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**CULTURAL RESOURCES REPORT FOR THE
PROPOSED RED GATE POWER PLANT AND
LATERAL PROJECT, HIDALGO AND STARR
COUNTIES, TEXAS**

INTENSIVE ARCHEOLOGICAL SURVEY

Prepared for

South Texas Electric Cooperative, Inc

by

Debra L. Beene, Joseph M. Sanchez, and
Timothy B. Griffith

Principal Investigators:

Brandon S. Young and Timothy B. Griffith

AUGUST 2014

Blanton & Associates, Inc.

ENVIRONMENTAL CONSULTING • PLANNING • PROJECT MANAGEMENT

5 LAKEWAY CENTRE COURT, SUITE 200

AUSTIN, TEXAS 78734

512.264.1095

BLANTONASSOCIATES.COM

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ABSTRACT

Between 2012 and 2014, archeologists from Blanton & Associates, Inc., at the request of the South Texas Electric Cooperative, Inc., conducted an intensive, non-collection, archeological survey of the proposed Red Gate Power Plant project in Hidalgo and Starr Counties, Texas. The area of potential effect (APE) comprised the 336-acre power plant site property in Hidalgo County, and an 891-acre, 24.5-mile proposed natural gas pipeline right-of-way in Hidalgo and Starr Counties. Investigation of the power plant APE discovered one mid to late twentieth century historic residential complex (41HG238), with an associated corral and minor structures. Based on the recent date of construction, lack of integrity, and paucity of buried material, site 41HG238 is recommended as ineligible for inclusion in the National Register of Historic Places (NHRP). Investigation of the pipeline APE did not discover any additional archeological resources. In summary, no NHRP-eligible sites were discovered, no artifacts were collected, and curation was unnecessary.

MANAGEMENT SUMMARY

PROJECT TITLE: Cultural Resources Survey for the Proposed Red Gate Power Plant and Lateral Project, Hidalgo and Starr Counties, Texas.

PROJECT DESCRIPTION: The project involved an archeological records review and intensive archeological survey with shovel testing and backhoe trenching prior to the proposed construction of a new power plant and its natural gas pipeline. The proposed project would require a permit to release greenhouse gasses under the federal Clean Air Act's *Prevention of Significant Deterioration Program* issued by the Environmental Protection Agency and is, therefore, subject to the provisions of Section 106 of the National Historic Preservation Act (NHPA).

PROJECT LOCATION: The study area comprised the power plant site and the pipeline right-of-way. The power plant site is located in central Hidalgo County, 3.85 miles (6.20 kilometers) northwest of Faysville, Texas, and 10.25 miles (16.48 km) north-northwest of the Hidalgo County Courthouse in the City of Edinburg, Texas. The portion of the study area is located on the *Faysville, Texas*, U.S. Geological Survey 7.5-minute topographic quadrangle map. The natural gas pipeline right-of-way would extend from a tie-in point at the Delmita compressor facility in Starr County to the Red Gate power generating facility in Hidalgo County. This portion of the study area is on the *Faysville, Texas, McAllen Ranch, Texas, San Isidro, Texas, and La Gloria, Texas* U.S. Geological Survey 7.5-minute topographic quadrangle maps.

TOTAL ACREAGE:

Power plant: approximately 336 acres. Natural gas pipeline right-of-way: approximately 891 acres.

DATE OF WORK: Between October 31 and November 8, 2012 and May 12 and June 26, 2014.

PURPOSE OF WORK: Blanton & Associates, Inc. is assisting the project sponsor in their compliance with Section 106 of the NHPA.

PRINCIPAL INVESTIGATORS: Brandon S. Young and Timothy B. Griffith

NEWLY RECORDED SITES: 41HG238.

PREVIOUSLY RECORDED SITES: None.

COMMENTS: 41HG238 is recommended as ineligible for inclusion in the National Register of Historic Places.

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INTRODUCTION

Between 2012 and 2014, archeologists from Blanton & Associates, Inc., at the request of the South Texas Electric Cooperative, Inc. (STEC), conducted an intensive, non-collection, archeological survey of the proposed Red Gate Power Plant project (henceforth, *the project*) in Hidalgo and Starr Counties, Texas. The total area of potential effect (APE) (**Figures 1 and 2**) consisted of

- a **power plant APE**: the 336-acre power plant site property owned by STEC in Hidalgo County, and
- a **pipeline APE**: the 891-acre, 24.5-mile natural gas pipeline right-of-way (ROW) in Hidalgo and Starr Counties.

The proposed power plant site is located approximately 3.85 miles northwest of Faysville, Texas, and 10.25 miles north-northwest of the Hidalgo County Courthouse in Edinburg, Texas. Its northern boundary is Farm-to-Market Road (FM) 490. The maximum depth of vertical impacts for the proposed power plant would be approximately 20 feet below the existing ground surface. The proposed natural gas pipeline would run in a ROW that would extend from a tie-in point at the Delmita compressor facility in Starr County to the Red Gate power generating facility in Hidalgo County. The pipeline ROW would encompass 209 acres of permanent easement. The maximum depth of vertical impacts for the proposed pipeline would be approximately 4.5 feet below the existing ground surface.

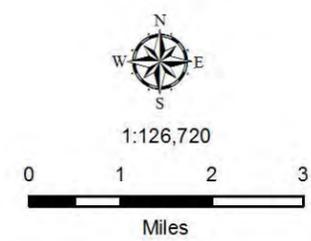
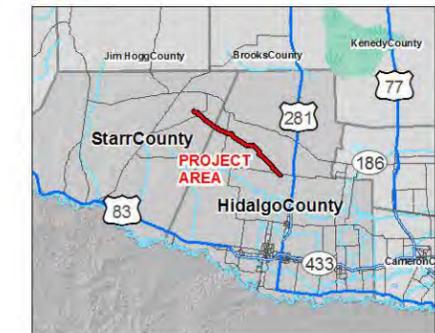
The project would require a permit to release greenhouse gasses under the federal Clean Air Act's *Prevention of Significant Deterioration Program* issued by the Environmental Protection Agency and is, therefore, subject to the provisions of Section 106 of the National Historic Preservation Act (NHPA). The intent of the NHPA is to consider the effects of proposed undertakings that are federally funded, permitted, or licensed, or that occur on federal property. The NHPA, which created the National Register of Historic Places (NRHP) and the Advisory Council for Historic Preservation (ACHP), states that the ACHP must be afforded an opportunity to comment when cultural resources eligible for inclusion in the NRHP are identified. Protection of cultural resources under federal law is tied to their eligibility for inclusion in the NRHP, which is dependent upon a site's significance, as defined by National Park Service (NPS) rules 36 CFR 60.4.

Field investigations were designed to comply with appropriate archeological field methods as defined in the Department of the Interior's Standards and Guidelines (NPS 1983), the Guidelines of the Council of Texas Archeologists (CTA 1987), and the survey standards developed by the Texas Historical Commission (THC) in conjunction with the CTA (n.d.). The primary intent of the survey was to identify and describe all cultural resources discovered within the project's APE, evaluate their eligibility for inclusion in the NRHP, and make recommendations for future management options, such as avoidance and preservation or further investigations, if needed.



Figure 1
Project Location on County Base
Red Gate Power Plant and Lateral
Hidalgo and Starr Counties, Texas

- Pipeline ROW (Pipeline APE)
- ▭ STEC Property (Power Plant APE)
- Mainline Valve Setting



Base Map: ESRI-USA Base Map, ESRI-U.S. and Canada Detailed Streets

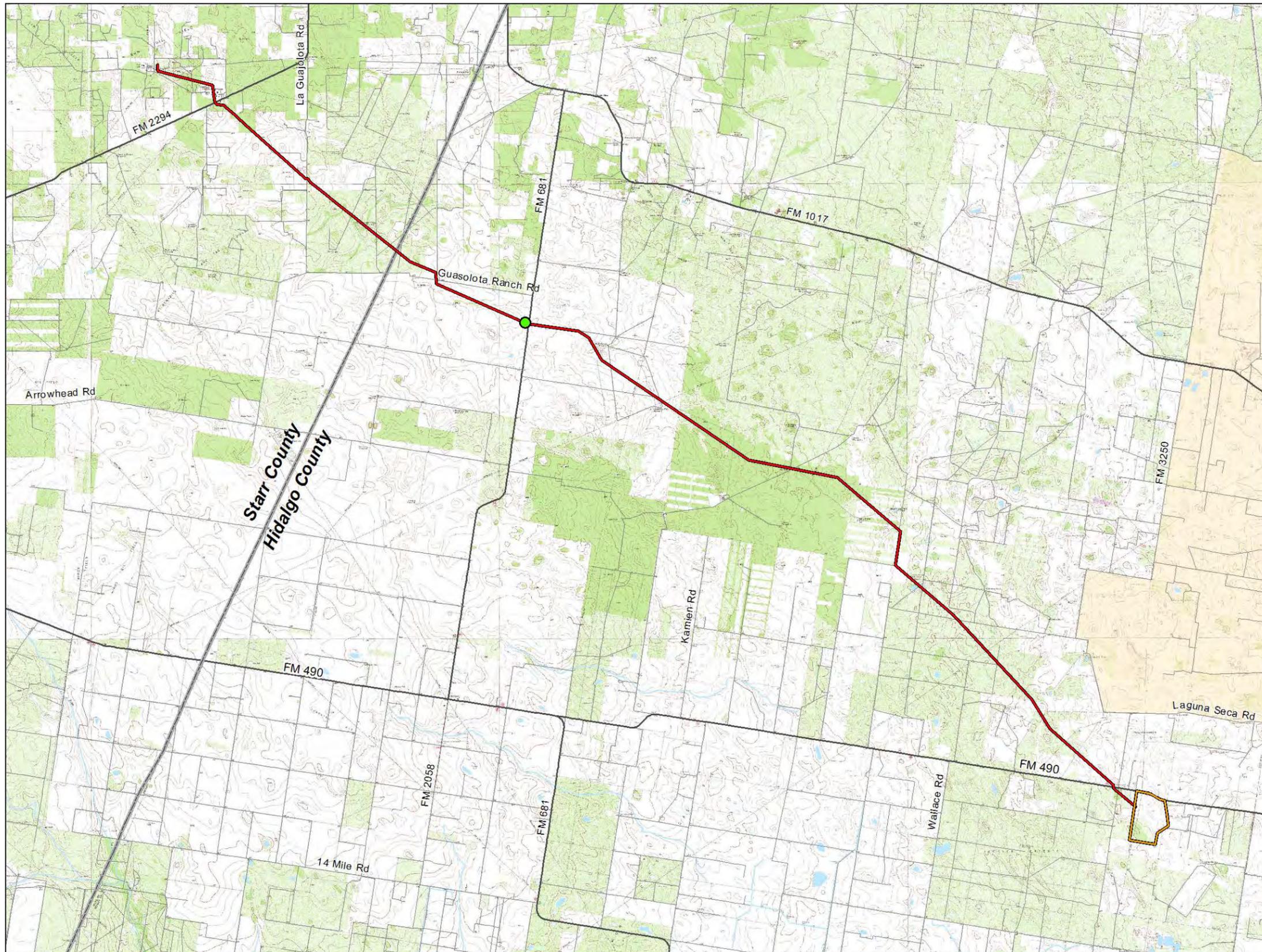
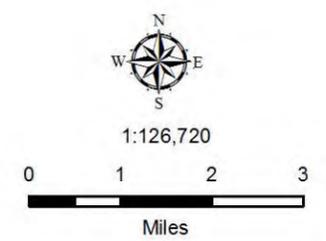


Figure 2
Project Location on USGS
Red Gate Power Plant and Lateral
Hidalgo and Starr Counties, Texas

- Pipeline ROW (Pipeline APE)
- ▭ STEC Property (Power Plant APE)
- Mainline Valve Setting



Base Map: USGS Topographic, Starr and Hidalgo Counties, Texas
ESRI-U.S. and Canada Detailed Streets

ENVIRONMENTAL SETTING

The project would be located in the Lower Rio Grande Valley in north-central Hidalgo County. This area lies within Fenneman's (1938) West Gulf Coastal Plain section of the Coastal Plain physiographic province. Topographically, the valley exhibits flat alluvial and/or coastal terrain with gently undulating terrain.

GEOLOGY

The surface geologic formation within the study area is the Pliocene-age Goliad Formation consisting of clay, sand, caliche, limestone, and dark siliceous granules and pebbles within a caliche matrix. Gravels, including chert clasts, have been associated with meanderbelts of Pliocene stream channels (Barnes 1976). The Goliad is recognized as predating known human occupation in the region and has little to no potential to contain buried archeological deposits. However, soils that have developed on its surface can contain archeological remains. Such remains are typically surficial to shallow and have been disturbed by modern agricultural and ranching activities.

Portions of the Goliad Formation are masked by a discontinuous cover of Lasara Loess stabilized and active sand dunes and eolian depressions. These are moderately permeable loamy upland soils. Much further to the south, alluvial and fluvial deltaic sediments, derived from the lower Rio Grande, were deposited at various times during the Pleistocene. These deposits are primarily mud or silt and sand with gravel and chert derived from the Uvalde Gravels (Barnes 1976). The Pleistocene depositional record shows intermittent yet regular glacial retreats and cyclic sea level changes. Lower sea levels caused valley cutting and widespread erosion, and higher sea levels resulted in the accumulation of alluvial and deltaic plains by ancestral river systems.

SOILS

The project area comprises a series of low hills and small, irregular to rounded depressions. The convex uplands include four series of well-drained soils (Jacobs 1981). The Delmita-Randado complex, 0-1% slopes, has a surface layer of reddish brown fine sandy loam (9 to 13 inches thick) above red to reddish brown sandy clay loam (7 to 11 inches thick) above indurated caliche. The Comitas loamy fine sands, 0-3% slopes, are located on elongated uplands with their long axis to the prevailing southeasterly winds. The surface layer (28 inches thick) is typically brown loamy fine sand above a reddish yellow fine sandy loam (52 inches thick). Hebronville sandy loam, 0-1% slopes, has a surface layer of brown sandy loam (17 inches thick) above brown fine sandy loam (22 inches thick), followed by yellowish-brown fine sandy loam and light yellow fine sandy loam. Hebronville sandy loam, 1-3% slopes, has a surface layer of brown sandy loam (16 inches thick) above strong brown fine sandy loam (32 inches thick), followed by light brown fine sandy loam (17 inches thick). A few areas of these soils have been altered by land leveling or land excavation.

The concave uplands are deep, nearly level small depressions (irregular to rounded in shape) made up of two soil series with moderate to slow permeability. The deep, nearly level Racombs sandy clay loam, 0-1% slope, has a surface layer of very dark gray sandy clay loam (13 inches thick) above dark grayish

brown sandy clay loam (12 inches thick) over brown sandy clay loam (24 inches thick); the underlying layer is light brown sandy clay loam (23 inches thick). The deep, nearly level Rio clay loam, 0-0.5% slopes, has a surface layer of dark gray clay loam (12 inches thick) above dark gray clay with reddish brown and strong brown mottles (6 inches thick), followed with a gray clay with brownish yellow to strong brown mottles (20 inches thick), grayish brown clay loam with few strong brown mottles (20 inches thick), and light brownish gray clay loam (7 inches thick). It is poorly drained with slow permeability leading to a high water capacity. It is frequently ponded for long periods of time after heavy rains and can measure up to 6 feet deep. Most of the prehistoric sites in the surrounding area are located on the edges of low rises overlooking these water-holding depressions.

VEGETATION

The APE occurs in the Tamaulipan Biotic Zone (Blair 1950), which is a transitional zone between a temperate zone to the north, a xeric zone to the west and a subtropical zone to the south. The climate is therefore relatively dry (less than 7.9 inches of rain per year) and warm (very unlikely to freeze), with vegetation that is a reduced mix of woodland, desert, and subtropical species. Within this biotic zone, Gould (1969) defines two ecoregions, the Coastal Sand Plains (more northerly) and the South Texas Brush Country (more southerly), both of which are represented roughly equally by area within the APE. Development has heavily impacted the vegetation in the APE, reducing it to zones of cropland (old pasture) and mesquite-granjeo parks. This is intermixed with isolated stands, or single trees, of mesquite (*Prosopis glandulosa*) or huisache (*Acacia farnesiana*). Brush is thicker but highly reduced from native conditions in a limited section of the far northwestern corner of the APE, adjacent to FM 490. A small (65.6 foot diameter) stock pond in the central eastern portion of the APE is surrounded by a narrow band of brush and scattered huisache. Fence rows retain scattered isolated mesquite and huisache. Notable populations of the following species are present: granjeno (*Celtis pallida*), tasajillo (*Cylindropuntia leptocaulis*), leatherstem (*Jatropha dioica*), coyotillo (*Karwinskia humboldtiana*), lantana (*Lantana urticoides*), cenizo (*Leucophyllum frutescens*), Spanish dagger (*Yucca treculeana*), lime prickly ash (*Zanthoxylum fagara*), *Mammillaria* cactus, and prickly pear varieties (*Opuntia* spp.).

Once covered with open grasslands and a scattering of trees, the central portion of Hidalgo and Starr Counties are composed of South Texas thornscrub. Following long-continued grazing and fire suppression, thorny brush, such as mesquite, is now the predominant vegetation type, along with acacias (*Acacia* spp.) and prickly pear mixed with grasslands; cenizo (*Leucophyllum frutescens*) and black brush (*Acacia rigidula*) shrubs are common on caliche ridges and hills, and in arroyos and flat plains. South Texas prickly pear pads take root easily after rootplowing, chaining, and discing and quickly create dense stands.

Within the sand sheet area of northern Hidalgo County, the vegetation is dominated by live oak (*Quercus fusiformis*) mottes situated on stable dunes, and sparse grasses scattered throughout with freshwater plants concentrated along occasional blowouts. This rolling to moderately dissected plain was once covered in many areas with grassland and savanna vegetation that varied during wet and dry cycles. However, more than 95% of the original native brush has been lost to agriculture, development, and urbanization, leaving less than 5% of native plant communities remaining in the Lower Rio Grande Valley (Vora 1992).

CULTURAL HISTORY

The APE is located in the Lower Rio Grande Valley in east-central Hidalgo County. This area lies within Fenneman's (1938) West Gulf Coastal Plain section of the Coastal Plain physiographic province. The larger cultural region is very close to the extent of Blair's (1950) Tamaulipan Biotic Province and is one of the most poorly known, archeologically, in Texas, with the Rio Grande valley itself as one of the least well known of the subregions.

The earliest synthesis of the South Texas region's archeology was attempted by E. B. Sayles (1935), who defined several cultural complexes along the Texas coast that indicated the presence of extensive campsites inland. Later, J. Charles Kelley (1947) defined the Monte aspect in this region; Richard MacNeish (1947, 1958) included some parts of Texas along the lower Rio Grande in his archeological survey of Tamaulipas, creating the Brownsville, Abasolo, and Repelo cultural complexes; and Suhm et al. (1954) summarized the archeology of this region.

Campbell's (1988) brief synthesis of the archeology of the central and southern Texas coast summarized many of the previous investigations in this region. Northwest of the area, the prehistory of the Lower Pecos region was important in helping to define the Rio Grande north of the current study area, including studies by Dibble and Lorrain (1968). A series of papers by Tom Hester and his colleagues during this period and the subsequent decade were particularly important in developing settlement subsistence models (Hester 1975, 1976, 1981). In more recent years, regional summaries by Hester et al. (1989) and Hester (2004) have provided important updates to the synthesis of the archeology of the region.

The prehistoric cultures of South Texas and its sub-areas have been most recently synthesized by Hester (1989, 1995, 2004), Black (1989), and Ricklis (2004); the following brief summary draws most heavily from those sources. Defined prehistoric to historic cultural stages include the Paleoindian (11,200 to 8,000 B.P.); Early Archaic (8,000 to 4,500 B.P.); Middle Archaic (4,500 to 2,400 B.P.); Late Archaic (2,400 to 1,200 B.P.); and Late Prehistoric (1,200 to 250 B.P.) (Black 1989: 48-51 and Perttula 2004).

PALEOINDIAN (CA. 11,200 TO 8,000 B.P.)

The earliest evidence of the human presence in South Texas dates to the Paleoindian stage. This stage originally included the earliest inhabitants of the New World who spread across the American continent in the waning years of the Pleistocene era. Recent possible pre-Clovis finds in both North and South America, such as the site of Monte Verde in southern Chile (Dillehay 1989, 1997), may significantly refine the chronology of New World occupation, but the finds are still sporadic and not universally accepted.

Paleoindian cultures are typically identified by their distinctive lithic technology, including well-made projectile points such as *Clovis*, *Folsom*, and *Plainview*, as well as a wide range of related lanceolate forms. Other diagnostic technologies include large polyhedral blade cores and prismatic blades (Collins 1999) associated with the Clovis techno-cultural complex and large bifacial cores and ultra-thin bifaces associated with Folsom techno-cultural complex. Data from the broader area comprising southern, southwest, and central Texas indicate that primary site types from this period include open sites and

rockshelters with evidence of general occupation along with specialized activities such as stone-tool making, hunting, and game processing. Stone artifact caches and human burials have also been found that date to the Paleoindian era. In the past, the Paleoindian peoples have typically been characterized as a nomadic, big-game hunting culture, but considerable evidence in nearby regions from sites such as Baker Cave suggests a broader range of subsistence activities within a rich and complex cultural tradition (Hester 1983).

Overall, the Paleoindian era is one that is marked by a gradual warming trend at the close of the final Pleistocene Wisconsinian glaciation. This warming trend is associated with a dramatically shifting faunal and floral environment, to which the various cultural traditions quickly adapted.

ARCHAIC (CA. 8,000 TO 1,200 B.P.)

The transition from Paleoindian to the Archaic is difficult to define precisely, but the Archaic projectile points begin to shift from lanceolate forms to stemmed points, though some later lanceolate forms such as *Golondrina* and *Angostura* may persist longer. Unfortunately, beyond a very few excavated sites (Scott and Fox 1982), subsistence data are scarce for sites of this period. Early Archaic sites are known throughout the area, though few have been excavated, and there is very little data on such sites in the Rio Grande Plain subregion (Black 1989:49). Sites are found on high terraces and in the uplands, but buried alluvial sites are known. As with the Paleoindian period, the widespread distribution of artifact types and low site counts suggest a small population, small band sizes, and large territorial ranges, though as Story (1985) and Black (1989) have argued, these generalizations probably apply to a wide area of the West Gulf Coastal Plain. Regional themes in the Archaic include the emergence of a triangular tool-type tradition including the widespread use of distally beveled tools and the development of subregionalized and sometimes intrusive but poorly understood mortuary complexes.

Despite its later date, the Middle Archaic of the South Texas Plains is little better known than its Early Archaic and Paleoindian antecedents. Hampered by the paucity of excavated sites and the near absence of radiocarbon dates, much must be inferred by comparisons with adjacent regions (Black 1989:49-51). By the Middle Archaic, ground stone, including manos and metates, occurs at a number of sites, perhaps indicating a greater reliance on plant materials than during previous stages and methods of food processing. Unifacial, distally beveled tools also continue, while triangular dart points characterize the projectile points of this stage. Stemmed points are also present (Hester 1995:438). The persistent *Clear Fork* tool type continues in both bifacial and unifacial forms, though much smaller than its earlier cousins (Turner and Hester 1999:246). Sites have been identified in the uplands as well as alluvial settings and along estuary bays in the Coastal Bend. Chronologically diagnostic artifact scatters appear for the first time in the Rio Grande delta (Black 1989:49). Middle and Late Archaic sites occur on terraces, arroyo banks, and in hilly areas overlooking arroyos and their tributaries. Hall et al. (1986) suggest a greater reliance on plant materials based on the presence of burned-rock concentrations. Population densities may have increased during this stage along with more-defined territories.

Late Archaic sites in South Texas are quite numerous, and this period is better known than its predecessors. During this time, plant and marine resources probably took on a greater role than hunting of large mammals. In fact, resource specialization may have reached a peak during the late Archaic,

followed by a somewhat more generalized subsistence in the subsequent Late Prehistoric period (Black 1989:51). A further increase in population is implied by the increase in site density during this period. Regional distinctions in artifact assemblages and other cultural traits also become prominent at this time.

LATE PREHISTORIC/PROTOHISTORIC (CA. 1,200 TO 250 B.P.)

The final prehistoric stage, the Late Prehistoric, is well represented in South Texas. This period is marked by the introduction of new technologies, including the bow and arrow and ceramics, as well as potentially new adaptive strategies. Site types are varied and include open campsites, lithic scatters, and cemeteries. Site types indicate local lithic styles and intrusions from adjacent areas. Local ceramic styles are infrequent if non-existent unless associated with assemblages also occurring in other regions. At the southernmost tip of the culture area, the Brownsville complex is noted for its shell-working industry and influences from groups along the Mexican coast.

Two subperiods that have been defined for this period in Central Texas also have relevance to the Late Prehistoric of the South Texas Plains. The earliest part of this period, the Austin subperiod (beginning about 1,300 to 1,200 B.P.) reflects a certain degree of cultural and economic continuity underlying the adoption of new technologies, while the later Toyah subperiod (extending roughly to the beginning of the historic era) may indicate the introduction of immigrants following a southward extension of the range of the bison. Throughout most of the state, there is an intensification of animal exploitation as evidenced by the faunal remains that occur during the Late Prehistoric stage, particularly during what has been termed the Toyah Phase.

