the 20th century, a couple of shrewd businessmen, the Fowler brothers, decided to form a land company and promote the dry cactus and mesquite covered country along the Frio River in La Salle and McMullen Counties as the "Wintergarten." They attracted more than 2,000 buyers, many of whom migrated from the east coast for the chance to own a plot of fertile farmland for as little as \$25 down and \$10 a month. Many have called the brothers "swindlers," but some historians maintain that they did have a vision of the area as a farming utopia. The Fowler



brothers happened to tour the county just prior to one of the “wet” cycles when almost any crop could grow (Troesser 2014).

Before Judge A. H. Jones died, he had contracted with the Fowler brothers to develop 100,000 acres (40,469 ha) around what would eventually become the town of Fowlerton, Texas. The Fowler brothers, in conjunction with the Naylor & Jones Land Co., laid out the town on a grid system and over 200 miles (322 km) of roads were built. Lots were divided up, some as small as 1/16 acre (0.4 Hectares [ha]) in the town site, as well as numerous farm plots of anywhere from 1 to 100 acres (1 to 40 ha) or more. When a 10 to 160-acre (4 to 65-ha) tract of farmland was purchased, the buyer automatically received a lot in Fowlerton. After the railroad was constructed in 1912, growth of the town increased, supporting several lumber yards. Between 1913 and 1915 a cotton gin, large rail depot, hotels, two banks, department stores, and schools were all built.

There was a seafood restaurant with fresh oysters and shrimp brought in from the coast. There were many free flowing artesian wells (some containing salt). The “Artesian Route” as described on the San Antonio Uvalde and Gulf Railroad (SAU&G Railroad) advertisements referred to the new farming center with crops of cotton and Egyptian wheat to faraway markets. At the height of the Fowlerton heyday, some 2,000 to 4,000 people called the vicinity home. Over the years a series of droughts, plus using saline artesian well water, forced all the farmers to leave the county (Troesser 2014).

3.3 CULTURAL RESOURCES OF THE SOUTH EAGLE FORD ZONE

Atascosa County lists 262 archeological sites, many of which are associated with the development of the San Miguel Mine in the 1980s. According to the Texas Historical Commission’s (THC) Archeological Sites Atlas (Atlas), only one site has been designated as a State Antiquities Landmark (SAL) in Atascosa County, the Atascosa County Courthouse in Jourdanton, Texas. The county courthouse is also listed on the National Register of Historic Places (NRHP), along with the Korus Farmstead and the Frederick and Sallie Lyons House. The county courthouse was completed in 1912 and represents the Mission Revival style architecture. There are 132 recorded historic cemeteries and 50 historical markers in the county (THC 2015b).

La Salle County lists more than 252 recorded archeological sites. According to the Atlas, only one site has been designated as a SAL in La Salle County, the La Salle County Courthouse in Cotulla, Texas. The county courthouse is also listed on the NRHP, along with the Cotulla Downtown Historic District. There are 20 recorded historic cemeteries and 19 historical markers in the county (THC 2015b).

McMullen County lists over 889 recorded archeological sites, many of which are associated with work for the Choke Canyon Reservoir. According to the Atlas, no sites have been designated as a SAL. The Mustang Branch National Register District (NRD) site (41MC163) is the only listed prehistoric NRHP site in McMullen County, based mainly on an ephemeral Paleoindian component. Designated in 1978, the Mustang Branch Site NRD encompasses 24.7 square acres (10 sq. ha) of agricultural lands along the confluence of San Miguel Creek and Mustang Branch close to, and within, the Choke Canyon Reservoir in eastern McMullen County. The NRD includes campsites, chipping-quarrying areas, middens, and lithic scatters; all of which contributed to its NRD



designation. There are 6 recorded historic cemeteries and 23 historical markers in the county (THC 2015b).

4.0 METHODOLOGY

The cultural resources survey was performed in compliance with the National Historic Preservation Act of 1966 (NHPA), as amended (16 U.S.C. 470 et seq., P.L. 89-665, 80 Stat. 915), and the implementing regulations 36 CFR 800. The surveys complied with the National Environmental Policy Act (NEPA) of 1969; the National Environmental Policy Act of 1974 (PL 81-190, 83 Stat. 915, 41 USC 4321, 1970); the Archeological and Historic Preservation Act of 1974 (PL 93-291); the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 Fed. Reg. 44716-42, Sept. 29, 1983); the National Register Bulletin Series of the National Park Service; and the Archeological Resources Protection Act of 1979. The survey conformed to standards of the United States Department of the Interior (1977) and the guidelines set forth by the Council of Texas Archeologists (1995) and the Register of Professional Archeologists (2014). Cultural resources investigations consisted of archival research, pedestrian survey, shovel testing, and preparation of a report suitable for review by the United States Army Corps of Engineers (USACE), the regulatory agency responsible for oversight in most situations.