The transition to the Protohistoric/Historic period reflects catastrophic replacement of indigenous groups. Little is known of the fate of the prehistoric inhabitants of South Texas during this period. Though a number of small groups have been documented in the early historic era of south, south-central, and coastal Texas, most disappeared very quickly from the written records. In South Texas, Campbell (1988) documented the available evidence of the numerous Native American bands that roamed this region in the early historic era. With increasing Anglo settlement in South Texas in the early- to mid-nineteenth century, as well as antagonistic official policies and continuous onslaughts of epidemic diseases, Native American populations began to dwindle. While the Comanche and a few other groups were able to maintain some social cohesion, most groups were eliminated or lost their individual identities as the survivors merged with isolated survivors from other bands. Remnants of bands from the Plains and from across the continent, including Kickapoo, Seminole, and others, ranged across northern Mexico and southern Texas.

PREVIOUS ARCHEOLOGICAL INVESTIGATIONS

A review of records at the Texas Archeological Research Laboratory (TARL) and data available on the Texas Archeological Sites Atlas (Atlas) was conducted prior to field investigations to determine the presence or absence of previously recorded archeological resources in or adjacent to the APE. The review indicated that there are no previously recorded archeological sites or project areas within or immediately adjacent to the APE. However, numerous important sites have been recorded in the region surrounding the project area. The majority of these sites are located on hills or slight rises adjacent to low-lying areas of soils with low permeability that maintain a water reservoir for several days to weeks. A brief review of the most important of these regional sites is provided below.

Sites 41HG54 and 41HG55 are located approximately 0.95 mile north-northwest of the project area on opposite sides of a large depression. These prehistoric open camps, recorded in 1978, consisted of numerous Matamoros dart points, scrapers, shell, fire-cracked rock (FCR), and lithic debitage.

Sites 41HG4 and 41HG5 are extensive prehistoric open camps located approximately 2.88 miles northeast of the project area; both were investigated in 1962. Site 41HG4 is located in a 10-acre area atop hills extending toward four sinks. The materials collected consist of 50 *Starr* and three *Fresno* arrow points; 36 *Matamoros*, 15 *Catan*, and four *Tortugas* dart points; ceramics; *Olividae* shell (perforated); side and end scrapers; approximately 100 shells; gouges; cores; FCR; and lithic debitage. The site had been in cultivation since 1947 and was actively looted at the time of recording. Site 41HG5 is a seven-acre site located atop a small hill overlooking two sinks. The collected materials consist of 52 *Starr* and four *Fresno* arrow points; 26 *Matamoros*, 19 *Catan*, and seven *Tortugas* dart points; manos and grinders; bone awls; various scrapers; *Olividae* shell; perforated conch; FCR; and lithic debitage.

Site 41HG173, a well-preserved prehistoric burial, is located 4.2 miles southeast of the project area and is located atop a low natural rise adjacent to a modified shallow playa. This burial was associated with approximately 200 cut and polished bird bone beads, 15 drilled canine teeth, one drilled human tooth and 15 cut *Olividae* shell beads. It was discovered during canal construction; the site may include additional burials but was not further investigated at the time.

Approximately 6.75 miles east of the project area, an archeological survey of sinks and remnant resaca system resulted in the recording of six sites, 41HG26, 34-37, and 62. Most of these prehistoric open camps were discovered on the northwestern slopes of a series of low hills. Formal tools, lithic debitage, perforated bone, and one *Matamoros* dart point made up the cultural assemblage, and most of the sites were destroyed due to long-term cultivation and erosion.

Further away but within a regional context, two substantial prehistoric cemeteries have been documented southeast of the project area. The Floyd A. Morris site (41CF2) is approximately 33 miles southeast of the APE on a low sandy ridge that had been leveled, plowed, and planted by the landowner. The leveling obliterated the topographic relief and resulted in the plowing up of numerous burials. Limited salvage excavations in 1966 recovered 13 burials and partial burials, and documented an additional seven burials; these were well-preserved and buried with bone and shell bead, one dart point, one knife and a tubular bone bead. An additional burial site in the region, the Ayala site, was discovered approximately 30 km

(19 miles) south-southeast of the current APE. Both the Floyd A. Morris and Ayala sites were recorded by Collins in 1966 and provided a brief look into prehistoric burial practices along the lower Texas coast and in the Rio Grande valley.

METHODOLOGY

The survey adhered to THC survey standards (n.d.), as well as the guidelines of the CTA (1987) and the Secretary of the Interior's Standards and Guidelines (NPS 1983). Field investigations were documented with digital photography. Investigations consisted of an intensive 100 percent archeological survey with surface and subsurface investigations of sufficient intensity to determine the nature, extent, and if possible, the significance of any archeological resources discovered within the APE. The surface investigations consisted of a 100 percent pedestrian survey with 30-m transect intervals to examine the ground surface for archeological remains. Systematic shovel testing (20 to 30 meter transect intervals), and backhoe trenching as necessary, were conducted to prospect for buried archeological materials.

The project's APE was divided into two portions due to the project development history and the geographic layout of the project infrastructure. The project, as originally presented to B&A, involved the construction and operation of a new electrical power plant. Because the project involved a federal nexus through the Clean Air Act, EPA indicated that the power plant construction would have to comply with Section 106 of the NHPA. An intensive archeological survey of the power plant property owned by STEC, *the power plant APE (Figures 1 and 2)*, was completed in 2013, and those findings are presented in *Results – Power Plant APE* of this report. Details of excavations in the power plant APE are provided in Appendices A and B.

Subsequently, the project's scope expanded to include a new natural gas pipeline that would not be built *but for* the power plant. Therefore, the pipeline would be an integral part of the project, and would also require compliance with Section 106 of the NHPA. To complete the archeological survey of the project, an intensive archeological survey of the pipeline ROW, *the pipeline APE (Figures 1 and 2)*, was completed in 2014, and those findings are presented in *Results – Pipeline APE* of this report. Details of excavations in the power plant APE are provided in Appendix C.

Resumes of all investigators are provided in Appendix D.

RESULTS - POWER PLANT APE

The power plant APE has been extensively cleared for cleared for cattle ranching and has few structures (**Figure 3**). The power plant APE has experienced significant surface and subsurface impacts from vegetation clearing (including chaining and root plowing), the excavation of three ponds, and construction of utilities (one north-south trending high pressure buried gas pipeline along the western edge of the APE, power poles, and an electrical transmission easement), roads, a historic farm complex, and a modern pavilion and barbeque pit (**Figure 4**). The modern pavilion and barbeque pit (**Figures 5 and 6**) are located on the main road at the northeastern entrance to the power plant APE. Numerous overhead transmission line poles parallel the northern boundary of the power plant APE along the south side of FM 490, while a north/south oriented overhead transmission line parallels the eastern boundary of the APE. Also, several dirt roads traverse the APE. The remainder of the power plant APE has been cleared and leveled.



Figure 3. Typical Conditions within the power plant APE

Systematic shovel testing across the power plant APE involved the excavation of 66 STs, 59 in non-site areas and seven STs within the boundaries of the one archeological site (41HG238) discovered in the power plant APE (see below). Hand excavations extended from a minimum of 30 cm below surface (bs) (due to hard impenetrable soil) to a maximum depth of 100 cm bs, revealing shallow to deep sandy soils overlying caliche (**Appendix A**). With the exception of STs excavated within the archeological site discovered during the survey (see below), shovel testing discovered no buried archeological material.

Most of the STs could not be hand excavated to a depth of 100 cm bs due to extremely hard, dry, and compact soil conditions (**Appendix A**). As such, B&A determined that the power plant APE required

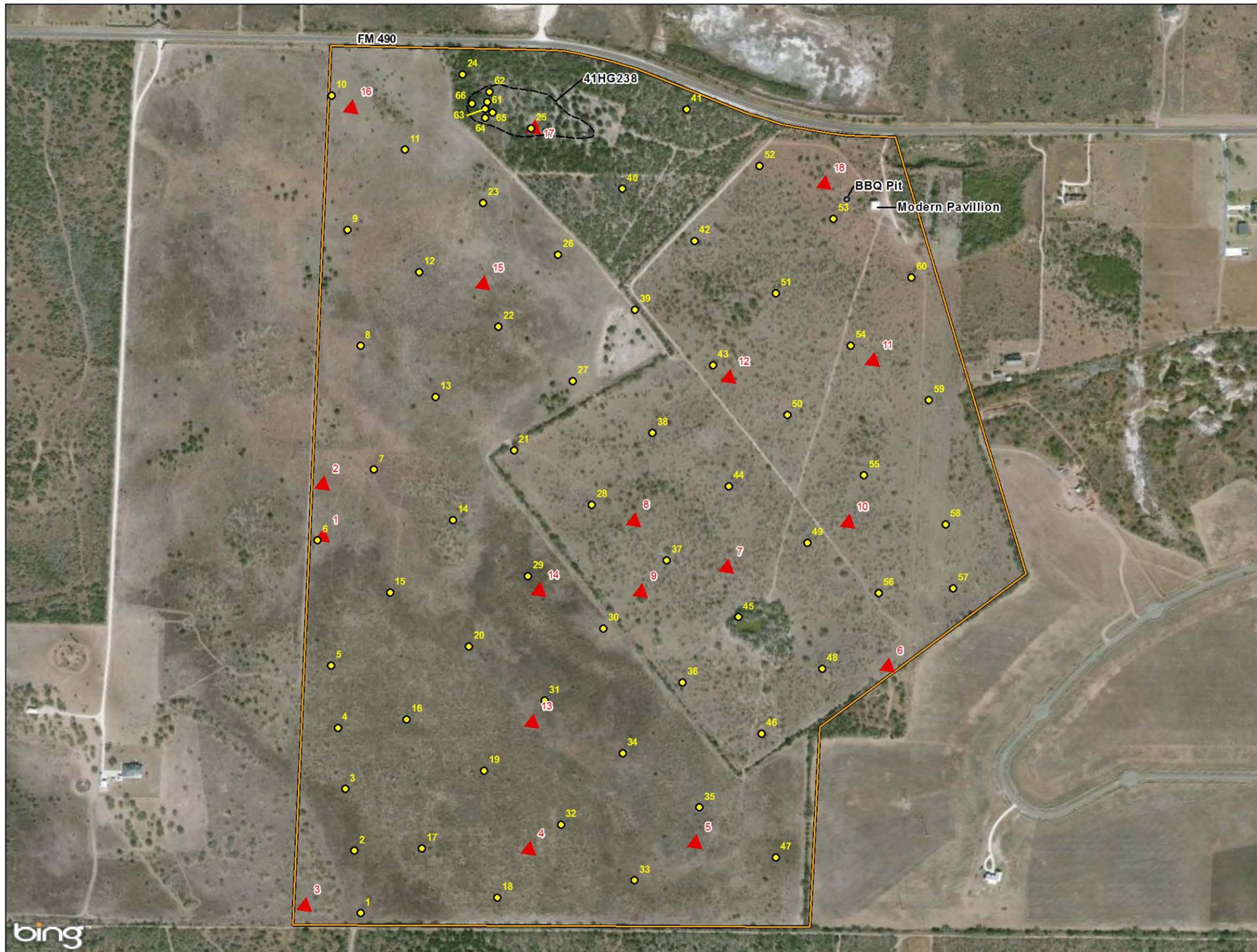
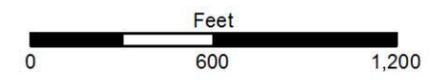


Figure 4
Power Plant APE on Aerial Imagery
with Subsurface Test Locations
Red Gate Power Plant and Lateral
Hidalgo and Starr Counties, Texas

-  Power Plant APE
-  Shovel Test (#)
-  Backhoe Trench (#)
-  Site Boundary



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Figure 5. Modern pavilion in the northeast power plant APE



Figure 6. Modern crick barbeque pit in the northeast power plant APE

additional subsurface sampling via backhoe excavations. Backhoe trenching revealed two to three separate stratigraphic zones that, from top to bottom, consist of sand to sandy loam overlying coarser sandy loam with few to abundant calcium carbonate masses and nodules above caliche bedrock (**Appendix B**). During backhoe trenching, caliche bedrock was encountered at 66 cm bs in BHT 13, 77 cm bs in BHT 18, 107 cm bs in BHT 16 and 180 cm bs in BHT 2. The remaining BHT profiles generally revealed deep sandy loam soil to depths between 70 and 220 cm bs, but were unable to reach bedrock; the majority of these were excavated between 180 and 220 cm bs. All of the BHTs were negative for cultural materials (see **Appendix B**).

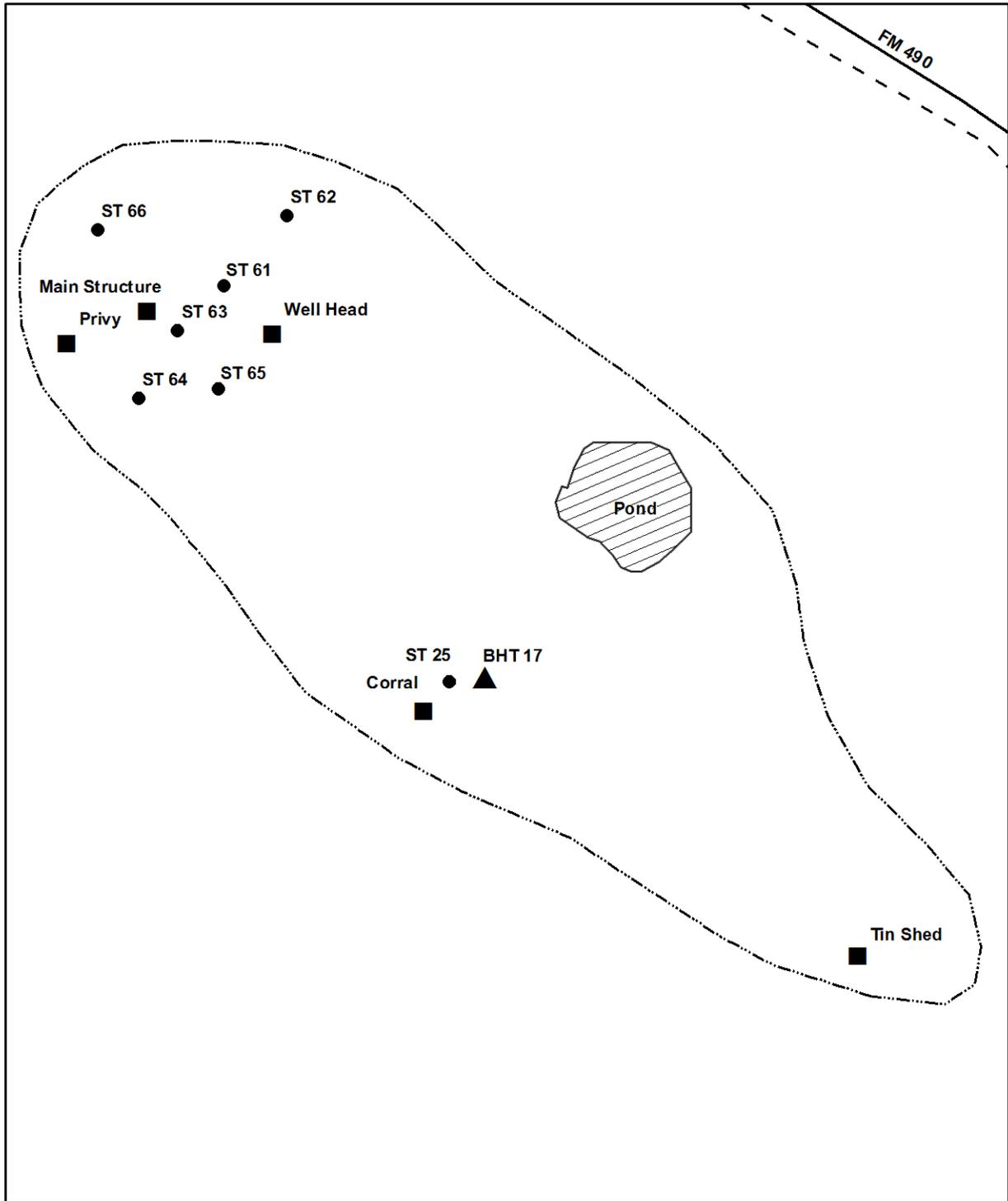
SITE 41HG238

41HG238 consists of a mid to late twentieth century site (approximately 1,050 ft by 351 ft) containing a dilapidated one-room structure (house) with associated outbuildings (e.g., privy, corral, and a steel pipe and corrugated metal pavilion) (**Figure 7**). Subsurface investigations at the site involved the excavation of seven STs (25 and 61-66) and one BHT (17). Excavations discovered only limited artifacts consisting of two modern electrical cord fragments, two modern brick fragments, and three fence post fragments from STs 62, 63, and 64 between 10 and 30 cm bs (see **Appendix A**).

The single room house structure measures 25.4 ft. in length by 10.3 ft. in width by 9.8 ft in height consisting of unpainted and untreated drop wood siding and three one-over-one double hung wood sash windows (**Figure 8**). Based on the building's siding and one-over-one windows, it appears that it may date to ca. 1925 to 1935. However, the structure sits atop modern concrete piers (with little vegetation growth around them), suggesting that it likely moved to its current location in the last several years. The interior had sheet rock walls that have rotted away. The structure did have electricity, but no plumbing. The structure does not have a kitchen and was likely used for temporary housing or as a seasonal or hunting camp.

The associated structures/outbuildings consist of a privy (approximately 6 feet by 4 feet by 7 feet) made with wood and wire mesh with a tin roof (**Figure 9**); a corral (50 feet by 52 feet) made with wooden posts, wooden boards, wire nails, and wire animal fencing; a pavilion (approximately 10 feet by 30 feet) made with steel pipe, a concrete pad, a tin roof, electrical hook up, and PVC water pipes; and a modern well head approximately 75 feet east of the single room structure (**Figure 7**). In addition, a small pond is located adjacent to the corral.

Archeologists observed modern debris adjacent to the house structure consisting of bricks, cinder blocks, glass bottles, beer cans, clothes and shoes, PVC pipes, fence supplies, glass and metal fragments, bullet casings and plastic shotgun shell casings. A large depression, excavated with a backhoe, has been filled with household debris immediately north of the main structure. A large pile of household debris (rubber soled shoes, bottles, cans, and clothing of all sizes) is located west of the main structure.



- - Power Plant Site Boundary
- ⋯ Archeological Site Boundary
- Site Structure or Feature
- Shovel Test (ST #)
- ▲ Backhoe Trench (BHT #)

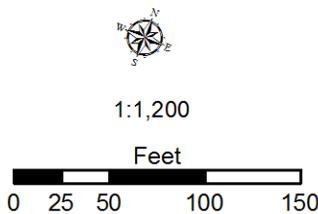


Figure 7
41HG238 Plan Map
Red Gate Power Plant
Archeological Site Map



Figure 8. Main structure on 41HG238



Figure 9. Privy on 41HG238

A review of historic aerial photographs and maps reveals that structures have been on the power plant APE since at least the 1960s; however, it is unknown if the extant structures (particularly the residential structure) have been relocated onto the power plant APE since that time. It should be noted that since the buildings are located in dense vegetation, they are only visible on aerial photographs taken during winter months.

The earliest maps of the area that show property-level details, the 1936 and 1955 Texas Highway Department (THD) Maps, show no structures on the power plant APE. The 1965 United States Geological Survey (USGS) topographic map shows a well on the power plant APE near the location of the small residential structure, although no buildings are denoted on the power plant APE. A 1961 aerial photograph available at www.historicaerials.com indicates that two driveways extend from the road into the dense vegetation. One driveway leads to the area where the residential structure and privy are located; however, no buildings can be seen in the dense vegetation. Review of the January 1973 aerial indicates that a structure is located near the location of the residential structure; however, it is unclear if it is the same building. Other aerial images reviewed from the USGS Earth Explorer website (dated 1955 and 1961) and Google Earth (dated 1995 to 2010) do not show sufficient detail to determine if the extant structures are on the power plant APE. It should be noted that the modern pavilion located on the northeast corner of the power plant APE was constructed between 1995 and 2005 according to Google Earth aerial photographs.

Given the above data, B&A does not recommend that any archival research be completed on the power plant APE to determine if the historic site may be associated with a significant person since it appears that the extant residential building may have been relocated to this property. The main indication that the residential structure was relocated is the modern concrete pier foundation it rests upon. Since houses are frequently relocated in South Texas, such a move is probable. Furthermore, no electricity poles lead from the road to the house; this indicates that although the house was wired for electricity and electrical boxes are attached to the structure, there does not appear to be any connection to the utility lines. While a previous structure may have been located near the location of the extant building, there is little likelihood that the extant residential structure has been located at its current site for a significant amount of time or since its construction. Additionally, based on the distance of site 41HG238 from the proposed plant site (approximately 550 meters), the site will not be affected by the planned construction. Given the poor integrity of the structural remains, the lack of any unusual construction techniques, the paucity of subsurface materials, and the likelihood that the house structure was moved to its current location, it is the opinion of B&A that 41HG238 is not eligible for inclusion to the NRHP.

RESULTS - PIPELINE APE

The pipeline APE was generally a mix of thornscrub and old pasture (**Figure 10**) and also crossed significant areas of erosional to stable upland terrain that is level to gently undulating containing typically shallow soils (**Figure 11**). Ground surface exposures provided excellent visibility (45 to 70 percent).



Figure 10. General conditions of the pipeline APE



Figure 11. Highly erosional terrain occurred in portions of the pipeline APE.

Investigations consisted of an intensive 100 percent archeological survey with surface and subsurface investigations of sufficient intensity to determine the nature, extent, and if possible, the significance of any archeological resources discovered within the pipeline APE. A total of 211 placed shovel tests were excavated throughout the pipeline APE (**Figures 12.1-12.10**) (**Appendix C**). No cultural material was encountered in any surface or subsurface context.

Sediment profiles were typified by 8 to 100 cm-thick sediments overlying dense basal clay sediments containing caliche nodules or bedrock (**Appendix C**). These sediments ranged in color from brown to pale browns in addition to gray and grayish brown. Disturbances include erosion, ranching activity, recent vegetation clearing, and surface grading. No prehistoric cultural materials were observed on the surface or in any subsurface context.

Three sediment zones were identified within the shovel profiles. Zone 1 (0-15 cm) consisted of a loose to friable sand to sandy loam (10 YR 6/3). Zone 2 (15-45 cm) consisted of a hard sandy loam to sandy clay loam. The hardness of this zone is possibly caused by cementation attributable to soluble calcium carbonate. Zone 3 (45-100 cm) consisted of a very hard, dry, blocky sandy clay loam to sandy clay with abundant calcium carbonate in the form of flecks, filaments, and masses (10 YR 5/8). This zone is the intact ancient basal deposit often overlaying caliche hardpan or bedrock.

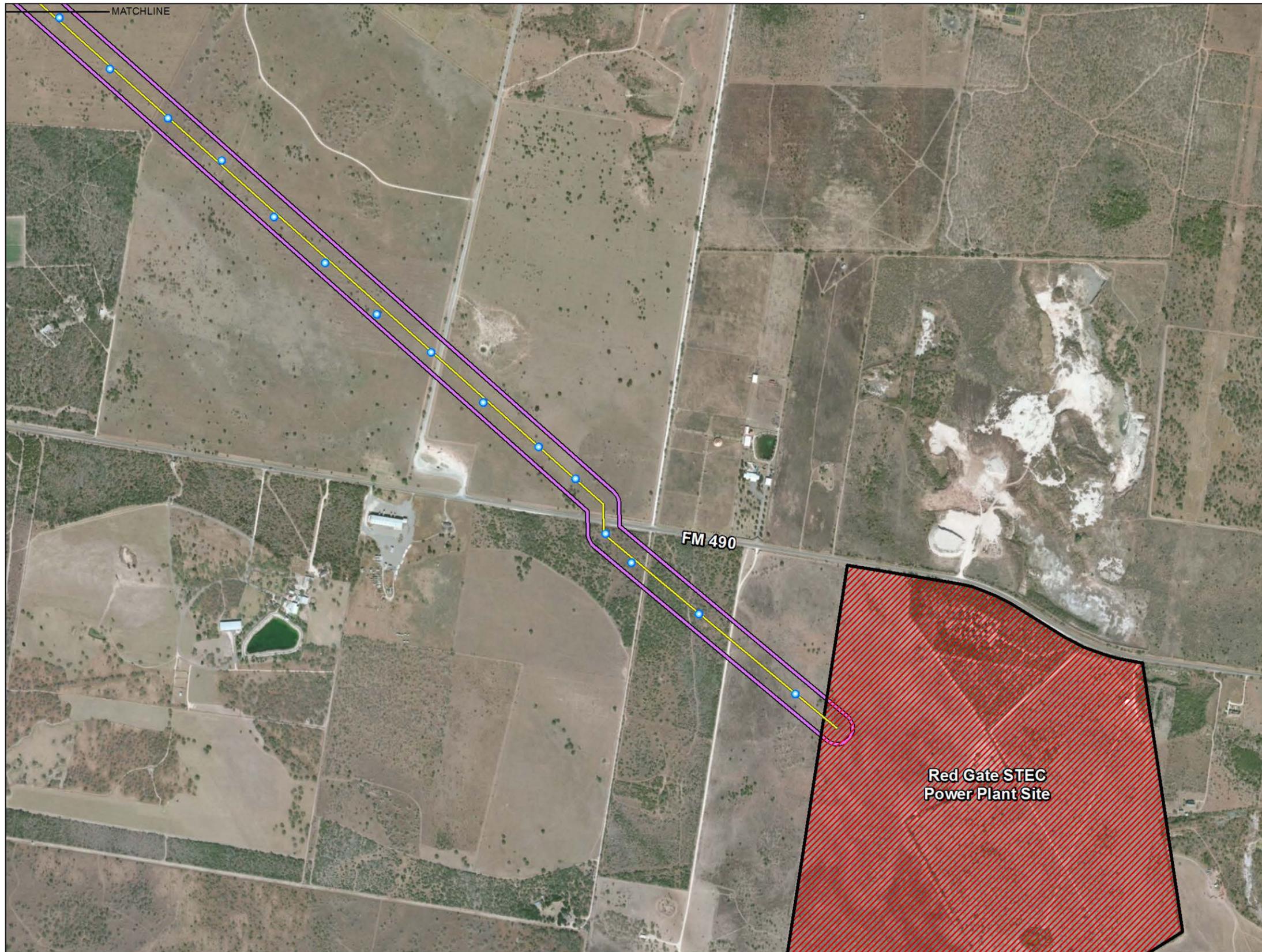
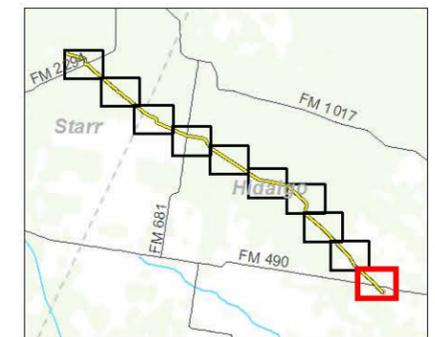
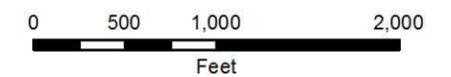


Figure 12.1
Pipeline APE with
Shovel Test Locations
Red Gate Power Plant and Lateral
Hidalgo and Starr Counties, Texas

- Shovel Test Location
- Red Gate Alignment
- Area of Potential Effect (150 feet from pipeline centerline)
- ▨ STEC Property (Power Plant Site)



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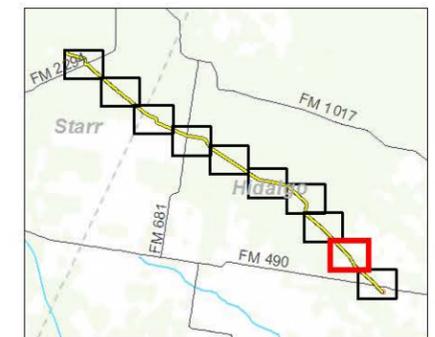


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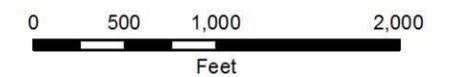


Figure 12.2
Pipeline APE with
Shovel Test Locations
Red Gate Power Plant and Lateral
Hidalgo and Starr Counties, Texas

- Shovel Test Location
- Red Gate Alignment
- Area of Potential Effect (150 feet from pipeline centerline)



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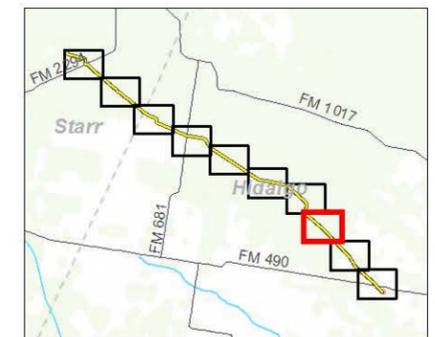


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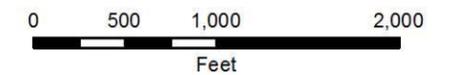


Figure 12.3
Pipeline APE with
Shovel Test Locations
Red Gate Power Plant and Lateral
Hidalgo and Starr Counties, Texas

- Shovel Test Location
- Red Gate Alignment
- Area of Potential Effect (150 feet from pipeline centerline)



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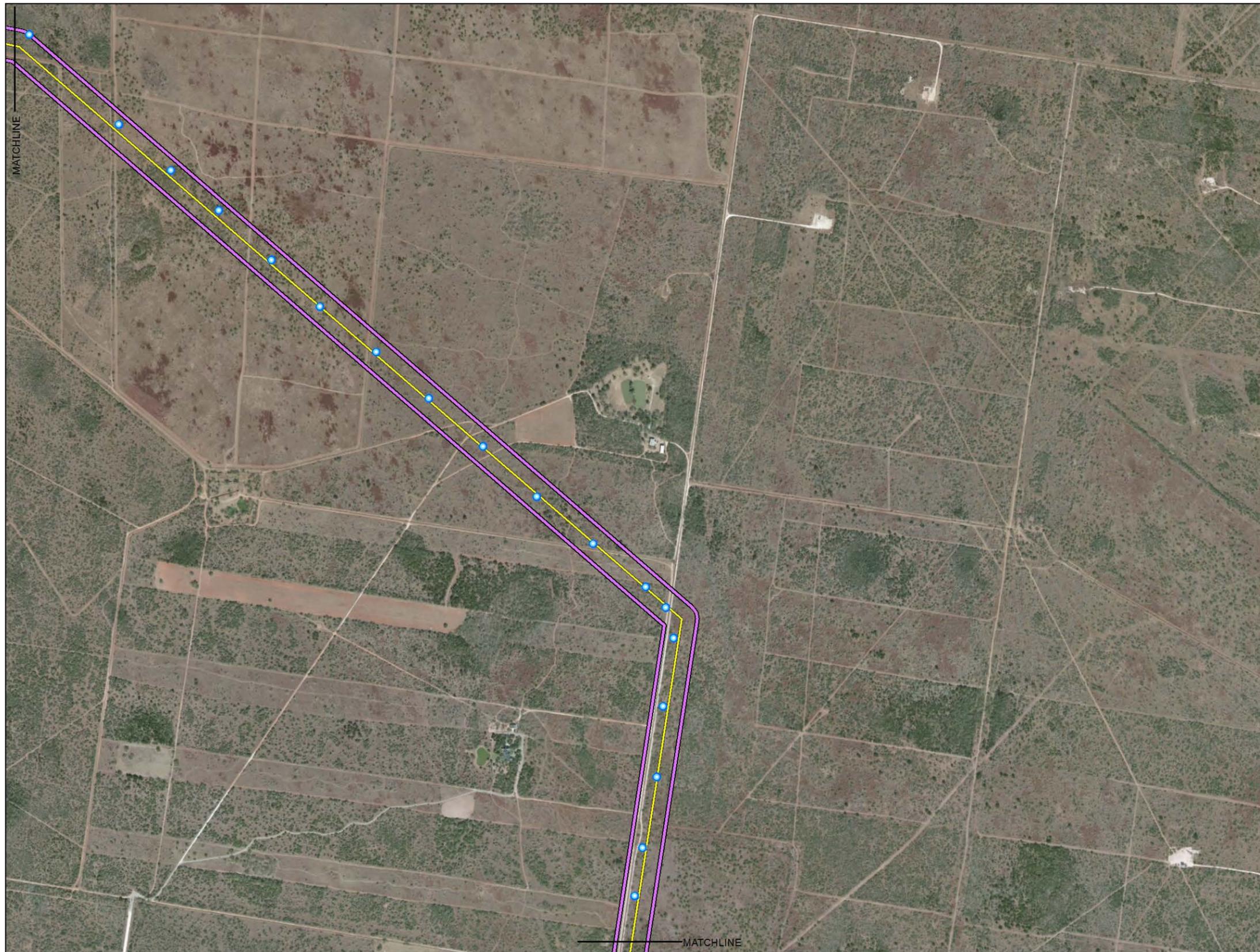
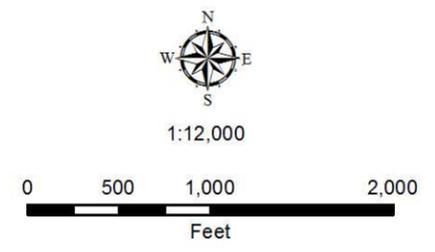
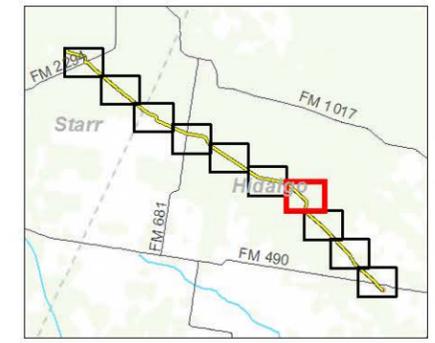


Figure 12.4
Pipeline APE with
Shovel Test Locations
Red Gate Power Plant and Lateral
Hidalgo and Starr Counties, Texas

- Shovel Test Location
- Red Gate Alignment
- Area of Potential Effect (150 feet from pipeline centerline)



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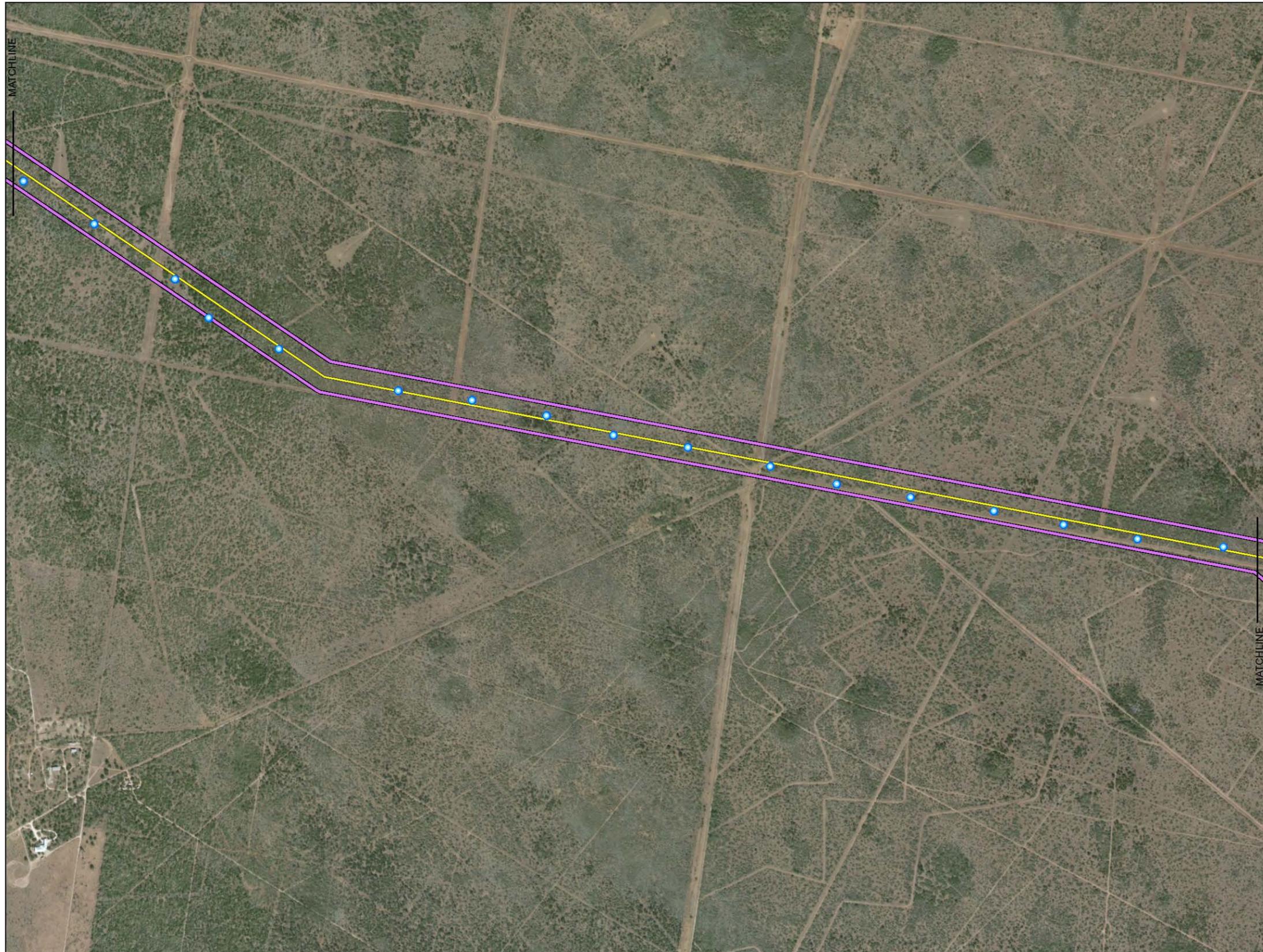
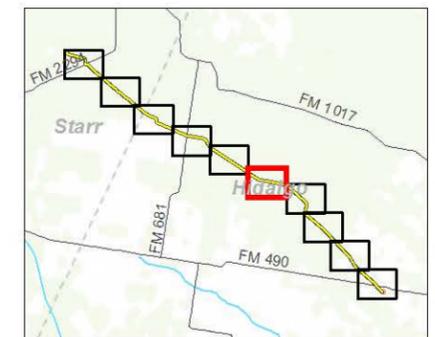
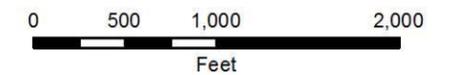


Figure 12.5
Pipeline APE with
Shovel Test Locations
Red Gate Power Plant and Lateral
Hidalgo and Starr Counties, Texas

- Shovel Test Location
- Red Gate Alignment
- Area of Potential Effect (150 feet from pipeline centerline)



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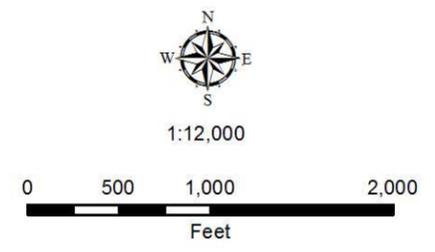
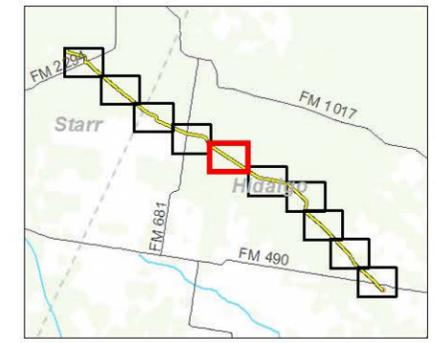


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Figure 12.6
Pipeline APE with
Shovel Test Locations
Red Gate Power Plant and Lateral
Hidalgo and Starr Counties, Texas

- Shovel Test Location
- Red Gate Alignment
- Area of Potential Effect (150 feet from pipeline centerline)



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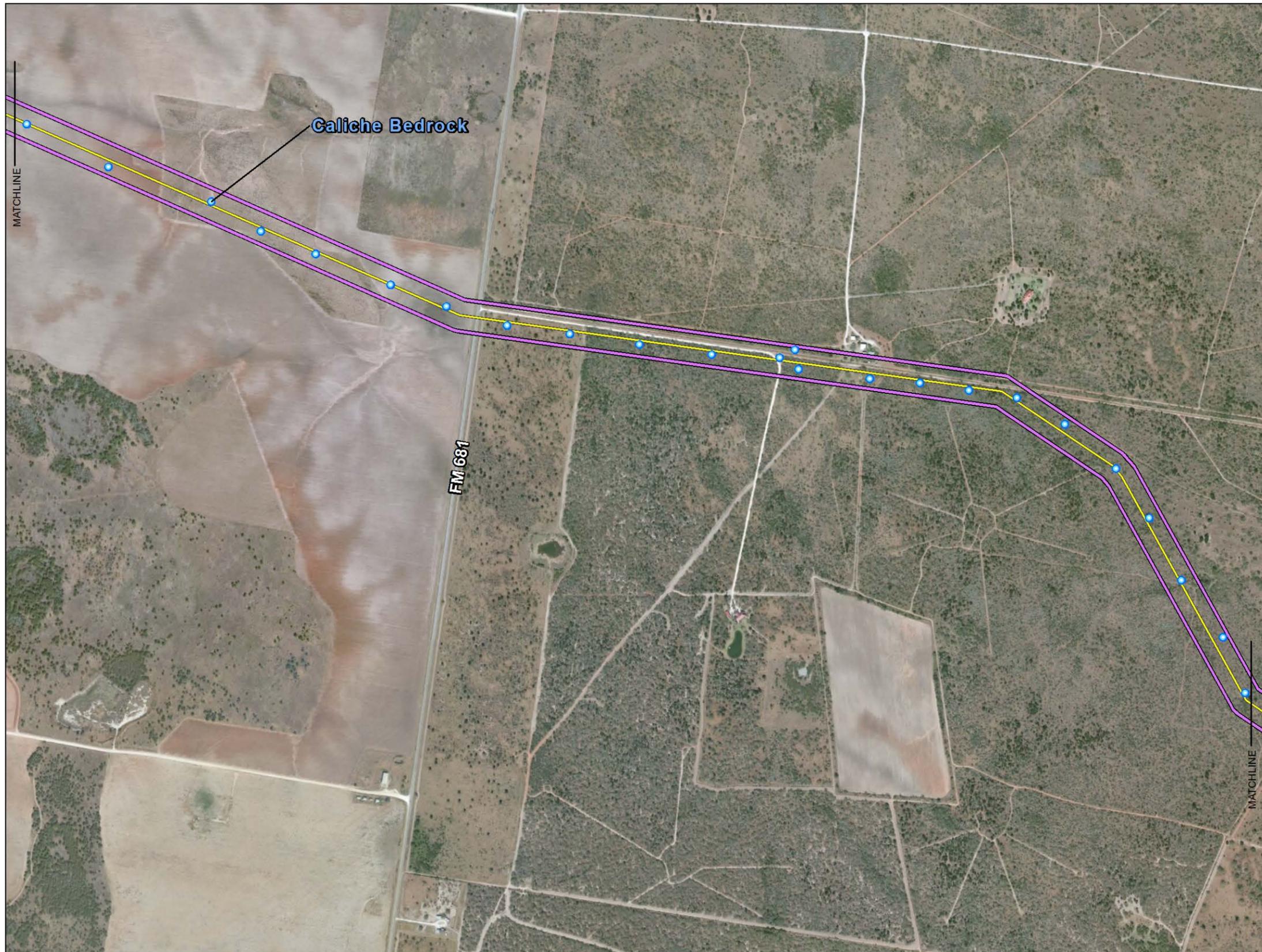
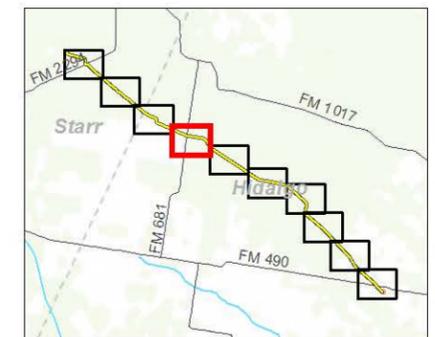
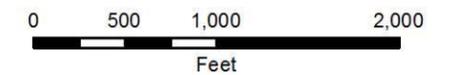


Figure 12.7
Pipeline APE with
Shovel Test Locations
Red Gate Power Plant and Lateral
Hidalgo and Starr Counties, Texas

- Shovel Test Location
- Red Gate Alignment
- Area of Potential Effect
(150 feet from pipeline centerline)



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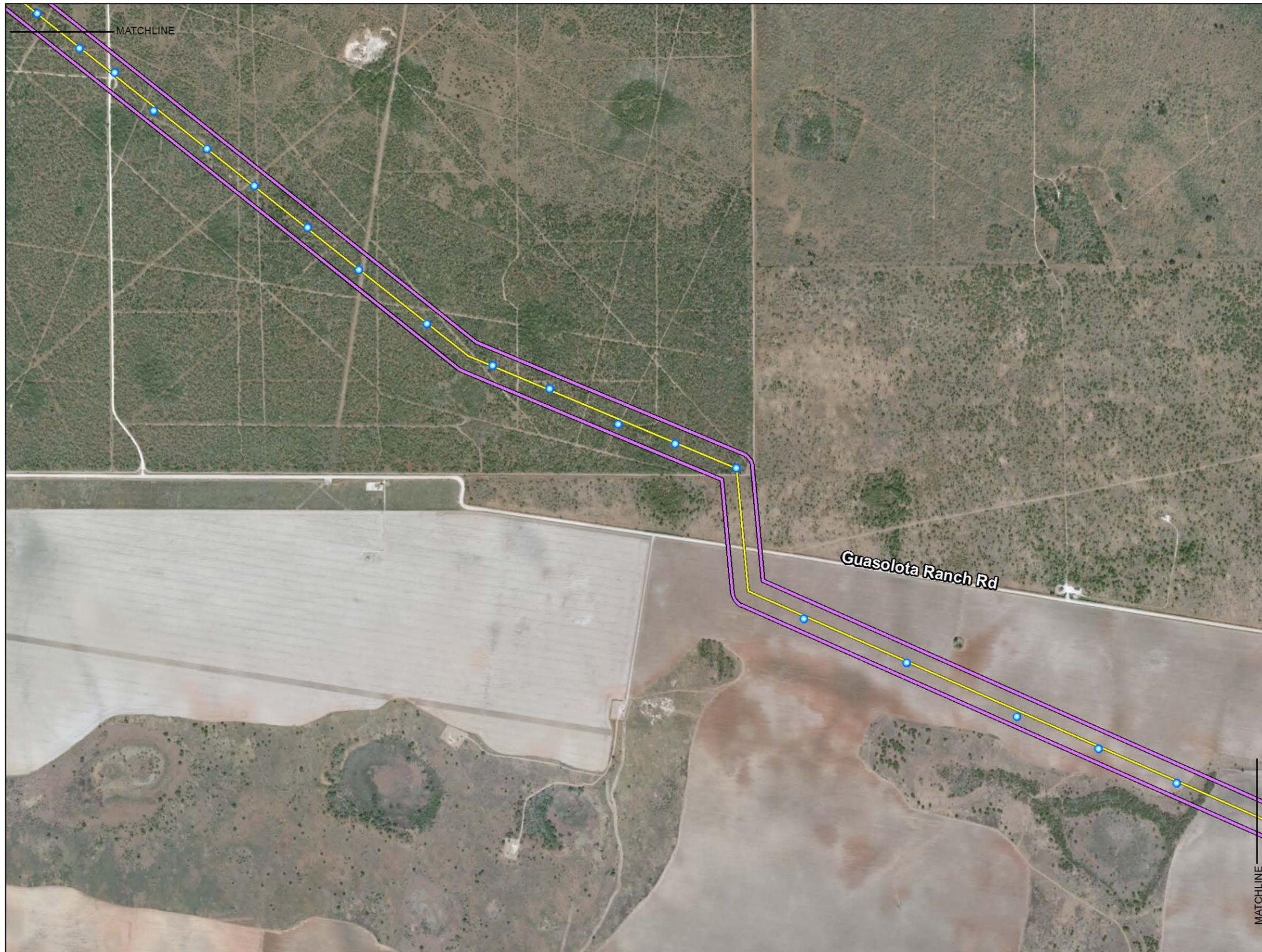
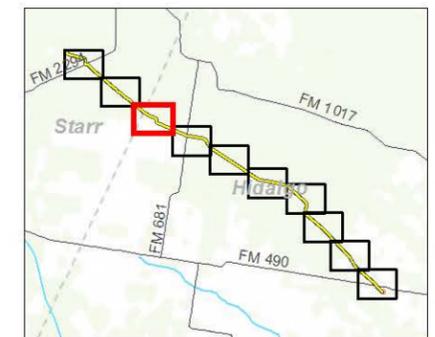
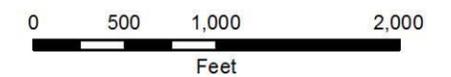


Figure 12.8
Pipeline APE with
Shovel Test Locations
Red Gate Power Plant and Lateral
Hidalgo and Starr Counties, Texas

- Shovel Test Location
- Red Gate Alignment
- Area of Potential Effect (150 feet from pipeline centerline)