Any streams potentially under USACE jurisdiction which crossed project alignments were assessed by an ecologist via desktop and field reviews prior to commencement of the cultural resources survey. As per the established procedure of due diligence, any segment of an alignment that falls within an area potentially under federal jurisdiction or any portion of a project alignment that falls within a 328-foot (100-m) radius of a known cultural site would be subjected to a cultural resources survey. Any segment of a project alignment to be surveyed under this protocol would be labeled as a "review area" and subjected to cultural resources survey. Except where specified in descriptions below, project alignments consisted of a 75-foot (23-m) wide ROW comprised of a 50-foot (15-m) wide permanent easement and a 25-foot temporary construction easement.

During the survey effort, the ground surface of the proposed project alignment was visually inspected on foot within one established review area. Shovel tests were administered in the portions of the review area which harbored the greatest potential for temporally stratified soil deposits. Shovel tests, typically 12-inches (30-cm) in diameter, were excavated to sterile substratum. The shovel probe matrix was sifted through ¼-inch (0.6-cm) hardware cloth. If soils of high clay constituency were encountered, the matrix was hand sorted. Shovel test locations were recorded with hand-held Global Positioning System (GPS) units and transferred to topographic maps. If present, newly discovered or revisited sites were documented using standard State of Texas site recording forms and plotted by GPS coordinates for entry into the Atlas database. Shovel testing was conducted to ascertain the horizontal and vertical limits of any cultural manifestation discovered within the area of review. Hand-drawn sketch maps were produced for any cultural site recorded or revisited. The field effort reported herein was performed on private property and was funded by a private source. No artifacts were collected during the survey. If present, artifact assemblages were photographed in the field and left where found.



5.0 CUELLAR UNIT WATERLINE

Goshawk conducted a cultural resources survey of the proposed ±7,884-foot (2,403-m) Cuellar Unit Waterline ROW in Atascosa County, Texas. One review area was identified within the proposed ROW, and was established at a crossing of potentially regulated “Waters of the US”. A field investigation was conducted by Goshawk archeologist Phil Schoch with Bear Aspra on 25 August 2015.

The Cuellar Unit Waterline area of potential effect (APE) is located approximately 11 miles (18 km) to the southwest of Christine, Texas. The APE traversed gently undulating terrain southwest, then crossed relatively flat open pasture to the east, before turning northeast through dense oak and cedar elm. Other vegetation included Texas persimmon, mesquite, prickly pear and forbs. The APE was located on the San Miguel Ranch, Texas, United States Geological Survey (USGS) topographic quadrangles (Figure 5-1). The dominant local land use was for rangeland, oil and gas development, and lease hunting.

5.1 ARCHIVAL RESEARCH

Archival research conducted using the THC's Atlas online database identified five sites (41AT18, 41AT21, 41AT250, 41AT251, and 41253) located between 0.1 mile (0.2 km) and 1.1 miles (1.8 km) southwest, northeast, and northwest of the proposed ROW. Only sites 41AT21 and 41AT18 will be discussed as there is no detailed information on the atlas for sites 41AT250, 41AT251, and 41AT253.

No NRHP-listed properties have been recorded within the proposed Cuellar Unit Waterline ROW. The nearest NRHP-listed property is the Atascosa County Courthouse located within the town of Jourdanton, Texas, approximately 17.5 miles (28.2 km) southwest of the project area. The nearest NRD is the Mustang Branch site (41MC163) located 13.8 miles (22.2 km) southeast of the proposed ROW. The Mustang Branch Site includes campsites, chipping-quarrying areas, middens, and lithic scatters; all of which contribute to its NRD designation.

5.1.1 Site 41AT21

Site 41AT21 was documented in 1973. The site was recorded as a Late Prehistoric open campsite. The site was mapped on the east and west terraces of Lagunillas Creek, adjacent to an existing road. The artifact assemblage included flakes and a bone tempered pot sherd. It was noted that the site was eroding from the banks near the road. The initial evaluation concluded that this site required further research to determine its eligibility for designation as a SAL or listing on the NRHP.