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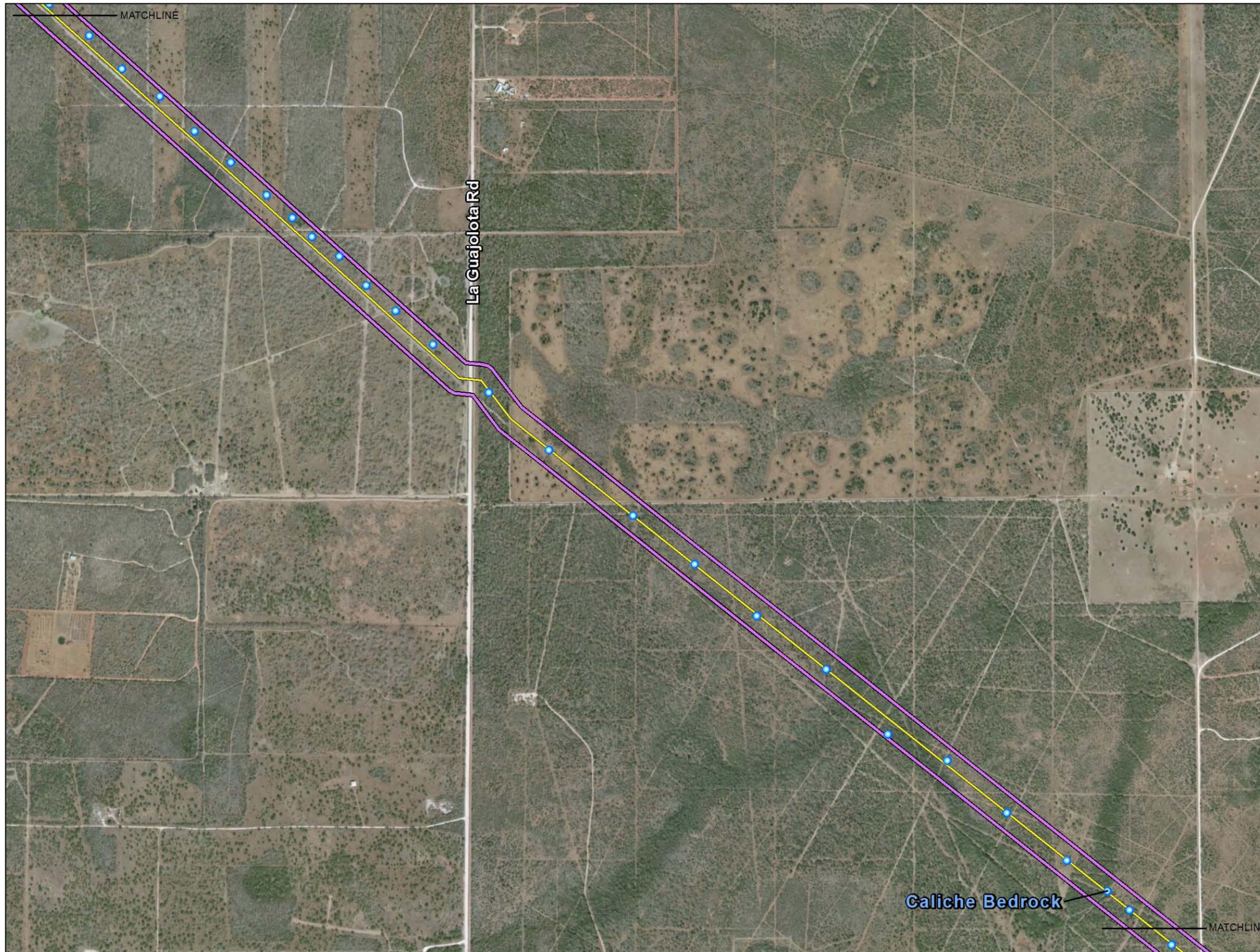
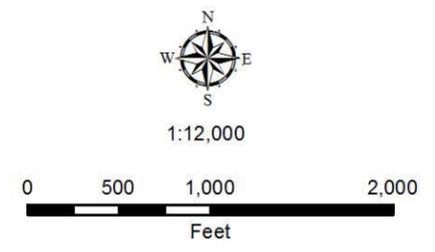
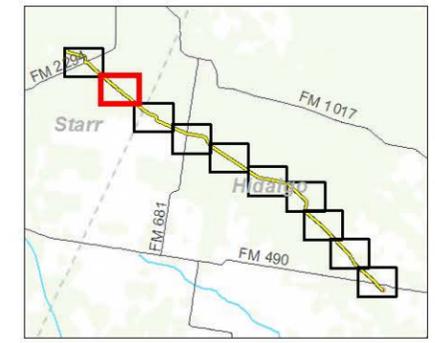


Figure 12.9
Pipeline APE with
Shovel Test Locations
Red Gate Power Plant and Lateral
Hidalgo and Starr Counties, Texas

- Shovel Test Location
- Red Gate Alignment
- Area of Potential Effect (150 feet from pipeline centerline)



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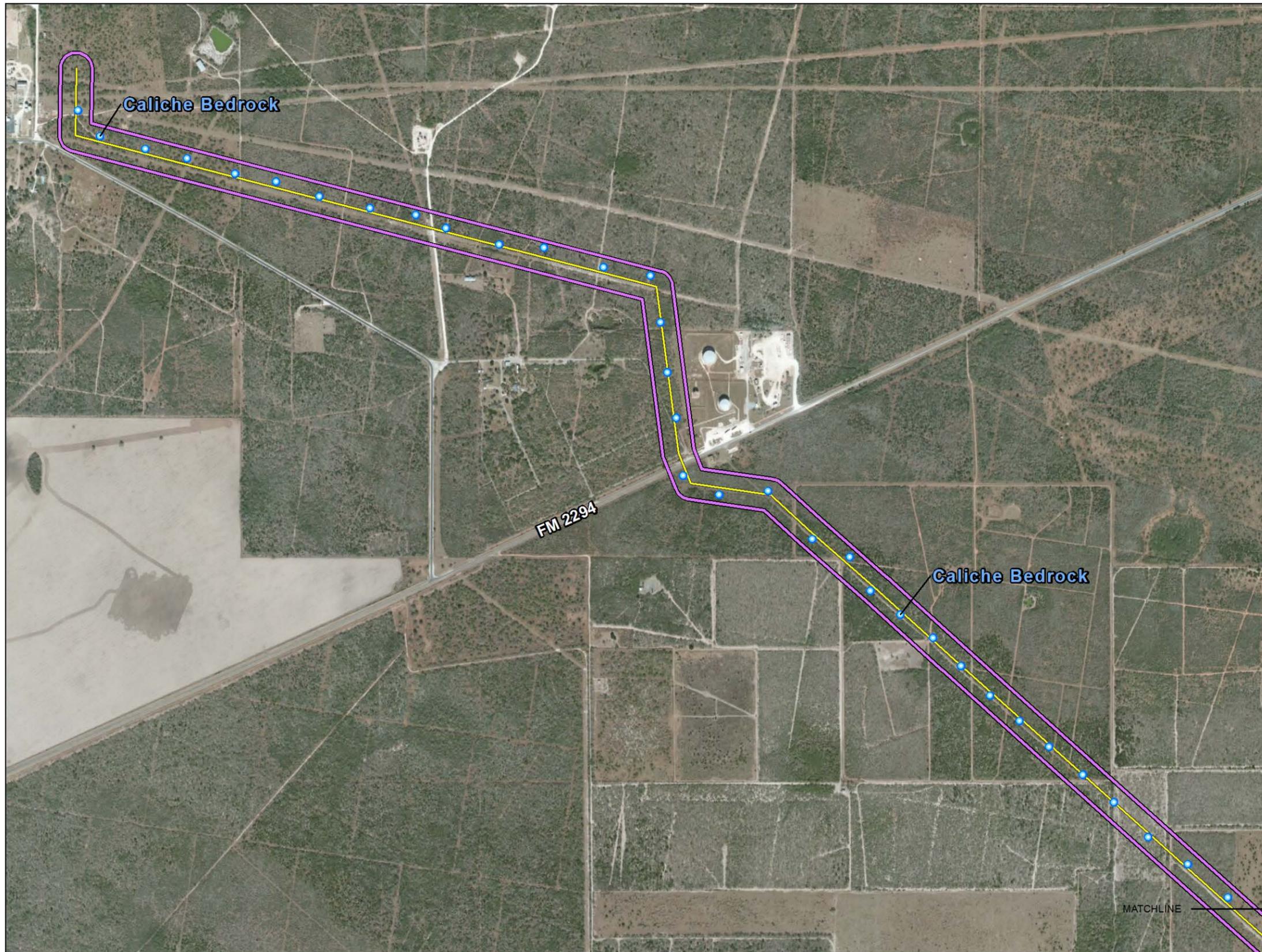
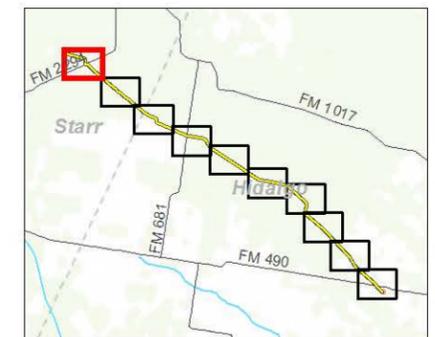
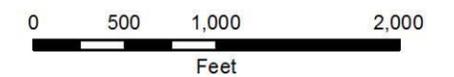


Figure 12.10
Pipeline APE with
Shovel Test Locations
Red Gate Power Plant and Lateral
Hidalgo and Starr Counties, Texas

- Shovel Test Location
- Red Gate Alignment
- Area of Potential Effect
(150 feet from pipeline centerline)



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SUMMARY AND RECOMMENDATIONS

B&A's intensive archeological survey included an archeological records review and an intensive pedestrian archeological survey accompanied by shovel tests and backhoe trenching. The intensive survey investigations generated overwhelmingly redundant data with regards to soils, geology, and the potential for archeological resources. The STs typically exhibited gray and brown loose fine sands overlying reddish dense sandy clay loams to sandy clay subsoil with abundant caliche and calcium carbonate. Overall, the intensive survey investigations revealed a project area with a low potential to contain intact archeological deposits due to geologic and soil conditions (e.g., prevalence of shallow soils along erosional to stable landforms).

One mid to late twentieth century site (41HG238) was identified within the northern margins of the 336-acre power plant APE. Although the site would not be impacted by the planned construction, based on the lack of structural integrity, the lack of any unusual construction techniques, the paucity of subsurface materials, and the likelihood that the house structure was moved to its current location, it is the opinion of B&A that 41HG238 is not eligible for inclusion in the NRHP.

Based on survey results, the survey area is not conducive to the preservation of archeological deposits and the above data suggest that there is little potential for the proposed project area to contain previously unidentified archeological historic properties (36 CFR 800.16[1]) eligible for inclusion to the NRHP or sites worthy of formal SAL (13 TAC 26.12) designation.

Based on these considerations, B&A recommends that the proposed construction should be allowed to proceed as planned without additional investigations because the project should not affect any archeological historic properties pursuant to 36 CFR 800.4(d)(1) or SALs. If it is determined that the proposed construction requires additional easements or work space, then additional archeological investigations may be necessary in those areas. In the event that previously unidentified cultural materials are discovered during construction, work in the immediate area of discovery would cease and the THC will be contacted.

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APPENDIX A

POWER PLANT APE SHOVEL TEST DATA

Proposed Power Plant Shovel Test Data

Shovel Test	Depth (cm bs)*	Soil Description	Cultural Material	Site	Notes
1	0 to 24	Brown sand	None	None	Dry and hard
	24 to 50	Brown sand; cemented	None		Matrix impenetrable at depth; cemented via calcium carbonate; backhoe area
2	0 to 40	Brown sand	None	None	Dry and hard; homogenous
	40 to 60	Brown sand	None		Extremely hard and calcium carbonate (CaCO ₃) cemented
	60 to 100	Brown sand	None		Hard and dry; area for trenching
3	0 to 100	Brown sand	None	None	Dry and hard; few snail fragments at 60 centimeters; area for trenching
4	0 to 75	Brown fine sand;	None	None	Hard/dry to very hard/very dry; impenetrable at depth; area for trenching
5	0 to 100	Brown fine sandy loam	None	None	Dry and hard; homogenous; area for trenching
6	0 to 75	Brown fine sandy loam	None	None	Dry and hard; homogenous
	75 to 100	Reddish-brown sandy loam	None		Dry and hard; homogenous; area for trenching
7	0 to 22	Brown fine sand	None	None	Dry and hard
	22 to 56	Reddish-brown sand	None		Extremely dry and hard; impenetrable at depth
8	0 to 19	Brown sand	None	None	Dry and very hard; eolian deposit
	19 to 40	Reddish brown sandy loam	None		Extremely hard; CaCO ₃ cemented; impenetrable at depth
9	0 to 21	Brown sandy loam	None	None	Dry and hard
	21 to 40	Reddish-brown sandy loam	None		Dry and extremely hard; excavation halted due to cemented matrix
10	0 to 80	Brown fine sandy loam	None	None	Dry and extremely hard; impenetrable at depth
11	0 to 85	Brown fine sandy loam	None	None	Hard and dry; hardness increases with depth; impenetrable at depth
12	0 to 43	Brown sandy loam	None	None	Dry and hard
	43 to 60	Reddish-brown sandy loam	None		Very dry/very hard; impenetrable at depth; CaCO ₃ cemented
13	0 to 34	Brown sand	None	None	Dry and hard; homogenous
	34 to 60	Reddish-brown sandy loam	None		Extremely dry and extremely hard; impenetrable at depth
14	0 to 86	Brown sandy loam	None	None	Dry and very hard; hardness increases with depth; impenetrable at depth
15	0 to 85	Brown sandy loam	None	None	Dry and very hard; hardness increases with depth; impenetrable at depth
16	0 to 87	Brown sandy loam	None	None	Dry and very hard; snail fragments at 70 cm; impenetrable at depth
17	0 to 40	Brown silt loam	None	None	Dry and hard; compacted
	40 to 80	Reddish-brown sandy loam	None		Very dry and very hard; CaCO ₃ cementing matrix; impenetrable at depth
18	0 to 80	Brown sandy loam	None	None	Dry and very hard; CaCO ₃ -cemented matrix
19	0 to 80	Brown sandy loam	None	None	Dry and very hard; CaCO ₃ -cemented matrix; impenetrable at depth

Proposed Power Plant Shovel Test Data

Shovel Test	Depth (cm bs)*	Soil Description	Cultural Material	Site	Notes
20	0 to 50	Brown sandy loam	None	None	Dry and very hard
	50 to 65	Reddish brown sandy loam	None		Extremely hard; impenetrable at depth; cemented matrix
21	0 to 45	Brown sandy loam	None	None	Dry and very hard; homogenous
	45 to 82	Reddish brown sandy loam	None		Extremely hard; impenetrable at depth; cemented matrix
22	0 to 40	Dark brown sandy loam	None	None	Dry and extremely hard; CaCO3-cemented matrix; impenetrable at depth
23	0 to 40	Reddish brown sandy loam	None	None	Dry and extremely hard; CaCO3-cemented matrix; impenetrable at depth
24	0 to 40	Dark grayish brown sandy loam	None	None	Dry and extremely hard; CaCO3-cemented matrix; impenetrable at depth
25	0 to 40	Dark brown sandy loam	None	None	Dry and extremely hard; CaCO3-cemented matrix; impenetrable at depth
26	0 to 40	Dark brown sandy loam	None	None	Dry and extremely hard; CaCO3-cemented matrix; impenetrable at depth
27	0 to 35	Dark brown sandy loam	None	None	Dry and extremely hard; CaCO3-cemented matrix; impenetrable at depth
28	0 to 70	Brown sandy loam	None	None	Dry and very hard; CaCO3-cemented matrix; impenetrable at depth
29	0 to 65	Brown sandy loam	None	None	Dry and very hard; CaCO3-cemented matrix; impenetrable at depth
30	0 to 100	Brown sandy loam	None	None	Dry and loose; massive
31	0 to 75	Brown sandy loam	None	None	Dry and very hard; CaCO3-cemented matrix; impenetrable at depth
32	0 to 80	Brown sandy loam	None	None	Dry and loose; massive
33	0 to 40	Reddish brown sandy loam	None	None	Dry and extremely hard; CaCO3-cemented matrix; impenetrable at depth
34	0 to 75	Brown sandy loam	None	None	Dry and loose to very hard; CaCO3-cemented matrix; impenetrable at depth
35	0 to 80	Brown sandy loam	None	None	Dry and hard; massive
36	0 to 85	Brown sandy loam	None	None	Dry and hard; massive; CaCO3 flecking
37	0 to 30	Dark brown silt loam	None	None	Dry and extremely hard; impenetrable at depth
38	0 to 60	Brown sandy loam	None	None	Dry and very hard; CaCO3-cemented matrix; impenetrable at depth
39	0 to 30	Reddish brown sandy loam	None	None	Dry and extremely hard; impenetrable at depth
40	0 to 30	Reddish brown sandy loam	None	None	Dry and extremely hard; impenetrable at depth
41	0 to 75	Brown sandy loam	None	None	Dry and hard; CaCO3-cemented matrix; impenetrable at depth
42	0 to 80	Brown sandy loam	None	None	Dry and hard; massive; impenetrable at depth
43	0 to 67	Brown sandy loam	None	None	Dry and very hard; homogenous
	67 to 80	Reddish brown sandy loam	None		Extremely hard; impenetrable at depth; cemented matrix
44	0 to 80	Brown sandy loam	None	None	Dry and hard; massive; CaCO3 flecking; impenetrable at depth;

Proposed Power Plant Shovel Test Data

Shovel Test	Depth (cm bs)*	Soil Description	Cultural Material	Site	Notes
45	0 to 82	Dark grayish brown silt loam	None	None	Dry and hard; massive; impenetrable at depth;
46	0 to 80	Brown silt loam	None	None	Dry and hard; impenetrable at depth;
47	0 to 30	Reddish brown silt loam	None	None	Dry and extremely hard; impenetrable at depth
48	0 to 30	Reddish brown silt loam	None	None	Dry and extremely hard; impenetrable at depth
49	0 to 80	Brown silt loam	None	None	Dry and hard; impenetrable at depth;
50	0 to 80	Brown silt loam	None	None	Dry and hard; impenetrable at depth;
51	0 to 30	Reddish brown sandy loam	None	None	Dry and extremely hard; impenetrable at depth
52	0 to 50	Reddish brown sandy loam	None	None	Dry and extremely hard; CaCO ₃ -cemented matrix; impenetrable at depth
53	0 to 50	Reddish brown sandy loam	2 modern clear glass shards	None	Dry and extremely hard; impenetrable at depth; adjacent to BBQ pit
54	0 to 80	Brown sandy loam	None	None	Dry and hard; impenetrable at depth;
55	0 to 50	Brown fine sandy loam	None	None	Dry and very hard; impenetrable at depth
56	0 to 100	Brown sand	None	None	Dry and hard
57	0 to 70	Brown sandy loam	None	None	Hard and dry
	70 to 90	Reddish brown sandy loam	None	None	Extremely hard; impenetrable at depth
58	0 to 64	Brown sandy loam	None	None	Hard and dry
	64 to 80	Reddish brown sandy loam	None	None	Extremely hard; impenetrable at depth
59	0 to 80	Brown sandy loam	None	None	Dry and hard; impenetrable at depth;
60	0 to 30	Red sandy loam	None	None	Dry and extremely hard; impenetrable at depth
61	0 to 50	Light brown silty sand	None	41HG238	Dry and extremely hard; impenetrable at depth
62	0 to 10	Brown sandy clay	Modern electrical cord	41HG238	Dry and hard; blocky
	10 to 40	Light brown silt clay	None	41HG238	Very hard and cemented matrix at depth
63	0 to 45	Brown silty sand	2 modern brick fragments; 3 fragments of fence post	41HG238	Hard and dry; impenetrable at depth
64	0 to 50	Brown silty sand	Modern elect. cord @ 30 cm	41HG238	Dry and extremely hard; CaCO ₃ -cemented matrix; impenetrable at depth
65	0 to 50	Brown silty sand	None	41HG238	Dry and extremely hard; impenetrable at depth
66	0 to 55	Light brown silty sand	None	41HG238	Dry and hard; impenetrable at depth

* Centimeters below ground surface

APPENDIX B

POWER PLANT APE BACKHOE TRENCH DATA

Backhoe Trench Descriptions

Zone	Depth (cm)	Description
Backhoe Trench 1 (East Wall Profile)		
Zone I	0-123	Dry and hard yellowish brown (10YR 5/4) sandy loam (upper 40 cm moist from recent rains/darker in color); fine-grained; moderate bioturbation via root pores, insect casts, and tree roots; diffuse smooth boundary; no visible calcium carbonates; no artifacts.
Zone II	123-190	Dry and friable light yellowish brown (10YR 5/3) sand; coarse-grained structure; moderate root bioturbation; no visible calcium carbonates; no artifacts.
Backhoe Trench 2 (East Wall Profile)		
Zone I	0-64	Dry and hard brown (10YR 4/3) sandy loam (upper 20 cm moist and darker in color from recent rains); fine-grained, blocky structure; common vertical cracks, moderate root and insect bioturbation; no evidence of calcium carbonates; clear smooth lower boundary; no artifacts.
Zone II	64-153	Dry and extremely hard strong brown (7.5YR 5/6) sandy loam; coarse grained; blocky structure; heavy root and worm bioturbation; few calcium carbonate flecks; gradual smooth lower boundary; no artifacts.
Zone III	153-180	Dry and friable light yellowish brown (10YR 6/4) sandy loam; medium coarse grained; blocky structure; common root bioturbation; common calcium carbonate flecks; abrupt smooth boundary; no artifacts.
Zone IV	180	Hard white (10YR 8/1) caliche rock.
Backhoe Trench 3 (East Wall Profile)		
Zone I	0-117	Dry and very hard, yellowish brown (10YR 5/4) sandy loam (upper 53 cm moist and darker in color from recent rains); blocky structure; moderate root and insect bioturbation and animal burrows; common vertical cracks; diffuse smooth boundary; no artifacts.
Zone II	117-190	Dry and hard light yellowish brown (10YR 6/4) sandy loam; blocky structure; moderate root bioturbation; no inclusions; no artifacts.
Backhoe Trench 4 (West Wall Profile)		
Zone I	0-117	Dry and hard dark grayish brown (10YR 4/2) fine sandy loam (upper 30 cm moist and darker in color from recent rains); blocky structure; common vertical cracks, heavy insect, worm and root bioturbation; few Rabdotus snail fragments present; low percentage of calcium carbonate flecking present; gradual smooth boundary; no artifacts.
Zone II	117-180	Dry and hard brown (10YR 6/3) fine sandy loam; blocky structure; insect and root bioturbation and vertical cracks are common, but less abundant than Zone I; snails not observed; abundant calcium carbonate masses and few nodules increasing with depth; no artifacts.
Backhoe Trench 5 (West Wall Profile)		
Zone I	0-117	Dry and hard dark grayish brown (10YR 4/2) fine sandy loam (upper 15 cm moist and darker in color from recent rains); blocky structure; inclusions consist of heavy insect and worm bioturbation and few small calcium carbonate nodules; common vertical cracks; diffuse and smooth lower boundary; no artifacts.
Zone II	117-220	Dry and very hard pale brown (10YR 6/3) mottled with 10YR 4/2 (see above) sandy loam; coarse-grained; heavy insect and root bioturbation; common calcium carbonate masses and nodules increasing with depth; matrix extremely hard at depth; no artifacts.
Backhoe Trench 6 (East Wall Profile)		
Zone I	0-131	Semi-moist, friable, and homogenous brown (10YR 5/2) sand; heavy bioturbation from worm, insects and roots; common vertical cracks; [gradual smooth lower boundary]; no artifacts.
Zone II	131-220	Dry and hard light yellowish brown (10YR 6/4) sandy loam (harder with depth); coarser grained sand; blocky structure; heavy root bioturbation; homogenous; no artifacts.

Backhoe Trench Descriptions

Zone	Depth (cm)	Description
<i>Backhoe Trench 7 (East Wall Profile)</i>		
Zone I	0–83	Dry and firm, dark grayish brown (10YR 4/2) sandy loam (upper 35 cm moist and darker in color from recent rains); heavy mottling; heavy bioturbation via. Roots, insects, and worms; few calcium carbonate flecks and nodules; diffuse and smooth lower boundary; no artifacts.
Zone II	83–150	Dry and extremely hard pale brown (10YR 6/3) silty loam; heavy root bioturbation; moderate calcium carbonate nodules, increasing with depth; common vertical cracks; no artifacts.
<i>Backhoe Trench 8 (East Wall Profile)</i>		
Zone I	0–117	Dry and hard, brown (10YR 4/3) sandy loam; blocky structure; heavily bioturbated via worm, insect and roots; common vertical cracks; common caliche carbonate flecking; diffuse and smooth lower boundary; no artifacts.
Zone II	117–210	Dry and hard pale brown (10YR 6/3) fine sandy loam; blocky structure; common calcium carbonate nodules, increasing with depth; few small Rabdotus snail fragments; no artifacts.
<i>Backhoe Trench 9 (East Wall Profile)</i>		
Zone I	0–86	Dry and hard, dark grayish brown (10YR 4/2) fine sandy loam (upper 40 cm moist and darker in color from recent rains); blocky structure; heavy bioturbation from burrowing rodents, insects, worms and roots; no inclusions; diffuse smooth boundary; likely cemented with calcium carbonate in solution, no artifacts.
Zone II	86–170	Dry and very hard, strong brown (7.8YR 5/6) sandy loam; coarse-grained; blocky structure; moderate root bioturbation; no inclusions; no evidence of calcium carbonate; no artifacts.
<i>Backhoe Trench 10 (West Wall Profile)</i>		
Zone I	0–96	Dry and hard, dark grayish brown (10YR 4/2) sandy loam (upper 40 cm moist and darker in color from recent rains); [weak granular to subangular] blocky structure; common insect and root bioturbation; diffuse smooth lower boundary; no artifacts.
Zone II	96–143	Dry and very hard, yellowish brown (10YR 5/4) fine sandy loam; blocky structure; common insect, worm, and root bioturbation; fairly homogenous, clear smooth lower boundary; no artifacts.
Zone III	143–190	Dry and very hard, very pale brown (10YR 7/4) fine sandy loam; blocky structure; common calcium carbonate flecking and nodules increasing with depth; calcium carbonate in solution likely cemented matrix in the (Zone II continued into the central and northern wall profile, Zone III only present in the southern third of the wall profile); no artifacts.
<i>Backhoe Trench 11 (South Wall Profile)</i>		
Zone I	0–68	Dry and hard, brown (7.5YR 4/3) sandy loam (upper 33cm moist and darker in color from recent rains); blocky structure; common vertical cracks, common insect and root bioturbation; diffuse smooth lower boundary; no artifacts.
Zone II	68–122	Dry and extremely hard, strong brown (7.5 YR 5/6) sandy loam; slightly coarser grained common root bioturbation; becomes redder in color and harder matrix with depth; diffuse smooth lower boundary; no artifacts.
Zone III	122–177	Dry and hard, very pale brown (10YR 7/4) fine sandy clay loam, mottled with above zone; blocky structure; moderate insect (termites) bioturbation; matrix lighter with depth; no artifacts.
<i>Backhoe Trench 12 (East Wall Profile)</i>		
Zone I	0–88	Dry and hard, brown (10YR 4/3) homogenous sandy deposit (upper 45 cm moist and darker in color from recent rains); blocky structure; clear smooth lower boundary; no artifacts.
Zone II	88–120	Dry and extremely hard, yellowish red (5YR 4/6) sandy clay loam; blocky structure; no artifacts.
<i>Backhoe Trench 13 (East Wall Profile)</i>		
Zone I	0–66	Dry and hard, dark grayish brown (10YR 4/2) sandy loam (upper 17 cm moist and darker in color from recent rains); blocky structure; common vertical cracks;

Backhoe Trench Descriptions

Zone	Depth (cm)	Description
		moderate root and insect bioturbation; abrupt smooth lower boundary; no artifacts.
Zone II	66–70	Hard, white (10YR 8/1) caliche bedrock; no artifacts.
<i>Backhoe Trench 14 (West Wall Profile)</i>		
Zone I	0–96	Dry and hard, brown (10YR 4/3) sandy loam (upper 28 cm moist and darker in color from recent rains); blocky structure; heavy insect and worm bioturbation; few Rabdotus snail fragments; common calcium carbonate flecking, increasing with depth; diffuse smooth lower boundary; no artifacts.
Zone II	96–180	Dry and very hard, pale brown (10YR 6/3) fine sandy loam (mottled with above); heavy root and insect bioturbation; common calcium carbonate masses and nodules (up to 0.5 cm), increasing with depth; no artifacts.
<i>Backhoe Trench 15 (West Wall Profile)</i>		
Zone I	0–83	Dry and hard, brown (10YR 4/3) sandy loam mottled with below zone (upper 24 cm moist and darker in color from recent rains); blocky structure; heavy root and insect bioturbation (roots restricted to upper 25 cm); diffuse smooth lower boundary; no artifacts.
Zone II	83–185	Dry and hard, light brown (7.5YR 6/4) sandy loam; blocky to platy structure (hardness increases with depth); heavy root bioturbation and rodent borrowing; few calcium carbonate nodules and flecking, increasing with depth; no artifacts.
<i>Backhoe Trench 16 (East Wall Profile)</i>		
Zone I	0–53	Dry and hard, yellowish brown (10YR 5/4) sandy loam; blocky structure; common horizontal cracks; heavy bioturbation; diffuse smooth boundary; no artifacts.
Zone II	53–107	Dry and very hard, strong brown (7.5YR 5/6) sandy loam; strongly cemented via calcium carbonate in solution (hardest matrix within the APE); no artifacts.
Zone III	107–112	Hard, white (10YR 8/1) caliche bedrock; no artifacts.
<i>Backhoe Trench 17 (East Wall Profile)</i>		
Zone I	0–34	Dry and very hard grayish brown (10YR 5/2) sandy clay loam (upper 15 cm disturbed by corral activities); blocky structure; common root bioturbation; common vertical cracks; clear smooth lower boundary; no artifacts.
Zone II	34–76	Dry and very hard dark grayish brown (10YR 4/2) silty clay loam; blocky structure; common root bioturbation; common vertical cracks; clear smooth lower boundary; no artifacts.
Zone III	76–140	Dry and extremely hard, pale brown (10YR 6/3) fine sandy loam; blocky structure; common calcium carbonate flecking; no artifacts.
<i>Backhoe Trench 18 (East Wall Profile)</i>		
Zone I	0–28	Dry and hard dark brown (7.5YR 3/4) sandy loam; blocky structure; common vertical cracks; clear smooth boundary; no artifacts.
Zone II	28–77	Dry and extremely hard, yellowish red (5YR 4/6) sandy loam; coarse-grained; no artifacts.
Zone III	77–83	Hard, white (10YR 8/1) caliche bedrock on northern end of trench; no artifacts.

APPENDIX C

PROPOSED POWER PLANT SHOVEL TEST DATA

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
1A	0 to 10	sand	None	None	loose, windblown sand
	10 to 85	brownish tan fine sand	None	None	dry and firm, rabdotus throughout, granular to blocky, calcium carbonate @ 60 increasing with depth
	85 to 90	caliche hardpan	None	None	
2A	0 to 5	sand	None	None	loose, windblown sand
	5 to 75	fine sand	None	None	dry, firm, calcium carbonate flecks at 50 cmbs
	75 to 85	sandy clay loam	None	None	very hard, platy, common calcium carbonate nodules
3A	0 to 10	sand	None	None	loose, windblown sand
	10 to 45	reddish brown sandy clay loam	None	None	dry, hard, blocky
	45 to 50	caliche hardpan	None	None	
4A	0 to 45	tan fine sand	None	None	dry and hard
	45 to 70	reddish brown sandy clay loam	None	None	dry and hard
	70 to 75	caliche hardpan	None	None	
5A	0 to 10	tan sand	None	None	loose, windblown sand
	10 to 70	tan fine sandy clay loam	None	None	dry, hard, blocky
	70 to 85	pale gray fine sandy clay loam	None	None	abundant calcium carbonate nodules, sub-soil above decayed caliche hardpan
6A	0 to 12	tan sand	None	None	windblown, mesquite scrub
	12 to 94	tan fine sandy clay loam	None	None	dry, hard, blocky, calcium carbonate masses after 50 cmbs, increasing with depth
	94 to 100	decayed caliche hardpan	None	None	60% calcium carbonate masses, ancient deposits
7A	0 to 75	tan fine sandy loam	None	None	dry, hard, blocky, calcium carbonate masses @40 cmbs, increasing with depth
	75 to 80	decayed caliche hardpan	None	None	
8A	0 to 10	tan sand	None	None	windblown
	10 to 50	tan fine sandy loam	None	None	dry, hard, blocky, low clay percentage, calcium carbonate increases after 45 cmbs
	50 to 55	decayed caliche hardpan	None	None	

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
9A	0 to 65	tannish brown sandy clay loam	None	None	dry, hard, blocky, calcium carbonate masses at 50 cmbs
	65 to 75	pale gray sandy clay loam	None	None	calcium carbonate nodules about 20%, subsoil deposit
10A	0 to 10	sand	None	None	windblown sand, loose,
	10 to 60	brown fine sandy loam	None	None	dry, hard, and homogenous
	60 to 75	pale brown sandy clay loam	None	None	abundant calcium carbonate flecking, subsoil
11A	0 to 50	brown sandy clay loam	None	None	dry, blocky, hard
	50 to 60	pale brown sandy clay loam	None	None	calcium carbonate flecking, subsoil
12A	0 to 65	brown fine sandy loam	None	None	dry, hard, blocky
	65 to 75	pale brown sandy clay loam	None	None	pronounced calcium carbonate masses
13A	0 to 65	brown sandy clay loam	None	None	friable to firm and blocky
	65 to 75	pale grayish brown sandy clay loam	None	None	common calcium carbonate nodules, subsoil
14A	0 to 45	brown sandy clay loam	None	None	dry, hard, blocky
	45 to 60	light brown sandy clay loam	None	None	abundant calcium carbonate masses, subsoil
15A	0 to 43	brown sandy clay loam	None	None	dry, hard
	43 to 45	caliche bedrock	None	None	
16A	0 to 15	brown sand	None	None	loose, windblown sand over caliche bedrock
	15 to 17	caliche bedrock	None	None	
17A	0 to 20	red sandy clay loam	None	None	disturbed, mixed with caliche rocks
	20 to 25	caliche hardpan	None	None	likely over bedrock
18A	0 to 15	red sandy clay loam	None	None	dry, hard
	15 to 17	caliche bedrock	None	None	
19A	0 to 12	sand	None	None	loose, windblown sand
	12 to 65	red sandy clay loam	None	None	dry, hard, calcium carbonate nodules @ 50 cmbs
	65 to 75	brownish red sandy clay	None	None	common calcium carbonate nodules
20A	0 to 40	red sandy clay loam	None	None	dry, extremely hard, blocky
	40 to 50	brownish red sandy clay	None	None	common calcium carbonate nodules, subsoil
21A	0 to 40	red sandy clay loam	None	None	dry, hard, calcium carbonate flecking @ 30 cmbs
	40 to 50	brownish red sandy clay	None	None	dry, hard, common calcium carbonate nodules, subsoil

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
22A	0 to 5	sand	None	None	loose, windblown
	5 to 25	red sandy clay loam	None	None	dry, hard, calcium carbonate nodules @20cm
	25 to 30	decayed caliche hardpan	None	None	75% caliche rock fragments
23A	0 to 95	brownish red sandy loam	None	None	dry and friable
	95 to 105	red sandy clay	None	None	calcium carbonate flecking and masses
	105 to 115	red sandy clay	None	None	common calcium carbonate nodules
24A	0 to 75	brown sandy loam	None	None	dry and firm
	75 to 90	reddish brown sandy clay loam	None	None	few calcium carbonate masses after 80 cmbs
	90 to 100	brown sandy clay loam	None	None	common calcium carbonate nodules and few rocks
25A	0 to 90	brown sandy loam	None	None	dry, hard, few calcium carbonate flecks at 75 cmbs
	90 to 105	pale brown sandy clay loam	None	None	few calcium carbonate nodules
26A	0 to 20	Reddish brown sandy loam	None	None	dry, hard over caliche bedrock
	20 to 21	caliche bedrock	None	None	
27A	0 to 35	brown sandy loam	None	None	dry, hard, blocky
	35 to 50	brown sandy clay loam	None	None	common calcium carbonate nodules and calcite rock, very likely above bedrock
28A	0 to 25	red sandy loam	None	None	dry, friable
	25 to 26	caliche bedrock	None	None	
29A	0 to 10	tan sand	None	None	loose, windblown
	10 to 75	brown sandy clay loam	None	None	dry, friable to firm, calcium carbonate flecking after 50 cmbs
	75 to 90	pale brown sandy clay loam	None	None	pronounced increase in calcium carbonate masses and nodules after 80 cmbs, subsoil
30A	0 to 10	sand	None	None	loose, windblown
	10 to 60	brown sandy loam	None	None	dry, firm to friable, blocky
	60 to 75	pale grayish brown sandy clay loam	None	None	common calcium carbonate nodules, subsoil

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
31A	0 to 60	brown sandy clay loam	None	None	dry, hard, blocky, caliche rocks and nodules @ 50 cmbs
	60 to 75	pale grayish brown sandy clay loam	None	None	pronounced calcium carbonate nodules and caliche rocks, subsoil
32A	0 to 10	sand	None	None	loose, windblown
	10 to 70	brown sandy loam	None	None	dry, friable, calcium carbonate flecks after 50 cmbs
	70 to 80	pale brown sandy clay loam	None	None	dry, hard, common calcium carbonate nodules, subsoil
33A	0 to 10	sand	None	None	loose windblown sand
	10 to 50	brown sandy clay loam	None	None	dry, hard, blocky, calcium carbonate flecking @ 50cmbs
	50 to 75	pale brown sandy clay loam	None	None	dry, very hard, common calcium carbonate nodules, few caliche rocks, subsoil
34A	0 to 50	brown sandy clay loam	None	None	dry, hard, blocky
	50 to 60	pale brown sandy clay loam	None	None	common calcium carbonate filaments
	60 to 70	pale brown sandy clay loam	None	None	pronounced calcium carbonate nodules, decayed hardpan?
35A	0 to 60	brown sandy clay loam	None	None	dry, hard, blocky
	60 to 70	pale gray sandy clay loam	None	None	abundant calcium carbonate masses, subsoil
36A	0 to 70	brown sandy clay loam	None	None	calcium carbonate nodules and caliche rocks at 60 cmbs
	70 to 85	pale brown sandy clay loam	None	None	pronounced calcium carbonate nodules, fist sized common, unburned caliche rocks, subsoil
37A	0 to 40	reddish brown sandy clay loam	None	None	dry, hard
	40 to 50	light reddish brown sandy clay	None	None	abundant calcium carbonate masses, very hard, subsoil
38A	0 to 70	brown sandy loam	None	None	dry, hard
	70 to 80	pale grayish brown sandy clay loam	None	None	common calcium carbonate nodules, subsoil
39A	0 to 60	brown sandy loam	None	None	dry, hard, blocky
	60 to 75	pale brown sandy clay loam	None	None	pronounced calcium carbonate nodules, subsoil

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
40A	0 to 75	brown sandy clay loam	None	None	
	75 to 80	reddish brown sandy clay loam	None	None	common caliche rock fragments, subsoil
41A	0 to 50	brown sandy clay loam	None	None	low percentage of clay, barely ribbons, dry and firm
	50 to 70	reddish brown sandy clay loam	None	None	
	70 to 75	caliche hardpan	None	None	
42A	0 to 70	brown sandy loam	None	None	calcium carbonate flecks after 60 cmbs
	70 to 85	pale brown sandy clay loam	None	None	20% calcium carbonate nodules
43A	0 to 70	brown sandy clay loam	None	None	dry, friable
	70 to 85	pale brown sandy clay loam	None	None	common calcium carbonate masses and few nodules, subsoil
44A	0 to 60	brown sandy clay loam	None	None	dry, hard, blocky, sparse caliche rock throughout profile, possibly disturbed
	60 to 70	reddish brown sandy clay loam	None	None	common caliche rock fragments, decayed bedrock
45A	0 to 70	red sandy clay loam	None	None	dry, hard
	70 to 75	decayed caliche bedrock			
46A	0 to 60	Reddish brown sandy loam	None	None	dry and firm
	60 to 62	caliche bedrock			
47A	0 to 70	red sandy clay loam	None	None	dry, hard, blocky
	70 to 75	decayed caliche bedrock	None	None	
48A	0 to 45	dark brown sandy clay loam	None	None	dry, hard
	45 to 60	pale reddish brown sandy clay loam	None	None	few calcium carbonate nodules
	60 to 70	reddish brown sandy clay loam	None	None	pronounced calcium carbonate nodules, subsoil
49A	0 to 45	reddish brown sandy clay loam	None	None	dry, hard, blocky
	45 to 50	decayed caliche hardpan	None	None	
50A	0 to 50	reddish brown sandy clay loam	None	None	dry, blocky
	50 to 55	decayed caliche bedrock	None	None	
51A	0 to 40	red sandy clay loam	None	None	
	40 to 50	brownish red sandy clay loam	None	None	pronounced calcium carbonate nodules, subsoil
52A	0 to 90	brown sand	None	None	dry and firm, possibly eolian
	90 to 105	reddish brown sandy clay loam	None	None	dry, firm, blocky
53A	0 to 105	brown sand	None	None	dry, firm, homogenous

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
	105 to 115	reddish brown sandy clay loam	None	None	dry and firm
54A	0 to 50	brown sandy clay loam	None	None	dry and firm
	50 to 60	pale brownish red sandy clay loam	None	None	20% fragmented caliche rock, decayed hardpan
55A	0 to 40	reddish brown sandy clay loam	None	None	dry, hard
	40 to 50	reddish brown sandy clay	None	None	pronounced caliche rock fragments
56	0 to 40	brown sandy loam	none	none	moist, friable, homogenous
	40 to 70	pale brown sandy clay loam	none	none	dry, hard, blocky, high calcium carbonate and clay content, ribbons easily
57	0 to 52	brown sandy clay loam	none	none	moist, friable, slightly sticky
	52 to 60	reddish brown sandy clay loam	none	none	common calcium carbonate filaments
	60 to 70	pale brown clay loam	none	none	common calcium carbonate nodules, subsoil
58	0 to 40	brown sandy clay loam	none	none	moist, hard, blocky, calcium carbonate filaments after 35 cmbs
	40 to 50	pale brown sandy clay loam	none	none	pronounced calcium carbonate filaments and common masses, subsoil
59	0 to 45	brown sandy loam	none	none	moist, friable, blocky
	45 to 60	reddish brown sandy clay loam	none	none	dry, hard, sticky when wet
	60 to 75	brownish red sandy clay loam	none	none	common calcium carbonate masses, subsoil
60	0 to 50	brown sandy loam	none	none	moist, friable
	50 to 65	pale brown sandy clay loam	none	none	common calcium carbonate filaments, subsoil
61	0 to 60	reddish brown sandy clay loam	none	none	moist to 30 cmbs, friable to firm
	60 to 70	red sandy clay	none	none	common calcium carbonate nodules, subsoil
62	0 to 40	brown silty clay loam	none	none	moist to 30 cmbs, dry, hard, blocky below 30 cmbs
	40 to 65	pale grayish brown sandy clay loam	none	none	dry, hard, abundant calcium carbonate flecking, subsoil
63	0 to 50	brown sandy clay loam	none	none	disturbed from plowing

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
	50 to 65	pale gray brown sandy clay	none	none	abundant calcium carbonate masses
	65 to 75	pale gray brown sandy clay	none	none	calcium carbonate nodules and rock fragments, subsoil
64	0 to 45	brown sandy clay loam	none	none	moist, friable
	45 to 65	pale grayish brown sandy clay loam	none	none	common calcium carbonate flecking, subsoil
65	0 to 30	red sandy clay loam	none	none	moist, sticky, few calcium carbonate nodules
	30 to 40	red sandy clay	none	none	caliche rock fragments throughout, basal clay
66	0 to 45	brown sandy loam	none	none	moist, friable
	45 to 60	pale brown sandy clay loam	none	none	common calcium carbonate filaments and few nodules, subsoil
67	0 to 40	brown sandy clay loam	none	none	moist, friable
	40 to 65	pale brown sandy clay loam	none	none	common calcium carbonate filaments and masses that increase with depth, subsoil
64	0 to 50	brown sandy clay loam	none	none	moist to 30 cmbs and friable, dry and hard below
	50 to 70	pale grayish brown sandy clay loam	none	none	dry, hard, abundant calcium carbonate nodules, sub-soil
69	0 to 45	brown sandy clay loam	none	none	low % of clay, moist, homogenous
	45 to 46	caliche bedrock	none	none	
70	0 to 50	brown sandy clay loam	none	none	low clay content, dry, hard
	50 to 75	grayish brown sandy clay loam	none	none	common calcium carbonate filaments and nodular, subsoil
71	0 to 30	red sandy loam	none	none	moist, loose, friable
	30 to 45	red sandy clay	none	none	moist, firm, sticky, basal clay
72	0 to 45	brownish red sandy clay loam	none	none	moist
	45 to 50	decayed caliche bedrock	none	none	
73	0 to 65	red sandy clay loam	none	none	low clay %, fairly homogenous
	65 to 67	caliche bedrock	none	none	
74	0 to 60	brown sandy clay loam	none	none	dry, hard, blocky, calcium carbonate filaments after 50 cmbs
	60 to 75	pale grayish brown sandy clay loam	none	none	dry, hard, common calcium carbonate nodules, subsoil

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
75	0 to 40	brown silty clay loam	none	none	dry, hard, blocky
	40 to 60	pale brown silty clay loam	none	none	common calcium carbonate masses, subsoil
76	0 to 30	brown sandy loam	none	none	dry, hard, blocky
	30 to 50	pale grayish brown sandy clay loam	none	none	common calcium carbonate masses, few concretions
77	0 to 50	brown sandy clay loam	none	none	dry and hard
	50 to 75	pale grayish brown sandy clay loam	none	none	common calcium carbonate masses, subsoil
78	0 to 75	brown sandy clay loam	none	none	dry, hard, blocky
	75 to 85	pale gray sandy clay loam	none	none	common calcium carbonate filaments, subsoil
79	0 to 45	brown sandy clay loam	none	none	dry, hard, blocky
	45 to 60	pale grayish brown sandy clay loam	none	none	common calcium carbonate nodules, subsoil
80	0 to 30	red sandy loam	none	none	moist, friable
	30 to 50	reddish brown sandy clay loam	none	none	dry, hard, few calcium carbonate flecks
	50 to 75	red sandy clay	none	none	dry, hard, common calcium carbonate masses, basal deposit
81	0 to 45	brown sandy clay loam	none	none	dry, hard, blocky
	45 to 60	pale grayish brown sandy clay loam	none	none	common calcium carbonate flecking and nodules, subsoil
82	0 to 50	brown sandy loam	none	none	moist and firm
	50 to 75	pale grayish brown sandy clay loam	none	none	dry, firm, common calcium carbonate nodules and caliche rock fragments, subsoil
83	0 to 50	sand	none	none	loose, homogenous
	50 to 75	pale grayish brown sandy clay loam	none	none	common calcium carbonate masses, subsoil
84	0 to 80	brown sandy loam	none	none	loose and friable
	80 to 105	pale grayish brown sandy clay loam	none	none	few calcium carbonate masses, subsoil
85	0 to 40	red sandy loam	none	none	friable, homogenous
	40 to 70	reddish brown sandy clay loam	none	none	moist, friable
	70 to 80	pale brown sandy clay loam	none	none	few calcium carbonate masses
86	0 to 40	red sandy loam	none	none	
	40 to 60	pale reddish brown sandy clay loam	none	none	
	60 to 65	caliche bedrock	none	none	fractured
87	0 to 90	brown sand	none	none	loose, homogenous

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmb)*	Soil Description	Cultural Material	Site	Notes
	90 to 120	pale brownish gray sandy clay loam	none	none	few calcium carbonate masses
88	0 to 110	loose brown sand	none	none	homogenous, fairly course grained, possibly eolian
	110 to 125	pale brown sandy clay loam	none	none	sparse calcium carbonate filaments
89	0 to 30	red sandy clay loam	none	none	firm, sticky
	30 to 50	red sandy clay	none	none	moist, firm, sticky, with caliche
90	0 to 70	brown sand	none	none	loose, homogenous
	70 to 85	pale grayish brown sandy clay loam	none	none	few calcium carbonate masses
91	0 to 105	reddish brown sandy loam, friable to loose	none	none	calcium carbonate flecking after 90 cm
	105 to 120	reddish brown sandy clay loam, with calcium carbonate flecking	none	none	continuing and increasing in percentage with depth
92	0 to 10	Reddish brown sand with caliche gravel fragments	none	none	
	10 to 20	fractured caliche hardpan-bedrock	none	none	
93	0 to 45	brownish gray sandy clay loam, dry and hard-blocky	none	none	
	45 to 65	brownish red sandy clay, dry-very hard blocky	none	none	higher clay percentage, calcium carbonate filaments common
94	0 to 15	reddish brown sand with loose caliche rock-gravel	none	none	
	15 to 20	red sandy clay loam with 50 percent caliche rock hardpan	none	none	subsoil-basal deposits
95	0 to 65	red sandy loam, friable and homogenous	none	none	
	65 to 80	red sandy clay, dense, firm and streaky	none	none	subsoil clay
96	0 to 35	brown sandy loam, calcium carbonate nodules at about 30	none	none	
	35 to 50	grayish brown sandy clay loam with common calcium carbonate nodules	none	none	subsoil
97	0 to 30	red sandy loam, friable	none	none	
	30 to 50	red sandy clay loam, dry-firm and blocky, calcium carbonate flecks at 40 cm	none	none	
	50 to 60	red sandy clay loam with calcium carbonate nodules	none	none	subsoil
98	0 to 45	grayish brown sandy clay loam, dry and hard-blocky	none	none	