5.1.2 Site 41AT18

Site 41AT18 was originally documented in 1973 as a Paleoindian to Late Prehistoric open campsite. The site was located on the north side of San Miguel Creek; from the stream edge to the south side of CR 343. The artifact assemblage was comprised of two pieces of pottery, triangular and lunate scrapers, 1 Plainview dart point base, 1 Type-I Sandia shaped point, and a variety of Archaic and Neo-American point types. A revisit in 2000 extended the site boundary to the west of CR343 and included the observation of a possible Guadalupe biface preform. The original survey recommended a more extensive investigation; however, the site was declared ineligible for designation as a SAL or listing on the NRHP after the revisit survey.



5.2 SURVEY RESULTS

A cultural resources survey was conducted on 25 August 2015. One review area was established within the proposed ROW at the potentially regulated “Waters of the US”.

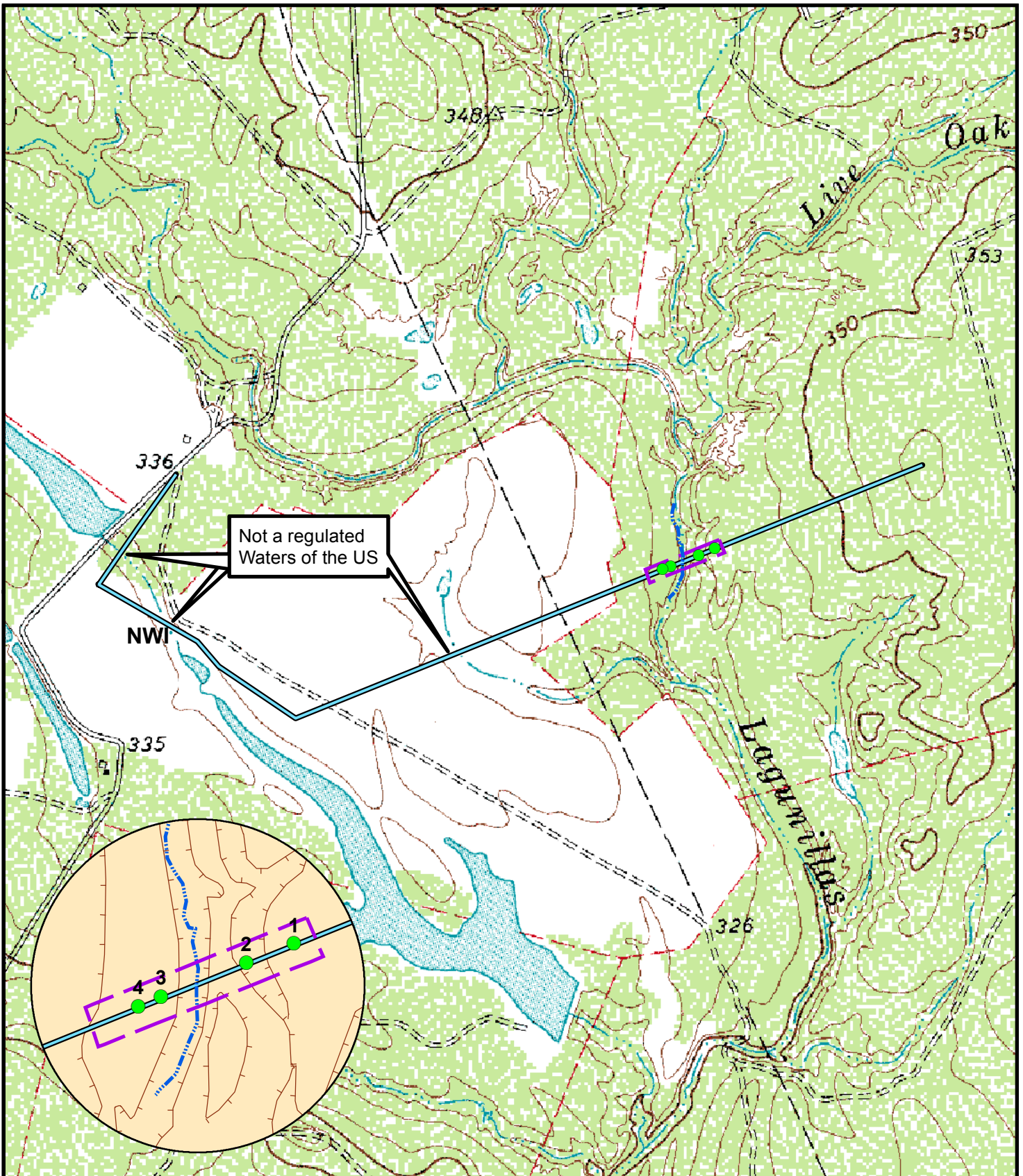
5.2.1 *Review Area*

The review area encompassed a portion of Lagunillas Creek, upstream from its confluence with San Miguel Creek. A deeply incised channel within the Lagunillas Creek floodplain provides flow across the ROW (Photo 5-1). Four shovel tests were conducted within the review area; two on the west side of the stream and two on the east. Vegetation within the review area consisted of mesquite, persimmon, cedar elm, oak, and various grasses and forbs (Photo 5-2). Shovel testing yielded soils consisting of very compact pale brown sandy loam overlying dark brown sandy clay. Shovel tests were dug to depths ranging between 10 and 12 inches (25 and 31 cm) below surface. All tests yielded entirely negative results (Table 5-1). Surface visibility within the review area was very poor at less than 5 percent (Photo 5-3). No cultural materials were observed in either a surface or subsurface context.

5.3 RECOMMENDATIONS

Goshawk conducted a cultural resources survey consisting of an intensive surface inspection and a total of four shovel tests within the proposed Cuellar Unit Waterline ROW. No cultural resources were observed during this survey. It is Goshawk’s opinion that construction of the Cuellar Unit Waterline, as proposed, will cause no impacts to significant cultural resources within the surveyed portion of the APE. Therefore, Goshawk recommends that construction be allowed to proceed as planned. In the unlikely event that cultural resources (including human remains) are discovered, all construction or maintenance activities should be halted immediately and the USACE and a qualified archeologist should be notified.





Source: USGS, San Miguel Ranch, Texas Quadrangle.

Date: 21 September 2015

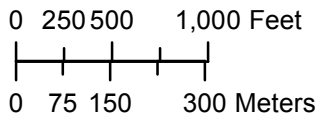






Figure 5-1
Shovel Test Locations
Atascosa County, Texas

LEGEND

-  Water Line
-  Waters of the US
-  Review Area
-  Negative Shovel Test



Cuellar Unit Waterline





Photo 5-1: Ground Surface Visibility in Review Area



Photo 5-2: Typical Vegetation in Review Area





Photo 5-3: Typical Surface Visibility within Review Area



Table 6-1: Cuellar Unit Water Line (14 NAD 1983)

Report ST#	ST#	WP#	Easting	Northing	Depth (cm)	Soil color	Soil composition	Artifacts	Review Area	Comments
BA1	1	99	535414	3172662	0-10	Pale Brown	Fine sandy loam	None	3	Indurated after 20cm.
					10-25	Dark brown	Sandy clay	None	3	Very compact in 2nd strat. No gravel present
BA2	2	100	535378	3172648	0-10	Pale brown	Fine sandy loam	None	3	Indurated after 20cm.
					10-30	Dark brown	Sandy clay	None	3	Very compact in 2nd strat. No gravel present
BA3	3	101	535313	3172622	0-10	Dark brown	Sandy clay	None	3	Indurated after 20cm.
					10-30	Pale brown	Sandy clay loam	None	3	Very compact in 2nd strat. No gravel present
BA4	4	102	535295	3172615	0-10	Dark brown	Sandy clay	None	3	Indurated after 20cm.
					10-35	Pale brown	Sandy clay loam	None	3	Very compact in 2nd strat. No gravel present



6.0 DISCUSSION

The goal of the cultural resource surveys was not only to locate and record sites, but to provide conclusions and site recommendations, based on NRHP criteria of significance (36 CFR 60.4), and the requirements of Section 106 and 36 CFR 800. According to the NRHP “The quality of significance in American history, architecture, archeology, engineering, and culture is present in district, sites, materials, workmanship, feeling, and association that:

- a. are associated with events that have made a significant contribution to the broad patterns of our history;
- b. are associated with the lives of persons significant in our past;
- c. embody distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- d. have yielded, or may be likely to yield, information important in prehistory or history.”

7.0 CONCLUSIONS AND RECOMMENDATIONS

During the month of August 2015, Goshawk conducted one cultural resources survey within the Eagle Ford Play, South Eagle Ford Zone. The project area subjected to cultural resources investigations was the proposed Cuellar Unit Waterline. During the survey of the project, four shovel tests were placed within a single review area near a potentially jurisdictional stream and upon the adjacent slopes according to due diligence protocol. Shovel testing and surface survey resulted in the documentation of no significant cultural deposits within the area surveyed.

Based on the results of investigations, it is Goshawk’s opinion that no significant cultural resources will be impacted by construction within the surveyed portions of the proposed ROW. Goshawk recommends that the project be allowed to proceed as planned with the caveat that construction be limited to the surveyed ROW. In the unlikely event cultural resources (including human remains) are discovered, all construction or maintenance activities should be immediately halted and both the USACE and an archeologist should be notified.



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