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
	45 to 55	brown sandy clay, hard, streaky when wet	none	none	subsoil?
99	0 to 50	grayish brown sandy clay loam, dry-dense and homogenous	none	none	calcium carbonate filaments at about 30, few calcium carbonate nodules at 45 cm
100	0 to 80	reddish brown sandy loam, friable and homogeneous	none	none	
	80 to 95	red sandy clay loam, dry-hard with common calcium carbonate flecking	none	none	subsoil
101	0 to 70	brownish red sandy loam, friable	none	none	
	70 to 85	reddish brown sandy clay loam, dry-hard-blocky	none	none	common calcium carbonate filaments few masses
102	0 to 15	red sandy loam, friable	none	none	
	15 to 17	caliche bedrock	none	none	
103	0 to 40	reddish brown sandy clay loam, dry-hard-blocky	none	none	
	40 to 50	reddish brown sandy clay with few calcium carbonate flecks	none	none	subsoil
14	0 to 30	reddish brown sandy clay loam, dry and hard	none	none	
	30 to 45	reddish brown, sandy clay with few calcium carbonate flecks	none	none	probable subsoil
105	0 to 40	reddish brown, sandy clay loam, dry-hard and blocky	none	none	
	40 to 50	reddish brown sandy clay, dry-very hard	none	none	
106	0 to 20	reddish brown sandy clay loam, dry and hard	none	none	
	20 to 35	red sandy clay loam, dry-extremely hard	none	none	subsoil, upper zone-residium?
107	0 to 20	reddish brown sandy clay loam, friable to loose	none	none	residium of lower parent material
	20 to 30	reddish brown sandy clay, dry-very hard, few	none	none	calcium carbonate masses-intact ancient deposits
108	0 to 20	loose, reddish brown sandy loam	none	none	
	20 to 35	reddish brown sandy clay, dry-firm and intact	none	none	ancient parent material of above zone
109	0 to 30	reddish brown sandy clay loam, parent material, dry	none	none	hard and blocky, calcium carbonate filaments after 20 cm, basal deposits

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
110	0 to 15	reddish brown sandy loam, friable to loose	none	none	residium of below
	15 to 25	reddish brown sandy clay loam, dry-firm with scant	none	none	calcium carbonate flecking
111	0 to 35	brown sandy loam, dry-friable and blocky	none	none	
	35 to 50	reddish brown sandy loam, dry-hard and blocky	none	none	
	50 to 55	reddish brown sandy clay, dry-hard, common calcium carbonate flecks	none	none	basal clay
112	0 to 30	loose brown sand	none	none	
	30 to 45	reddish brown sandy clay loam, dry-hard-blocky	none	none	subsoil deposit
113	0 to 15	reddish brown sand, loose	none	none	
	15 to 30	reddish brown sandy clay loam, dry-hard-blocky	none	none	
	30 to 40	reddish brown sandy clay, dry very hard with common	none	none	calcium carbonate masses-basal deposits
114	0 to 15	brown sand, loose residium from lower parent zone	none	none	
	15 to 30	brown sandy clay loam, dry-very hard, with common	none	none	calcium carbonate masses-basal deposits
115	0 to 10	loose brown sand	none	none	eroded from parent material below
	10 to 25	brown sandy clay loam, dry-very hard with	none	none	common calcium carbonate masses throughout-basal deposits
116	0 to 17	loose reddish brown sand	none	none	
	17 to 35	reddish brown sandy clay, dry-hard	none	none	blocky with few calcium carbonate flecks and masses- subsoil
117	0 to 20	reddish brown sand, loose residium from zone II	none	none	
	20 to 35	reddish brown, sandy clay, dry, firm with common	none	none	calcium carbonate flecks with few masses
118	0 to 40	brown sandy loam, dry, friable and homogeneous	none	none	
	40 to 60	brownish red, sandy clay loam, dry, very hard	none	none	common calcium carbonate flecks- likely subsoil
119	0 to 30	brownish red sandy loam, dry-firm to friable	none	none	
	30 to 45	reddish brown sandy clay, dry-very hard, blocky, with	none	none	few calcium carbonate masses at depth
120	0 to 20	loose brownish red sand	none	none	
	20 to 35	reddish brown sandy clay loam, dry-hard	none	none	few calcium carbonate nodules at depth

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
121	0 to 35	dark brown sand, loose and homogenous	none	none	
	35 to 50	grayish brown sandy loam, dry-hard and blocky	none	none	
	50 to 75	grayish brown sandy clay loam, dry, very firm with common	none	none	calcium carbonate flecking-ancient parent material-subsoil-basal deposits
122	0 to 10	loose brown sand	none	none	
	10 to 38	brown sandy loam, dry and hard, few calcium carbonate flecks after 35 cm	none	none	
	38 to 45	grayish brown, sandy clay loam, dry-very hard, common	none	none	calcium carbonate nodules- basal deposit
123	0 to 60	brown sandy loam, dry-hard and blocky	none	none	bioturbated via root, insect etc. Yet still homogeneous matrix
	60 to 75	grayish brown sandy clay loam, dry-very hard, few calcium carbonate flecks	none	none	subsoil
124	0 to 45	brown sandy loam, dry and hard	none	none	
	45 to 65	brown sandy clay loam, dry-very hard with few	none	none	calcium carbonate flecks after 50 cm- subsoil
125	0 to 15	reddish brown sandy loam, dry-friable	none	none	
	15 to 45	reddish brown sandy clay loam, dry-very hard	none	none	intact basal-deposits, upper zone is basically residium
126	0 to 10	loose reddish brown sandy	none	none	
	10 to 30	reddish brown, sandy clay loam, dry-very hard	none	none	
127	0 to 10	brown sand, loose and wind blown	none	none	
	10 to 40	reddish brown, sandy loam, dry-friable and homogeneous	none	none	
	40 to 50	reddish brown, sandy clay loam, dry-very hard, few calcium carbonate flecks	none	none	subsoil deposits
128	0 to 10	reddish brown sand, loose	none	none	
	10 to 40	reddish brown sandy clay loam, dry-very hard	none	none	
	40 to 45	reddish brown sandy clay, common calcium carbonate filaments	none	none	subsoil
129	0 to 15	brown sandy loam, dry-friable	none	none	
	15 to 40	reddish brown sandy clay loam, dry-very hard	none	none	

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
130	0 to 50	plowed sandy clay loam, brown, friable to firm with depth	none	none	within sorghum field, heavily plowed
131	0 to 50	plowed brown sandy clay loam	none	none	
132	0 to 50	plow zone, brown sandy clay loam	none	none	
133	0 to 40	plowed, brown sandy clay loam	none	none	hit caliche bedrock at 40 cmbs
134	0 to 50	brown sandy clay loam with caliche rock frags at 40 cm	none	none	all within deep plow zone
135	0 to 50	plow zone, brown sandy clay loam	none	none	
136	0 to 50	brown sandy clay loam, all within plow zone	none	none	
137	0 to 30	plow zone, brown sandy loam with caliche rock frags	none	none	
	30 to 50	pale grayish brown sandy clay loam, with heavy	none	none	calcium carbonate nodules and common rock frags
138	0 to 50	all disturbed brown sandy clay loam	none	none	
139	0 to 40	brown sandy loam, all plow zone deposits	none	none	
	40 to 50	pale grayish brown sandy clay loam, within plow zone	none	none	
140	0 to 40	plow zone, brown sandy clay loam	none	none	
141	0 to 50	all plowed up brown sandy clay loam	none	none	
142	0 to 50	all disturbed brown sandy clay loam	none	none	
143	0 to 50	all disturbed brown sandy clay loam	none	none	
144	0 to 50	all plow zone, brown sandy clay loam	none	none	
145	0 to 50	brown sandy clay loam, all within plow zone	none	none	
146	0 to 50	all within plow zone, brown sandy clay loam	none	none	
147	0 to 50	all within plow zone, brown sandy clay loam	none	none	
148	0 to 50	all within plow zone, brown sandy clay loam	none	none	
149	0 to 65	brown sandy clay loam, all disturbed via root plowing and	none	none	cultivation plowing
150	0 to 45	all disturbed via plowing, brown sandy clay loam	none	none	

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmb)*	Soil Description	Cultural Material	Site	Notes
151	0 to 50	brown sandy clay loam, all disturbed via plowing	none	none	
152	0 to 50	disturbed brown sandy clay loam	none	none	
153	0 to 40	brown sandy loam, dry and hard-blocky	none	none	
	40 to 55	pale grayish brown fine sandy clay loam with common	none	none	calcium carbonate flecking and few caliche gravels-subsoil
154	0 to 45	brown sandy loam, dry-hard-blocky	none	none	heavy insect bioturbations
	45 to 65	pale grayish brown sandy clay loam, dry-very	none	none	hard-with common calcium carbonate nodules-subsoil
155	0 to 15	brown sandy loam, friable to loose	none	none	
	15 to 45	brown sandy clay loam, dry friable and blocky	none	none	
	45 to 50	pale grayish brown sandy clay loam with common	none	none	calcium carbonate nodules-subsoil
156	0 to 40	brown sandy loam, dry and hard	none	none	
	40 to 50	pale grayish brown sandy clay loam, dry-very hard	none	none	few calcium carbonate flecks after 45 cm
157	0 to 70	brown sandy clay loam, dry-hard and block	none	none	
	70 to 75	pale grayish brown, sandy clay loam, dry-very hard	none	none	with common caliche rock fragments
158	0 to 50	brownish red sandy clay loam, caliche gravels after	none	none	30 cm, dry-hard-blocky
159	0 to 15	red sandy clay loam, dry and hard, caliche gravels at about 10 cm	none	none	
	15 to 20	fractured caliche gravels over caliche bedrock	none	none	
160	0 to 15	reddish brown sandy loam, friable and homogeneous	none	none	
	15 to 30	reddish brown sandy clay loam, dry-hard and blocky	none	none	
	30 to 45	reddish brown sandy clay loam with common caliche rock about 40 percent	none	none	
161	0 to 20	reddish brown sandy loam, dry and friable	none	none	
	20 to 45	reddish brown sandy clay loam, dry-very hard-blocky	none	none	

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
	45 to 55	reddish brown sandy clay with calcium carbonate nodules about 10 percent	none	none	subsoil
162	0 to 20	brown sandy loam, friable-dry-homogeneous	none	none	
	20 to 75	reddish brown sandy clay loam, dry-hard-blocky	none	none	
	75 to 80	reddish brown, sandy clay, dry-very hard and blocky	none	none	few calcium carbonate masses and common caliche rock fragments
163	0 to 45	brown sandy loam, dry-hard-blocky	none	none	
	45 to 70	brown sandy clay loam, dry-hard and blocky	none	none	
	70 to 80	pale grayish brown sandy clay loam with common	none	none	calcium carbonate filaments and few nodules- subsoil
164	0 to 50	brown sandy loam, dry-hard yet friable when exposed	none	none	cemented in solution via calcium carbonate
	50 to 75	pale brown sandy clay loam, dry, very hard, common	none	none	calcium carbonate filaments and masses-subsoil
165	0 to 20	brown sandy loam, dry-very hard and blocky	none	none	
	20 to 60	reddish brown sandy clay loam, dry-very hard-blocky	none	none	likely the basal deposits
	60 to 70	pale reddish brown sandy clay, with calcium carbonate flecking	none	none	
166	0 to 50	brown sandy clay loam, dry-hard-homogeneous	none	none	
167	0 to 25	reddish brown sand, loose	none	none	
	25 to 55	reddish brown sandy clay loam, dry-hard and blocky	none	none	
	55 to 65	light reddish brown sandy clay, very hard, few calcium carbonate masses	none	none	subsoil
168	0 to 70	reddish brown sandy loam, friable-dry	none	none	
	70 to 85	reddish brown sandy clay loam, dry-hard	none	none	
	85 to 105	reddish brown sandy clay-common calcium carbonate nodules	none	none	
169	0 to 40	brown sandy loam dry, friable	none	none	
	40 to 60	reddish brown sandy clay loam, dry-very hard-blocky	none	none	

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
170	0 to 30	brown sandy loam, dry-hard-blocky	none	none	
	30 to 50	reddish brown sandy clay loam, dry-hard and blocky	none	none	
	50 to 65	reddish brown sandy clay, dry-very hard, few	none	none	calcium carbonate masses and filaments
171	0 to 40	brown sandy loam, dry-hard-blocky-homogeneous	none	none	
	40 to 65	reddish brown sandy clay loam, dry-very hard and blocky	none	none	
	65 to 75	reddish brown, sandy clay with calcium carbonate flecking-subsoil	none	none	
172	0 to 15	brown sandy clay loam, friable and homogeneous	none	none	
	15 to 40	brown sandy clay loam, dry-very hard, and blocky	none	none	
	40 to 50	reddish brown sandy clay loam-very hard-blocky	none	none	with about 10 percent calcium carbonate nodules
173	0 to 20	brown sandy clay loam with mixed caliche gravels about 10 percent	none	none	
	20 to 30	brown sandy clay with 50 percent caliche rock (fist sized)	none	none	subsoil
174	0 to 15	reddish brown sandy clay loam, dry-hard with 10 percent	none	none	caliche rock fragments
	15 to 30	red sandy clay loam with about 50 percent caliche rocks	none	none	fractured bedrock?
175	0 to 20	red sandy clay loam, dry-hard-blocky with few caliche rocks	none	none	
	20 to 30	red sandy clay with common caliche rock-gravels-fist sized	none	none	subsoil-yet likely plowed in past
176	0 to 15	red sandy clay loam with 50 percent caliche rock frags	none	none	
	15 to 20	red sandy clay with 80 percent-basically fractured bedrock	none	none	
177	0 to 40	reddish brown sandy clay loam, dry-hard-blocky	none	none	
	40 to 45	red sandy clay with about 20 percent caliche rock fragments	none	none	
178	0 to 35	reddish brown sandy clay loam, dry-hard and blocky	none	none	

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
	35 to 37	fractured caliche bedrock	none	none	
179	0 to 40	brown sandy clay loam, dry-very hard-blocky	none	none	hit bedrock at about 40 cmbs
180	0 to 30	brown sandy loam, dry-hard-blocky	none	none	
	30 to 45	reddish brown, sandy clay loam, dry-hard-common caliche rock frags	none	none	
	45 to 50	decayed-fractured caliche hardpan	none	none	
181	0 to 40	brown sandy clay loam, dry-hard-blocky	none	none	
	40 to 50	reddish brown, sandy clay loam, common calcium carbonate flecking	none	none	few masses-subsoil deposits
182	0 to 40	disturbed sandy clay loam, mixed via mechanical disturbance via	none	none	construction of nearby borrow pit
183	0 to 40	brown sandy loam, dry-hard-blocky	none	none	
	40 to 50	reddish brown sandy clay loam, few caliche rock frags within	none	none	
184	0 to 60	brown sandy loam, friable	none	none	
	60 to 75	reddish brown sandy clay loam, dry-hard and blocky	none	none	
	75 to 85	reddish brown sandy clay, dry-very hard, common calcium carbonate flecking	none	none	subsoil
185	0 to 40	brown sandy loam, dry-hard and blocky	none	none	
	40 to 50	reddish brown sandy loam, dry-very hard-blocky	none	none	
	50 to 60	reddish brown sandy clay loam, dry-hard with few calcium carbonate flecks	none	none	probable subsoil
186	0 to 50	brown sandy loam, dry-hard and blocky	none	none	
	50 to 60	reddish brown, sandy clay loam, dry-hard with common calcium carbonate gravels	none	none	subsoil
187	0 to 30	very pale brown sandy loam	none	none	
	30 to 50	pale brown sandy loam	none	none	extremely compact with calcium carbonate inclusions
188	0 to 50	pale brown sandy loam	none	none	
	50 to 60	pale brown sandy loam	none	none	extremely compact
189	0 to 70	pale brown sandy loam	none	none	

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
	70 to 80	pale brown sandy loam	none	none	calcium carbonate
190	0 to 70	brown sandy loam	none	none	
	70 to 80	brown sandy loam	none	none	extremely compact, calcium carbonate inclusions
191	0 to 20	strong brown sandy loam	none	none	
	20+	decaying bedrock and compact clay loam	none	none	
192	0 to 20	dark brown sandy clay loam	none	none	extremely compact with calcium carbonate inclusions
193	0 to 20	dark brown sandy clay loam	none	none	bedrock at 20 cmbs
194	0 to 20	dark brown sandy clay loam	none	none	extremely compact, bedrock at 20 cmbs
195	0 to 30	dark brown sandy clay loam	none	none	extremely compact, bedrock at 30 cmbs
196	0 to 20	dark brown sandy clay loam	none	none	extremely compact with disintegrating bedrock at 20 cmbs
197	0 to 30	brown sandy loam, dry-hard-blocky	none	none	
	30 to 45	reddish brown, sandy clay loam, dry-hard-common caliche rock frags	none	none	
198	45 to 50	decayed-fractured caliche hardpan	none	none	
199	0 to 40	brown sandy clay loam, dry-hard-blocky	none	none	
200	40 to 50	reddish brown, sandy clay loam, common calcium carbonate flecking	none	none	few masses-subsoil deposits
201	0 to 40	disturbed sandy clay loam, mixed via mechanical disturbance via	none	none	construction of nearby borrow pit
202	0 to 40	brown sandy loam, dry-hard-blocky	none	none	
203	40 to 50	reddish brown sandy clay loam, few caliche rock frags within	none	none	
204	0 to 60	brown sandy loam, friable	none	none	
205	60 to 75	reddish brown sandy clay loam, dry-hard and blocky	none	none	
206	75 to 85	reddish brown sandy clay, dry-very hard, common calcium carbonate flecking	none	none	subsoil
207	0 to 40	brown sandy loam, dry-hard and blocky	none	none	

Proposed Natural Gas Pipeline Shovel Test Data

Shovel Test	Depth (cmbs)*	Soil Description	Cultural Material	Site	Notes
208	40 to 50	reddish brown sandy loam, dry-very hard-blocky	none	none	
209	50 to 60	reddish brown sandy clay loam, dry-hard with few calcium carbonate flecks	none	none	probable subsoil
210	0 to 50	brown sandy loam, dry-hard and blocky	none	none	
211	50 to 60	reddish brown, sandy clay loam, dry-hard with common calcium carbonate gravels	none	none	subsoil

APPENDIX D
RESUMES OF INVESTIGATORS

BRANDON S. YOUNG, MA, RPA**Education**

M.A., Anthropology, The University of Texas at San Antonio, 2002.

Lambda Alpha National Honor Society for Anthropology, 1999.

B.A. (Cum Laude), Anthropology, The University of Texas at Austin, 1994.

University of Texas at Austin Archeological Field School, WS-Ranch Site, Alma, New Mexico, 1993.

Professional Organizations

Register of Professional Archaeologists (RPA)
Society for American Archaeology
Council of Texas Archeologists

Professional Experience (Selected Projects)

Mr. Young has conducted archeological investigations for transportation, oil and gas, and private development projects in Texas and adjacent states for 19 years. Additionally, Mr. Young has conducted several wind energy projects in Texas, New Mexico, Arizona, and Colorado.

2003 to present

Principal Investigator/Archeologist, Blanton & Associates, Inc. Mr. Young conducts archeological survey, excavation, research, and analysis projects and produces oral and written reports. He has written more than 50 archeological reports and is skilled in general cultural resource management. Mr. Young is also very familiar with local, state, and federal preservation laws, including recommendations and guidelines from the Texas Historical Commission and the Council of Texas Archeologists.

2013

Principal Investigator, archeological survey of the proposed Red Gate power plant, Hidalgo County, Texas.

2012

Principal Investigator, intensive archeological survey of proposed improvements to State Loop 82 from Thorpe Lane to Charles Austin Drive in the City of San Marcos, Hays County, Texas.

2011

Principal Investigator, intensive archeological survey of the proposed Schaefer Road drainage phase I (CB-19) project in northeast Bexar County, Texas.

2010

Principal Investigator, intensive archeological survey of four post-review discoveries within the Del Rio Outer Loop, Val Verde County, Texas.

2008 and 2009

Principal Investigator, September 2008 and July 2009, conducted archeological and geoarcheological investigations prior to the construction of the proposed El Pico Water Treatment Plant (EPWTP) in the City of Laredo, Webb County, Texas. In September 2008, conducted an intensive archeological survey with shovel testing and backhoe trenching of the 400-acre EPWTP project area. In July 2009, conducted a geoarcheological assessment of the project area with Dr. Stephen Hall to evaluate the potential for the study area and the 11 archeological sites (41WB705 through 41WB715) discovered during the 2008 survey to contain intact deposits eligible for inclusion to the National Register of Historic Places or State Antiquities Landmark designation. As a result of the intensive survey and the geoarcheological assessment, it was recommended that feature-focused test excavations of select cultural features on site 41WB710 and 41WB713 were warranted to determine whether they retained deposits eligible for inclusion to the National Register of Historic Places or State Antiquities Landmark designation. The feature-focused archeological testing occurred at sites 41WB710 and 41WB713 during March 2011 and the

project was allowed to proceed as planned without additional investigations following the testing phase.

Principal Investigator, archeological survey of a proposed McAllen public utility reservoir and associated pipeline infrastructure in McAllen, Hidalgo County, Texas

2007

Co-Principal Investigator, archeological test excavations at site 41PK248 on the Alabama-Coushatta Indian Reservation, Polk County, Texas.

2006

Principal Investigator, cultural resources survey and avoidance measures for a proposed 3D seismic exploration in the vicinity of the Brownsville Navigation District and the Laguna Madre in Cameron County, Texas.

2005

Principal Investigator, archeological survey of a 10.3-Kilometer (6.4-Mile) long section of U.S. Highway 83 in Starr County, Texas prior to proposed widening and realignment construction.

2004–2005

Principal Investigator, cultural resource avoidance and mitigative efforts for the proposed LCRA Fort Lancaster to Friend Ranch transmission line, Pecos, Terrell, and Crockett Counties, Texas. Archaeological testing and avoidance/mitigative measures at 16 prehistoric sites.

2004

Principal Investigator, pedestrian archaeological survey for the North Pharr to Harlingen Substation Transmission Line Rebuild, Cameron and Hidalgo Counties, Texas. Pedestrian survey with shovel testing and limited backhoe trenching utilizing a probability model and sampling.

2003

Principal Investigator, Center for Big Bend Studies, Sul Ross State University, Alpine, Texas. Six Shooter to Midland Airport Fiber Optic Cable, Pecos, Crockett, Upton, and Midland Counties, Texas.

2002

Archeologist. Center for Big Bend Studies, Sul Ross State University, Alpine, Texas. Lake Meredith/Plum Creek Prescribed Burn Survey 2002, Lake Meredith National Recreation Area, Fritch, Texas. Pedestrian survey of select portions of the recreation area prior to prescribed burns.

Field Supervisor. SWCA Inc., Environmental Consultants, Austin, Texas. TxDOT Bridge Impact Evaluation Project. Responsible for conducting impact evaluations at numerous (30+) bridge locations throughout Denton County, Texas.

2001–2002

Samalayuca Pipeline Project: Performed laboratory analyses and co-authored the final report of investigations concerning the 1997 mitigation of four prehistoric sites (41EP3038, 41EP3042, 41HZ504, and 41HZ505) along the Samalayuca Pipeline, El Paso and Hudspeth Counties, Texas. The project involved organizing excavation data and re-analyzing artifacts and previous notes produced by Centro de Investigaciones Arqueologicas of El Paso, Texas, which was the company responsible for the 1997 data recovery excavations.

2001

Project Archeologist and Field Supervisor. SWCA Inc., Environmental Consultants, Austin, Texas:

Field Supervisor. Cultural Resource Survey of the KPP Supply Company Project Area, Pittsburg County, Oklahoma. Cultural resource investigations along a 53.9-km long water pipeline in east-central Oklahoma. Responsible for supervising field crews and co-author of the report of investigations.

Project Archeologist. LeBrock Power Plant Access Road Survey, Harrison County, Texas. Responsible for conducting an archeological survey along a proposed access road serving the LeBrock Power Plant in Harrison County, Texas, as well as the completion of the report of investigations.

Project Archeologist. Central Texas Telephone Cooperative Survey Project, Colorado Bend State Park, Lampassas and San Saba Counties, Texas. Responsible for archeological survey along proposed fiber optic cable route, as well as the completion of the report of investigations.

Project Archeologist. Colorado Valley Telephone Cooperative Survey Project, Fayette County, Texas. Responsible for archeological survey along proposed fiber optic cable route, as well as the completion of the report of investigations.

Field Supervisor. Los Indios, Los Tomates, and Pharr-Reynosa Border Safety Inspection Facilities Project, Cameron and Hidalgo Counties, Texas. Responsible for conducting backhoe trench excavations at several proposed inspection facility sites, as well as completing the report of investigations.

Project Archeologist. Medway Ranch Archeological Assessment. Responsible for conducting an archeological assessment survey of the 345-acre Medway Ranch, Travis County, Texas, as well as the completion of the report of investigations.

Project Archeologist. Atascosa County Bridge Replacement Project. Responsible for conducting archeological surveys at bridge locations (two) along FM 2504 at the Atascosa River and Sesterdero Creek in Atascosa County, Texas, as well as completion of the reports of investigations.

Project Archeologist. Wooten Investment Corporation Project. Responsible for conducting archeological survey of a 20-acre tract of land in north Travis County, Texas, as well as the completion of the report of investigations.

Field Supervisor. Center for Big Bend Studies, Sul Ross State University, Alpine, Texas, Data Recovery Excavations at 41PS800, Arroyo de la Presa site, Presidio County, Texas. Primary responsibilities included supervision of block excavations and mechanical trenching, excavation of pit features, as well as the production of extensive stratigraphic profiles.

2000

Research scientist assistant II (Archeologist). Center for Archaeological Research, The University of Texas at San Antonio. Responsible for daily excavation of units and maintenance of excavation records during the Little River Archeological Test Excavations Project, Milam County, Texas.

Archeologist. Hicks & Company, Wilson Ranch Survey, Pecos County, Texas. Pedestrian survey of 105 proposed windmill pads and associated access roads and transmission line rights-of-way. Responsible for the documentation of newly discovered archeological materials, overseeing archeological technicians, and daily communication with client.

Field Supervisor. SWCA Inc., Environmental Consultants. All American Pipeline/El Paso Natural Gas Survey Project. Aided in supervising the resurvey of portions of the All American Pipeline between McCamey and El Paso, Texas. The project involved extensive pedestrian survey in order to revisit numerous, previously recorded sites and record several previously unknown sites.

Field Archeologist. SWCA Inc., Environmental Consultants. Avery Ranch Testing Project. Responsible for daily excavation of units and cultural features, as well as the completion of excavation records, and sample forms during test excavations at two prehistoric sites. The project focused on the Pavo Blanco site (41WM559c), a well-preserved burned rock midden containing temporally diagnostic projectile points dating from the Late Paleoindian (Hell Gap specimen) through the Late Prehistoric.

1999

Project Archeologist, SWCA Inc., Environmental Consultants. Level (3) Communications Cultural Resources Survey, Arkansas. Responsible for supervising crews surveying 47 select miles of proposed fiber optic cable right-of-way from Texarkana, Arkansas to West Memphis, Arkansas. The project involved revisiting previously recorded sites in or near the proposed right-of-way as well as recording any previously

unknown sites. Also responsible for completion of the Draft Report of Investigations.

Field Supervisor. Hicks & Company Environmental/Archeological Consulting, Austin, Texas. Involved with the daily supervision of archeological excavation crews for the Guy Town Archeological Testing Project.

1998

Teaching Assistant. Center for Big Bend Studies, Sul Ross State University 1998 Archeological Field School in the Davis and Glass Mountains, Brewster County, Texas. Involved in the daily supervision of student excavations at a prehistoric open campsite and a rockshelter.

1997

Archeologist. Center for Big Bend Studies, Sul Ross State University, Alpine, Texas. The Center for Big Bend Studies/Big Bend National Park Survey Project. Continuation of ongoing archeological survey of Big Bend National Park, Brewster County, Texas.

Archeologist. SWCA Inc., Environmental Consultants. Camino-Colombia Toll Road NRHP Eligibility Testing Project, Webb County, Laredo, Texas. Project involved test excavations at 14 archeological sites along the proposed toll road right-of-way. Daily responsibilities involved maintaining excavation records, sample logs, and general project paperwork.

Archeologist. TRC Mariah Associates, Inc., Austin, Texas. Data recovery excavations at prehistoric open campsite 41ZP364. Responsible for individual, daily excavation of units as well as maintaining all appropriate paperwork for each unit.

1996

Archeologist. Prewitt and Associates, Inc., Consulting Archeologists, Austin, Texas. Ft. Hood NRHP Eligibility Testing Project, Killeen, Texas. Responsible for individual, daily excavation of units as well as maintenance of all appropriate paperwork for each unit.

Archeologist. Center for Big Bend Studies, Sul Ross State University, Alpine, Texas. The Center

for Big Bend Studies/Big Bend National Park Survey Project. Continuation of ongoing archeological survey of Big Bend National Park, Brewster County, Texas.

Archeologist. Moore Archeological Consulting, Houston, Texas. Responsible for excavation of shovel tests and site recording during the Trinity River Authority Waterline Survey, Huntsville, Walker County, Texas.

1995

Archeologist. Center for Big Bend Studies, Sul Ross State University, Alpine, Texas. The Center for Big Bend Studies/Big Bend National Park Survey Project. Involved in ongoing archeological survey of Big Bend National Park, Brewster County, Texas.

Field Supervisor. SWCA Inc., Environmental Consultants, Austin, Texas. Continuation of the archeological survey along the 130-mile MIDTEXAS Pipeline Project Area, in Gonzales, DeWitt, Lavaca, Colorado, Austin, and Waller Counties.

Archeologist. Moore Archeological Consulting, Houston, Texas. Responsible for daily excavation of units and maintenance of excavation records during the Wood Forest Road Testing Project, Houston, Texas.

1994

Field Supervisor. SWCA Inc., Environmental Consultants, Austin, Texas. Archeological survey along the 130-mile MIDTEXAS Pipeline Project Area, in Gonzales, DeWitt, Lavaca, Colorado, Austin, and Waller counties.

Archeologist and Laboratory Technician. Office of the State Archeologist, Texas Historical Commission, Austin. Responsible for daily excavation of units and maintenance of excavation records during the Christianson-Leberman House Testing Project, Austin, Texas. Also responsible for the cataloging of over 7000 faunal remains from the Horace Rivers Site (41HH123), a Plainview campsite in Hemphill County, Texas.

Archeologist. Moore Archeological Consulting, Houston, Texas, Lake O' the Pines Survey Project. Pedestrian survey with shovel testing at select areas adjacent to Lake O' the Pines, Marion and Upshur counties, Texas.

Publications and Presentations

2014

Prepared the Archeological Resources section of an EIS for Proposed SH 45SW. March 2014. Prepared for RTG and Texas Department of Transportation Austin District.

Intensive Archeological Survey of Clemons Switch Road at Bessies Creek, Waller County, Texas. March 2014. Prepared for Texas Department of Transportation Houston District.

Archeological Assessment, ExxonMobil Pipeline Company's Adjustment of the Existing Baytown-to-Irving Pipeline Prior to TxDOT's Proposed Improvements to Huffmeister Road, Harris County, Texas. February 26, 2014. Prepared for ExxonMobil Pipeline Company.

Archeological Assessment, ExxonMobil Pipeline Company's Adjustment of the Existing Baytown-to-Irving Pipeline Prior to TxDOT's Proposed Construction of State Highway 99, Harris County, Texas. February 26, 2014. Prepared for ExxonMobil Pipeline Company.

2013

Archeological Investigations for Chamisa CAES at Tulia LLC. December 2013. Prepared for Chamisa CAES at Tulia LLC.

Cultural Resources Investigations for the Alazan Acequia (41BX620) and Historical Resources Survey for the Westside Multi-Modal Transit Center Phase 2 Project, San Antonio, Texas. November 2013. Prepared for HTNB and Via Metropolitan Transit.

Intensive Archeological Survey of the Proposed Center Point Wastewater Lines and Interceptor in Center Point and Comfort, Kerr and Kendall Counties, Texas. November 2013. Prepared for Kerr County, Texas, and Tetra Tech.

Addendum Report for Intensive Archeological Survey of the Proposed Center Point Wastewater Lines and Interceptor in Center Point and Comfort, Kerr and Kendall Counties, Texas. November 2013. Prepared for Kerr County, Texas, and Tetra Tech.

Intensive Archeological Survey of the Proposed Mountain Creek Interceptor Segments MC-7 And MC-8 in the City of Grand Prairie, Dallas and Tarrant Counties, Texas. November 2013. Prepared for Trinity River Authority of Texas and Lockwood, Andrews & Newnam, Inc.

Addendum Report, Archeological Survey Investigations of Portions of the ATEX Express Pipeline Project (Spread 6), Alternate Route in Liberty County, Texas. August 2013. Prepared for Enterprise Liquids Pipeline Company LLC. Submitted to U.S. Army Corps of Engineers Galveston District.

Archeological Survey of Portions of the Indigo Minerals Logansport Pipeline in DeSoto Parish, Louisiana. July 2013. Prepared for Enterprise Products Operating LLC. Submitted to U.S. Army Corps of Engineers Fort Worth District.

Programmatic Categorical Exclusion, FM 197 at Parsons Creek, On-System Bridge Replacement, Lamar County, Texas. June 2013. Prepared for Federal Highway Administration and Texas Department of Transportation Paris District.

Intensive Archeological Survey of the Proposed Schaefer Road Drainage Phase I (CB-19) Project in Northeast Bexar County, Texas. June 2013. Prepared for Bexar County Flood Control.

Programmatic Categorical Exclusion, FM 97 at Parsons Creek, On-System Bridge Replacement, Lamar County, Texas. June 2013. Prepared for Federal Highway Administration and Texas Department of Transportation Paris District

Archeological Survey of Portions of Seaway Crude Pipeline Company LLC's Proposed Seaway Loop Project-Segment 7 in Jefferson, Liberty, and Chambers Counties, Texas. June 2013. Prepared for Enterprise Crude Pipeline LLC on behalf of Seaway Crude Pipeline

Company LLC. Submitted to U.S. Army Corps of Engineers Galveston District.

Archeological Survey of Portions of Enterprise Crude Pipeline LLC's Proposed Seaway Loop – Echo To Mont Belvieu Pipeline Project, Harris And Chambers Counties, Texas. May 2013. Prepared for Enterprise Crude Pipeline LLC. Submitted to U.S. Army Corps of Engineers, Galveston District.

Intensive Archeological Survey of Four Post-review Discoveries within the Del Rio Outer Loop, Val Verde County, Texas. April 2013. Prepared for Val Verde County with Joe Sanchez and Mark Willis.

Archeological Data Recovery at Prehistoric Sites 41VV2012 and 41VV2013 in the Del Rio Outer Loop, Val Verde County, Texas. March 2013. Prepared for Val Verde County and Pate Transportation Partners, LP. Submitted to Texas Department of Transportation Environmental Affairs Division and Texas Historic Commission.

Intensive Archeological Survey of SH 242 from IH 45 to US 59 in Montgomery County, Texas. February 2013. Prepared for Texas Department of Transportation Houston District and Transystems.

Archeological Survey of the Proposed Red Gate Power Plant, Hidalgo County, Texas. February 2013. Prepared for South Texas Electric Cooperative, Inc.

Intensive Archeological Survey, CR 322 at Clear Fork Brazos River, Fisher County, Texas. February 2013. Prepared for Texas Department of Transportation Abilene District.

Intensive Archeological Survey, CR 246 at Clear Fork Brazos River, Fisher County, Texas. February 2013. Prepared for Texas Department of Transportation Abilene District.

2012

Archeological Survey of Portions of Enterprise Liquids Pipeline LLC's Proposed ATEX Express Pipeline from Beaumont to Mont Belvieu, Liberty, Chambers, and Jefferson Counties,

Texas. December 2012. Prepared for Enterprise Liquids Pipeline Company LLC. Submitted to Texas Historical Commission.

Addendum Report for Supplemental Archeological Investigations at Site 41HY165 for Proposed Improvements to State Loop 82 from Thorpe Lane to Charles Austin Drive in the City Of San Marcos, Hays County, Texas. November, 2012. Prepared for the City of San Marcos and Texas Department of Transportation Austin District.

Intensive Archeological Survey of Proposed Improvements to County Road 258 from Sunset Ridge to Ronald Reagan Boulevard in Williamson County, Texas. October 2012. Prepared for Williamson County, Texas.

Intensive Archeological Survey of Proposed Improvements to State Loop 82 from Thorpe Lane to Charles Austin Drive in the City of San Marcos, Hays County, Texas. August 2012. Prepared for The City of San Marcos and Texas Department of Transportation Austin District.

Archeological Monitoring Report for the Gavilan/La Pita/Rio Grande Pipeline And Well Pad Number 2 in the Boca Chica Tract of the Lower Rio Grande Valley National Wildlife Refuge in Cameron County, Texas. May 2012. Prepared for Sanchez Oil and Gas, Inc.

Archeological Survey of Proposed Upgrades to the Channel Energy Center, Houston, Harris County, Texas. May 2012. Prepared for Channel Energy Center LLC.

Archeological Survey of Proposed Upgrades to the Deer Park Energy Center, Houston, Harris County, Texas. May 2012. Prepared for Deer Park Energy Center LLC.

Archeological Investigations for the Clara Neal Pipeline Removal Project, Upton County, Texas. March 2012. Prepared for Northern Natural Gas.

Intensive Archeological Survey of Proposed Improvements to Bonnie Brae Street from Vintage Boulevard to Interstate Highway 35 East in the City of Denton, Denton County, Texas.

March 2012. Prepared for the City of Denton and Graham Associates, Inc.

Intensive Archeological Survey of the Proposed Brushy Creek Wastewater Interceptor Phase II in Williamson County, Texas. March 2012. Prepared for Walker Engineering and the City of Hutto. Submitted to Texas Historical Commission.

Intensive Archeological Survey Supplemental Report, US 77 from SH 107 in the City of Combes to SH 44 in the City of Robstown, Cameron, Willacy, Kenedy, Kleberg, and Nueces Counties, Texas. January 2012. Prepared for Texas Department of Transportation and Texas Turnpike Authority Division.

2011

Intensive Archeological Survey of McCombs Street/FM 2529 from US 54 to Just North of FM 2637 in El Paso, El Paso County, Texas. October 2011. Prepared for Texas Department of Transportation El Paso District. Submitted to Texas Historical Commission.

Archeological Survey of FM 407 at Trail Creek in Denton County, Texas. October 2011. Prepared for Texas Department of Transportation Dallas District and Parsons Brinckerhoff. Submitted to Texas Historical Commission.

Intensive Archeological Survey of the Proposed Highland Sewer Line, City of McAllen, Hidalgo County, Texas. October 2011. Prepared for City of McAllen. Submitted to Texas Historical Commission.

Intensive Archeological Survey of the M325 Segment of the Proposed Village Creek Relief Sanitary Sewer Line in Tarrant County, Texas. October 2011. Prepared for the City of Fort Worth. Submitted to Texas Historical Commission.

An Archeological Survey of IH 35 at CR 132, Hays County, Texas. September 2011. Prepared for Texas Department of Transportation Austin District. Submitted to Texas Historical Commission.

Intensive Archeological Survey of the Proposed Rosillo Creek NWWC (SC-15) Project in the City of Kirby, Bexar County, Texas. September 2011. Prepared for Bexar County Flood Control and Pate Engineers, Inc.

Intensive Archeological Survey of Old Airport Road at Burgess Creek in Parker County, Texas. September 2011. Prepared for Texas Department of Transportation Fort Worth District, and Aguirre & Fields, LP.

Archeological Testing at 41WB710 and 41WB713 within the Proposed El Pico Water Treatment Plan in the City of Laredo, Webb County, Texas. June 2011. Prepared for the City of Laredo and Dannenbaum Engineering Corporation.

Intensive Archeological Survey of a Proposed Water Main for the County Road 108 Water Improvement Project, City of Hutto, Williamson County, Texas. April 2011. Prepared for Walker Engineering and the City of Hutto. Submitted to Texas Historical Commission.

Intensive Archeological Survey of a Proposed Wastewater Collection System in the Rosa Azul Subdivision Area, Socorro, El Paso County, Texas. February 2011. Prepared for Moreno Cardenas Inc. Consultign Engineers and Lower Valley Water District. Submitted to Texas Historical Commission.

Intensive Archeological Survey of SH 286 from SH 358 to One Mile South of FM 43 in the City of Corpus Christi, Nueces County, Texas. January 2011. Prepared for Texas Department of Transportation Corpus Christi District.

Cultural Resources Survey for the Proposed Biggs East Gate Road, El Paso County, Texas. January 2011. Prepared for Texas Department of Transportation El Paso District.

Archeological Survey on SH: 75 from IH 45 to Post Oak Road in the City of Conroe, Montgomery County, Texas. January 2011. Prepared for Texas Department of Transportation Houston District and KBR.

Archeological Survey of FM 3083 from IH 45 to LP 336 in the City of Conroe, Montgomery County, Texas. January 2011. Prepared for Texas Department of Transportation Houston District and TranSystems.

2010

Interim Archeological Survey Report for a Portion of the Trinity River Authority's Proposed MC-7/MC-8 Sanitary Sewer Project, Dallas and Tarrant Counties. December 2, 2010. Prepared for Trinity River Authority. Submitted to the Texas Historical Commission.

Spinning Star Wind Ranch and Transmission Line Environmental Report, Upton, Reagan, and Crockett Counties, Texas December 2010. Prepared for Spinning Star Energy, LLC, for U.S. Department of Energy application.

Intensive Archeological Survey of Selected Parts of Loop 1604 from US 90 to IH 35 in the City of San Antonio, Bexar County, Texas. December 2010. Prepared for Alamo Regional Mobility Authority. Submitted to Texas Department of Transportation Environmental Affairs Division.

Research Design, Archeological Data Recovery Excavations at Prehistoric Sites 41VV2012 and 41VV2013 in the Del Rio Outer Loop, Val Verde County, Texas. September 29, 2010. Prepared for Texas Department of Transportation Environmental Affairs Division.

Archeological Survey of Lake Falcon County Park and Boat Ramp in the City of Zapata, Zapata County, Texas. September 2010. Prepared for the County of Zapata and the Texas Department of Transportation Pharr District. Submitted to the Texas Historical Commission.

Summary of Construction Impacts to Sites 41VV2012 and 41VV2013 in the Del Rio Outer Loop, Val Verde County, Texas. August 30, 2010. Prepared for Texas Department of Transportation Environmental Affairs Division.

Intensive Archeological Survey of FM 90 at Lacy Fork Creek, An Unnamed Relief Drainage, and Caney Creek in Kaufman County, Texas. August 2010. Prepared for Texas Department of

Transportation Dallas District. Submitted to Texas Department of Transportation Environmental Affairs District.

Intensive Archeological Survey of FM 1139 at Brushy Creek in Rockwall County, Texas. August 2010. Prepared for Texas Department of Transportation Dallas District. Submitted to Texas Department of Transportation Environmental Affairs District.

Archeological Investigations for the Proposed Gavilan/La Pita/Rio Grande Pipeline and Well Pad No. 2 in the Boca Chica Tract of the Lower Rio Grande Valley National Wildlife refuge in Cameron County, Texas. June 2010. Prepared for Sanchez Oil & Gas Corporation. Submitted to U.S. Fish and Wildlife Service Southwest Region and Texas Historical Commission.

Intensive Archeological Survey of US 77 from SH 107 in the City of Combes to SH 44 in the City of Robstown, Cameron, Willacy, Kenedy, Kleberg, and Nueces Counties, Texas. February 2010. Prepared for Texas Department of Transportation Pharr and Corpus Christi Districts. Submitted to Texas Turnpike Authority and Texas Department of Transportation Environmental Affairs Division.

Intensive Archeological Survey of Loop 375/Joe Battle Boulevard at FM 659/Zaragoza Road in the City of El Paso, El Paso County, Texas. June 2010. Prepared for Texas Department of Transportation El Paso District. Submitted to Texas Department of Transportation Environmental Affairs Division.

Intensive Archeological Survey of a Proposed City of Grand Prairie Wastewater Utility Line on U.S. Army Corps of Engineers Property South of Joe Pool Lake in Ellis County, Texas. May 2010. Prepared for City of Grand Prairie and Espey Consultants. Submitted to U.S. Army Corps of Engineers Fort Worth District.

Intensive Archeological Survey of Loop 375 from Approximately One Mile West of U.S. Highway 54 to Business Highway 54 (Dyer Street), El Paso, El Paso County, Texas. April 2010.

Prepared for Texas Department of Transportation El Paso District.

Intensive Archeological Survey of Loop 375 from Interstate Highway 10 to Franklin Mountains State Park, El Paso County, Texas. April 2010. Prepared for Texas Department of Transportation El Paso District.

An Intensive Archeological Survey in Hazel Bazemore County Park, Nueces County, Texas. April 2010. Prepared for Nueces County and Olivarri & Associates, Inc. Submitted to the Texas Historical Commission.

Cultural Resources Survey for the Proposed Expansion of the North McAllen Wastewater Treatment Plan in the City of McAllen, Hidalgo County, Texas. April 2010. Prepared for Dannenbaum Engineering on Behalf of the City of McAllen. Submitted to the Texas Historical Commission.

An Intensive Archeological Survey of a Proposed Extension to the McCarty Lane Improvement Project from 5,170 Feet East of IH 35 to 6,534 Feet East of IH 35, Hays County, Texas. March 2010. Prepared for the City of San Marcos and KBR, Inc. Submitted to the Texas Historical Commission.

Intensive Archeological Survey of Two Off-system Bridges in Wise County, Texas. March 2010. Prepared for Texas Department of Transportation Fort Worth District. Submitted to the Texas Historical Commission.

2009

Archeological Assessment, Proposed Pavement Repairs and Drainage Improvements on Sessom Drive in the City of San Marcos, Hays County, Texas. December 16, 2009. Prepared for the City of San Marcos.

Archeological and Geoarcheological Investigations for the Proposed El Pico Waste Water Treatment Plant in the City of Laredo, Webb County, Texas. December 2009. Prepared for City of Laredo and Dannenbaum Engineering. Submitted to Texas Historical Commission.

Archeological Survey of a Proposed Bike and Hike Trail along Wonder World Drive in the City of San Marcos, Hays County, Texas. November 2009. Prepared for the City of San Marcos and KBR.

Archeological Survey of McCarty Lane at Cottonwood Creek in the City of San Marcos, Hays County, Texas. November 2009. Prepared for City of San Marcos and KBR, Inc.

Archeological Investigations for the Proposed Redhead Ridge Gas Well Pad in Laguna Atascosa National Wildlife Refuge, Cameron County, Texas. October 2009. Prepared for Sanchez Oil and Gas, Inc. Submitted to Texas Historical Commission.

Interim Report: Archeological and Geoarcheological Investigations for the Proposed El Pico Water Treatment Plant in the City of Laredo, Webb County, Texas. October 2, 2009. Prepared for the City of Laredo. Submitted to the Texas Historical Commission.

Intensive Archeological Survey of Paseo Del Norte Road from I-10 to North Resler Drive in the City of El Paso, El Paso County, Texas. September 2009. Prepared for City of El Paso and Texas Department of Transportation El Paso District. Submitted to Texas Department of Transportation Environmental Affairs Division.

An Intensive Archeological Survey for the Proposed Realignment of the Las Cruces Drive/FM 1472 Intersection in the City of Laredo, Webb County, Texas. June 2009. Prepared for the City of Laredo and the Texas Department of Transportation Laredo District.

Archeological Survey of Chisholm Trail Road and the Proposed Chisholm Trail Parkway Extension in the City of Round Rock, Williamson County, Texas. May 2009. Prepared for the City of Round Rock and Rodriguez Transportation Group.

Intensive Archeological Survey of FM 1391 at Cedar Creek Relief and FM 1565 at Draw in Kaufman County, Texas. April 2009. Prepared

for Texas Department of Transportation Dallas District.

Archeological Survey Investigations for a Proposed Salado Utility, Inc., Wastewater Treatment Plan in Salado, Bell County, Texas. March 2009. Prepared for Sterling Development Company. Submitted to Texas Historical Commission.

Archeological Survey of a Proposed McAllen Public Utility Reservoir and Pipeline Infrastructure in McAllen, Hidalgo County, Texas. March 2009. Prepared for McAllen Public Utility and Melden and Hunt, Inc. Submitted to Texas Historical Commission.

2008

Archeological Investigations for the Proposed Creekside Villas in the City of Buda, Hays County, Texas. October 2008. Prepared for ECS-Texas, LLP.

An Intensive Archeological Survey of IH 45 from Just North of Wintergreen Road to Just South of Pleasant Run Road, Dallas County, Texas. October 2008. Prepared for Texas Department of Transportation Dallas District and Dannenbaum Engineering Corporation.

Archeological Investigations on CR 142 at Stinking Creek in Kent County, Texas. October 2008. Prepared for the Texas Department of Transportation Abilene District. Submitted to the Texas Historical Commission.

Archeological Investigations for Three Off-system Bridge Replacements in Scurry County, Texas. October 2008. Prepared for the Texas Department of Transportation Abilene District. Submitted to the Texas Historical Commission.

Archeological Investigations for the Proposed Deadwood Gas Well in Laguna Atascosa National Wildlife Refuge, Cameron County, Texas. October 2008. Prepared for Sanchez Oil & Gas Corporation. Submitted to Texas Historical Commission.

Archeological Assessment, SH 352 (Scyene Road) at Union Pacific Railroad between

Hatcher Street and Dixon Avenue in the City of Dallas, Dallas County, Texas. September 18, 2008. Prepared for Texas Department of Transportation Dallas District.

Archeological Survey of FM 89 at Elm Creek, Taylor County, Texas. July 2008. Prepared for Federal Highway Administration and Texas Department of Transportation Abilene District.

An Intensive Archeological Survey of US 80 at SH 352 in Dallas County, Texas. June 2008. Prepared for Texas Department of Transportation Dallas District.

Archeological Survey of Military Drive from Market Street to Arnold Boulevard in the City of Abilene, Taylor County, Texas. June 2008. Prepared for Texas Department of Transportation Abilene District.

An Intensive Archeological Survey of the Proposed Old Milwaukee Outfall Pipeline in the City of Laredo, Webb County, Texas. June 2008.

Archeological Survey for the Salado Creek Hike and Bike Trail between Houston Street and Benz-Englemen Road in the City of San Antonio, Bexar County, Texas. May 2008. Prepared for the City of San Antonio and Lockwood Andrews and Newnam.

Archeological Survey of US 277 at Fish Creek in Nolan County, Texas. May 2008. Prepared for Federal Highway Administration and Texas Department of Transportation Abilene District.

Cultural Resources Survey for Proposed Roadway Improvements on FM 775 between IH 10 and the Guadalupe/Wilson County Line, Guadalupe County, Texas. May 2008. Prepared for Texas Department of Transportation San Antonio District.

Archeological Reconnaissance Survey of Loop 494 from Sorters-McClellan Road to Just North of Kingwood Drive in the City of Kingwood, Harris and Montgomery Counties, Texas. February 2008. Prepared for Texas Department of Transportation Houston District and KBR.

An Intensive Archeological Survey of the Colombia Wastewater Treatment Plant in the City of Laredo, Webb County, Texas. January 2008. Prepared for the City Of Laredo.

2007

Archeological Investigations for Three Off-system Bridge Replacements in Fisher County, Texas. November 2007. Prepared for Texas Department of Transportation Abilene District.

An Intensive Archeological Survey for the Proposed Plover Point Boardwalk in Laguna Atascosa National Wildlife Refuge, Cameron County, Texas. November 2007. Prepared for The Friends of Laguna Atascosa and the Laguna Atascosa National Wildlife Refuge.

An Intensive Archeological Survey for a Proposed Concrete Mix Plant at 1030 Creekview Drive in the City of San Antonio, Bexar County, Texas. October 2007. Prepared for Jones & Carter, Inc., and Oldcastle APG Texas, Inc.

Archeological Assessment of a Proposed Oil Well Pad Site on the University of Texas at Arlington Campus, Tarrant County. October 4, 2007. Prepared for Carrizo Oil & Gas, Inc. Submitted to Texas Historical Commission.

Archeological Monitoring for the Tri-county Special Utility District in Falls and Limestone Counties, Texas. October 2007. Prepared for Duff Consulting Engineers and Tri-County Special Utility District.

Interim Letter Report, Archeological Survey of Eight Proposed Radio Tower Sites in Laguna Atascosa National Wildlife Refuge in Cameron County, Texas. September 13, 2007. Prepared for Texas Department of Transportation Pharr District. Submitted to the U.S. Fish and Wildlife Service.

Class III Cultural Resource Inventory for a Proposed Meteorological Tower and a 2.5-mile Off-road Access Route on Bureau of Land Management Property, Arizona Strip District, Mojave County, Arizona, Draft. September 2007. Prepared for Gamesa Energy USA and Bureau of

Land Management Arizona Strip District. Submitted to Bureau of Land Management.

Interim Report, Archeological Assessment of North Wayside Road at Halls Bayou in the City of Houston, Harris County, Texas. September 2007. Prepared for Texas Department of Transportation Environmental Affairs Division and Houston District.

Cultural Resource Investigations on IH-10 between SH 62 and the Sabine River, Orange County, Texas. August 2007. Prepared for Texas Department of Transportation Beaumont District and CH2M Hill.

An Intensive Archeological Survey for the Proposed US 87 Reliever Route in the City of LaMesa, Dawson County, Texas. August 2007. Prepared for Texas Department of Transportation Lubbock District and Parkhill, Smith, & Cooper, Inc. Submitted to Texas Department of Transportation Environmental Affairs Division.

Archeological Investigations for Roadway Widening and Bridge Replacement Construction on FM 685 between US 79 and SH 130, Williamson County, Texas. July 2007. Prepared for Texas Department of Transportation Austin District.

Archeological Testing at Site 41PK248 on the Alabama-Coushatta Indian Reservation, Polk County, Texas. June 2007. Prepared for Comstock Oil and Gas, Inc. Submitted to the Bureau of Indian Affairs, Bureau of Land Management, and Texas Historical Commission.

Archeological Investigations on Old Boyce Road at Mustang Creek in Ellis County, Texas. June 2007. Prepared for Texas Department of Transportation Dallas District.

Archeological Survey for a Proposed Bridge Replacement on US 180 at the North Prong of Hubbard Creek in the City of Albany, Shackelford County, Texas. June 2007. Prepared for Federal Highway Administration and Texas Department of Transportation Abilene District.

Archeological Survey for Proposed Roadway Improvements on FM 1641 and FM 148 in Kaufman County, Texas. June 2007. Prepared for Texas Department of Transportation Dallas District.

Archeological Investigations on CR 640 at Mulberry Creek in Taylor County, Texas. June 2007. Prepared for Federal Highway Administration and Texas Department of Transportation Abilene District.

Archeological Investigations on CR 143 at Seale Creek in Nolan County, Texas. June 2007. Prepared for Federal Highway Administration and Texas Department of Transportation Abilene District.

Archeological Investigations on US 83 at Salt Fork of the Brazos River and Stinking Creek in Stonewall County, Texas. June 2007. Prepared for Federal Highway Administration and Texas Department of Transportation Abilene District.

Cultural Resources Survey of Proposed Improvements to US 83 in Zapata and Starr Counties, Texas. May 2007. Prepared for Federal Highway Administration and Texas Department of Transportation Pharr District.

Archeological Background Review, FM 127 between US 83 and FM 2690 in Uvalde County, Texas. May 11, 2007. Prepared for Texas Department of Transportation San Antonio District.

Archeological Survey for the Proposed Bay Harbour Waterfront Community in the City of Matagorda, Matagorda County, Texas. May 2007. Prepared for Hoxie Development Ltd.

Letter to Texas Department of Transportation Environmental Affairs Division Regarding Archaeology Recommendation Associated with SH 146 Roadway Improvements in Texas City, Galveston County, Texas. April 4, 2007.

Archeological Survey on FM 1235 between Buffalo Gap and View, Taylor County, Texas. February 2007. Prepared for Texas Department of Transportation Abilene District.

Letter re recommendation that further archeological investigations are not necessary and construction should be allowed to proceed. January 11, 2007. Prepared for Texas Department of Transportation Houston District. Submitted to Texas Department of Transportation Environmental Affairs Division.

2006

Interim Report, Archeological Survey for the Proposed Colombia Wastewater Treatment Plant Expansion for the City of Laredo in Webb County, Texas. December 19, 2006. Submitted to Texas Historical Commission.

Interim Report, Cultural Resources Survey and Avoidance Measures for a Proposed 3D Seismic Exploration in the Vicinity of the Brownsville Navigation District and the Laguna Madre in Cameron County, Texas. November 3, 2006. Submitted to Texas Historical Commission.

Cultural Resource Avoidance Measures on Federal Property for the Mercedes Connection Seismic Exploration Project, Cameron and Willacy Counties, Texas. Interim Report. October 9, 2006. Prepared at the Request of the U.S. Fish & Wildlife Service. Submitted to the Texas Historical Commission.

Archeological Investigations on FM 707 at Mulberry Creek, Taylor County, Texas. September 2006. Prepared for Texas Department of Transportation Abilene District and Kimley-Horn and Associates, Inc.

Cultural Resources Survey of Twelve Proposed Ramp Locations on IH 20 and US 83/277 at FM 3438 between the Cities of Tye and Abilene, Taylor County, Texas. August 2006. Prepared for Texas Department of Transportation Abilene District and Chica & Associates, Inc., Beaumont, Texas.

A Class III Archeological Inventory of Two Proposed Well Pads on the Alabama-Coushatta Indian Reservation, Polk County, Texas. July 2006. Prepared for Comstock Oil and Gas, Inc. Submitted to the Bureau of Indian Affairs, Bureau of Land Management, and Texas Historical Commission.

Sherrin 3D Seismic Archeological Survey, Starr County, Texas. June 2006. Prepared for Weems Geophysical, Inc. Submitted to Texas Historical Commission.

An Archeological Survey of Bicentennial Park and a Proposed Hiking Trail in Sanderson, Terrell County, Texas. March 2006. Prepared for Landgraf, Crutcher and Associates, Inc., and the County of Terrell

Cultural Resource Investigations on US 277 at Valley and Spring Creeks, Taylor County, Texas. March 2006. Prepared for Kimley-Horn and Associates, Inc. and Texas Department of Transportation Abilene District.

Cultural Resource Investigations on FM 419 at Kildoogan Creek, Nolan County, Texas. March 2006. Prepared for Texas Department of Transportation Abilene District and Landtech Consultants, Inc.

Cultural Resources Survey for the Proposed El Paso Inner Loop, El Paso County, Texas. January 2006. Prepared for Texas Department of Transportation El Paso District and KBR.

Archeological Survey along State Highway 114, Denton County, Texas. January 2006. Prepared for Texas Department of Transportation Dallas District and KBR Engineering.

Prepared the cultural resources section of a Categorical Exclusion for Proposed Bridge Replacement and Roadway Improvement Construction on the SH 82 Sabine Lake Causeway, Jefferson County, Texas, and Cameron Parish, Louisiana. January 2006. Prepared for LAN and Texas Department of Transportation Beaumont District.

2005

Archaeological Impact Evaluations for Six Brazoria County Bridges: *CR 16 at Cow Creek Impact Evaluation, CR 64 at West Fork Chocolate Bayou Impact Evaluation, CR64 at Ditch Impact Evaluation, CR 65 at South Hayes Creek Impact Evaluation, CR 65 at North Hayes Creek Impact Evaluation, CR 67 at West fork Chocolate Bayou Impact Evaluation.* December

2005. Prepared for Texas Department of Transportation Houston District and KBR.

Cultural Resource Investigations for Three Off-System Bridge Replacements in Navarro County, Texas. November 2005. Prepared for Texas Department of Transportation Dallas District and KBR Engineering.

Archeological Impact Evaluations and Surveys for the Texas Department of Transportation Waco District, 2003-2005. November 2005. Prepared for Texas Department of Transportation Waco District.

Cultural Resources Survey for the Proposed El Paso Inner Loop, El Paso County, Texas, Draft. November 2005. Prepared for Texas Department of Transportation El Paso District.

Cultural Resources Potential, SH 78 from Just North of President George Bush Turnpike to Spring Creek Parkway, Dallas and Collin Counties, Texas. November 8, 2005. Prepared for Texas Department of Transportation Dallas District.

Archeological Survey of a 10.3-Kilometer Long Section of US Highway 83 Prior to Proposed Widening and Realignment Construction, Starr County, Texas. Prepared for Federal Highway Administration and Texas Department of Transportation Pharr District

Cultural Resources Background Report, RM 2243 between Leander and Georgetown, Williamson County, Texas. July 2005. Prepared for Texas Department of Transportation Austin District.

Archaeological Survey of Proposed Pflugerville Loop Improvements, City of Pflugerville, Travis County, Texas. February 2005. Prepared for HDR Engineering and the City of Pflugerville.

2004

Archaeological Survey of the AEP—LCRA North Pharr to Harlingen Substation Transmission Line Rebuild Project, Hidalgo and Cameron Counties, Texas. November 2004. Prepared for American

Electric Power and Lower Colorado River Authority.

Cultural Resource Avoidance and Mitigative Efforts at 16 Archeological Sites on the LCRA Fort Lancaster to Friend Ranch Transmission Line, Pecos, Terrell, and Crockett Counties, Texas. September 2004. Prepared for American Electric Power and Lower Colorado River Authority.

Archaeological Survey for the Proposed BSMC Unit D1 Well under the Big Sandy Creek Unit of the Big Thicket National Preserve. June 2004. Submitted to National Park Service, Big Thicket National Preserve. Prepared for Comstock Oil & Gas Corporation.

Archaeological Survey for the Proposed BSMC Unit B1 Well under the Big Sandy Creek Unit of the Big Thicket National Preserve. May 2004. Submitted to National Park Service, Big Thicket National Preserve. Prepared for Comstock Oil & Gas Corporation.

A Treatment Plan for Archaeological Data Recovery Excavations at 41HG184, Hidalgo County, Texas. May 2004. Prepared for La Joya Water Supply Corporation.

Archaeological Survey of the Proposed American Electric Power Fort Lancaster to Friend Ranch Substation Transmission Line, Pecos, Crockett, and Terrell Counties, Texas, Draft. April 2004. Prepared for American Electric Power.

Cultural Resources Survey along the Proposed Old River Pipeline, Chambers and Liberty Counties, Texas. April 2004. Prepared for Old River Gas Pipeline, LLC.

Additional Archaeological Survey for Water Lines for the City of Eagle Pass Water Works System, Maverick County, Texas. March 2004. Prepared for the City of Eagle Pass.

Archaeological Survey of the Proposed Collins #3 Well under the Big Sandy Creek Unit of the Big Thicket National Preserve. March 2004. Submitted to the National Park Service, Big

Thicket National Preserve. Prepared for Comstock Oil & Gas Corporation.

Interim Report, Archaeological Survey of US 281 at the North Bosque River, Hamilton County, Texas. March 1, 2004. Prepared for Texas Department of Transportation Waco District.

Interim Report Archeological Survey of SH 317 at Leon River. February 23, 2004. Prepared for Texas Department of Transportation Waco District.

Archaeological Survey on Exxon Road at Crystal Draw. January 2004. Prepared for Texas Department of Transportation Houston District and CH2MHILL.

2003

Archaeological Testing at 41HG177, Hidalgo County, Texas. December 2003. Prepared for La Joya Water Supply Corporation.

Archaeological Testing at 41HG184, Hidalgo County, Texas. October 2003. Prepared for La Joya Water Supply Corporation.

Archaeological Survey of the City of Pflugerville Raw Water Pipeline Right of Way. October 2003. Prepared for HDR Engineering.

Archeological Impact Evaluation, FM 930 at Plum Creek. October 2003. Prepared for Texas Department of Transportation Waco District.

2002

Archeological Survey in the North Rosillos Area of Big Bend National Park, Brewster County Texas. Unpublished Master's thesis, The University of Texas at San Antonio.

Archeological Survey of A Proposed 57-Foot Central Texas Telephone Cooperative Telecommunications Cable in Colorado Bend State Park, Lampassas and San Saba Counties, Texas. SWCA Inc., Environmental Consultants, Cultural Resource Report 01-365, Austin, Texas.

Archeological Investigations at the Los Indios, Los Tomates, and Pharr-Reynosa Border Safety Inspection Facilities, Cameron and Hidalgo

Counties, Texas. SWCA Inc., Environmental Consultants, Cultural Resource Report 02-281, Austin, Texas.

(co-author) Draft, *Archeological Data Recovery Excavations at Four Sites on the Samalayuca Natural Gas Pipeline, El Paso and Hudspeth Counties, Texas.* SWCA Inc., Environmental Consultants, Cultural Resource Report 02-288, Austin, Texas.

2001

Archeological Survey of an Access Road for the Proposed LeBrock Power Plant Site, Harrison County, Texas. SWCA Inc., Environmental Consultants, Cultural Resource Report 01-362, Austin, Texas.

Archeological Survey of a Proposed Colorado Valley Telephone Cooperative Fiber Optic Cable, Fayette County, Texas. SWCA Inc., Environmental Consultants, Cultural Resource Report 01-367, Austin, Texas.

Archeological Survey for a Bridge Replacement on FM 2504 Across Siestedero Creek, Atascosa County, Texas. SWCA Inc., Environmental Consultants, Cultural Resource Report 01-371, Austin, Texas.

Archeological Survey for a Bridge Replacement on FM 2504 at the Atascosa River, Atascosa County, Texas. SWCA Inc., Environmental Consultants, Cultural Resource Report 01-370, Austin, Texas.

Archeological Assessment of Five Prehistoric Sites within the Proposed Facilities and Engineering Plan Project Area, City of Laredo, Webb County, Texas. SWCA Inc., Environmental Consultants, Cultural Resource Report 01-359, Austin, Texas.

An Archeological Survey of the Proposed IH 35 Rest Area, Medina County, Texas. SWCA Inc., Environmental Consultants, Cultural Resource Report 01-355, Austin, Texas

An Archeological Survey of 20 Acres at 12007 North Lamar Boulevard, Austin, Travis County,

Texas. SWCA Inc., Environmental Consultants, Cultural Resource Report 01-451, Austin, Texas.

An Archeological Assessment of Portions of the 345-Acre Medway Ranch, Travis County, Texas. SWCA Inc., Environmental Consultants, Cultural Resource Report 01-360, Austin, Texas.

(co-author) *Cultural Resources Survey of the Proposed Bob Bryant Park, City of Bastrop, Bastrop County, Texas.* SWCA Inc., Environmental Consultants, Cultural Resource Report 01-356, Austin, Texas.

(co-author) *Archeological Assessment of the Proposed La Cantera Project Area, Bexar County, Texas.* SWCA Inc., Environmental Consultants, Cultural Resource Report 01-249, Austin, Texas.

(co-author) *A Phase I/II Cultural Resource Survey of Portions of 16TR5, The Gibson Mounds Site, Terrebonne Parish, Louisiana.* SWCA Inc., Environmental Consultants, Cultural Resource Report 01-372, Austin, Texas.

(co-author) *Cultural Resource Survey of the KPP Supply Company Project, Pittsburg County, Oklahoma.* SWCA Inc., Environmental Consultants, Cultural Resource Report 01-364, Austin, Texas.

2000

Center for Big Bend Studies Seventh Annual Conference, Sul Ross State University, Alpine, Texas. Presentation concerning Master's thesis research in Big Bend National Park, Brewster County, Texas.

Results of Archeological Investigations for the Proposed Sugarland Ranch Levee Project, Fort Bend County, Texas. SWCA Inc., Environmental Consultants, Archeological Report 00-124, Austin, Texas.

Archeological Survey of the Proposed Level (3) Communications, Inc. Fiber Optic Cable Right-of-Way in Twelve Arkansas Counties. Draft. SWCA Inc., Environmental Consultants, Archeological Report 99-64, Austin, Texas.

Archeological Monitoring and Geomorphic Assessment of the Proposed PEMEX Interconnect Pipeline, Hidalgo County, Texas. SWCA Inc., Environmental Consultants, Archeological Report 99-66, Austin, Texas.

1998

Southern Texas Archeological Association Fall 1998 Meeting. Presentation discussing results of preliminary archeological survey and test excavations in Gilliland Canyon, Glass Mountains, Brewster County, Texas.

Center for Big Bend Studies Fifth Annual Conference, Sul Ross State University, Alpine, Texas. Presentation concerning hunter-gatherer occupation of Gilliland Canyon, Glass Mountains, Brewster County, Texas.

1997

Results of an Archeological Assessment of Sites 41TV126, 41TV1000, and 41TV1331 on the Proposed Walnut Park Crossing, Travis County, Texas. SWCA Inc., Environmental Consultants, Archeological Report 97-69, Austin, Texas.

City of Rio Bravo Wastewater System Project, Webb County, Texas. SWCA Inc., Environmental Consultants, Archeological Report 97-70, Austin, Texas.

1996

Archeological Survey of the Proposed 130-Mile MIDTEXAS Lavaca, Colorado, Austin, and, Waller Counties, Texas. SWCA Inc., Environmental Consultants, Archeological Report 95-154, Austin, Texas. *Pipeline, Gonzales, Dewitt.*

TIMOTHY B. GRIFFITH, M.A. RPA**Education**

Ph.D., Anthropology, University of Kansas, (ABD).

M.A. Anthropology (Minor in Geology), University of Alabama, 2001.

B.A., Anthropology (Minor Geology), University of Alabama at Birmingham, 1995.

Professional Organizations:

Society for American Archaeology
American Society of Oriental Research
Register of Professional Archaeologist

Professional Experience (Selected Projects)

Mr. Griffith's research interests include archaeology and geography of the Near and Middle East; southeast and southwest U.S. prehistory; human adaptation; environmental studies; Mesoamerican prehistory; zooarchaeology and geoarchaeology; cultural geography, forensic anthropology; paleontology; ethnography, ethnoarchaeology; quantitative and computer applications; mortuary analysis.

2012 to present

Principal Investigator/Archeologist, Blanton & Associates, Inc. Mr. Griffith conducts archeological survey, excavation, research, and analysis projects and produces oral and written reports. Mr. Griffith is very familiar with local, state, and federal preservation laws, including recommendations and guidelines from the Texas Historical Commission and the Council of Texas Archeologists.

2003-2012

Staff Archeologist, Prewitt and Associates, Inc. Austin Texas. As Project Archeologist was responsible for Conducting and supervising Cultural Resources Surveys and Testing projects throughout the state of Texas. Oversaw all the procedures of field investigations. Responsible for computer mapping of archaeological sites. Maintained all records pertaining to excavation.

Responsible for conducting and preparing reports concerning Cultural Resource Management surveys, testing projects, and data recoveries on pre-historic and historic sites. Supervised crew members during field work. Served as Project Archeologist, General Service Contracts, for the Texas Department of Transportation. Responsible for coordinating with both local and district TxDOT representatives to ensure the timely and effective completion of a series of work orders involving impact evaluations, archeological surveys, and geomorphological evaluations. Also served as Principal Investigator on several archeological projects, including TxDOT Environmental Affairs Division archeological projects.

1998 to present

Zooarchaeologist and Geoarchaeologist, the Tell Madaba Archaeological Project directed by The University of Toronto. Established field laboratory for faunal analysis. Supervised lab assistants. Conducted geo-archaeological research on the site. Initiated an ethnographic research on neighboring Bedouin villages.

2000

Assistant Director of the MOAB Archaeological Resource Survey in Jordan. Responsible for surveying and computer mapping and GIS analysis of four archaeological tell sites. Directed all aspects of field survey, archaeological and geographical, at Tell Libb. Submitted final report to Jordan Department of Antiquities.

1999

Data Recovery Excavations at 41TV441/Travis County, Texas. Served as Project Archeologist for intensive testing and data recovery excavations at a prehistoric site. Participated in the various phases of the project, including fieldwork, analysis, and production of the report detailing the results of investigations at the site.

1999 to 2002

Project Archaeologist, Hicks & Company Environmental Consultants. Responsible for Conducting and supervising Cultural Resources surveys, testing projects, and data recoveries throughout the state of Texas. Supervised all the procedures of field investigations. Responsible for computer mapping of archaeological sites. Maintain all records pertaining to excavation. Responsible for conducting and preparing reports detailing all archeological projects on pre-historic and historic sites. Document and contribute to the preservation of pre-historic and historic archaeological sites.

1998 and 1999

Field Director-Project Archaeologist of Moody Burial Site excavation located in Moody, Alabama. Responsible for the field direction/Project archaeologist and management of Woodland Indian burial site including osteological analysis (dates: 500AD-1000AD).

Archaeological Consultant, Sullivan Development Company in Birmingham, Alabama. Consulted on field projects in areas considered archaeologically sensitive to assure maximum effort in Cultural Resources Management.

1994 to 1999

Field Director-Project Archaeologist and Crew Chief at the University of Alabama at Birmingham Anthropology Laboratory. Conduct and supervise archaeological excavations. Coordinate and manage all crew members involved with the excavation. Oversee all the procedures of field excavation. Responsible for computer mapping of archaeological sites. Responsible for conducting and preparing reports detailing Cultural Resource Management Surveys on pre-historic and historic sites. Supervise crew members in locating cultural material. Document and contribute to the preservation of pre-historic and historic archaeological sites.

1995 to 1997

Forensic Anthropology Laboratory Assistant at the University of Alabama at Birmingham. Assist in the identification and analysis of human skeletal remains for legal purposes. Conduct

identification, measurements, and descriptions of skeletal parts.

1994 to 1999

Archaeological and Anthropological Lecturer, University of Alabama at Birmingham Anthropology Laboratory. Organized and conducted presentations for elementary, middle, and high schools. Provided an overall view of the many facets of anthropology including archaeological methods, conservation of sites and cultural sensitivity.

1993 to 1999

Research Assistant, University of Alabama at Birmingham Faunal laboratory. Responsible for the identification, registration and recording of faunal remains from various sites throughout Israel including *Tel Beth-Shemesh*, *Tel Hamid* and *Tel Dan*.

1997

Field Director, Briarfield Iron Works Excavations in Briarfield Alabama for the University of Alabama at Birmingham. Supervised the excavation of Civil War Era Iron Industry site. Responsible for all aspect of the excavation including mapping and generating computer data files for analysis. Supervised 10 member field crew.

1996

Zooarchaeologist, Geoarchaeologist, and Staff Archaeologist, Israel Antiquities Authority. Established field laboratory for faunal remains analysis. Conducted geo-archaeological sample collection at excavation. Participated in field analysis of ceramics recovered. Analyzed stone tool artifacts at the excavation. Responsible for researching and writing a publishable report on faunal remains and geo-archaeology of Tel Hamid.

1993

Field Crew Member, Sloss Furnaces Worker Houses excavations for the University of Alabama at Birmingham.

Field Supervisor, The Mahan Homestead Project for the University of Alabama at Birmingham. Supervised all aspects of

archaeological excavation of early 19th century dogtrot homestead site in Montevallo, Alabama. Responsible for all field notes recorded during the project. Monitored all work performed by crew members. Responsible for mapping the site using a total station mapping instrument and PACSOFT engineering programs. Integrated computer techniques with field methods to conduct interpretations of the site.

1992 Summer

Student Volunteer, University of Alabama Dusk Cave Excavations. Duties included excavating in two meter squares of prehistoric cave site. Responsible for collecting, sorting and recording artifacts recovered. Maintained field journal for the duration of the excavation.

Publications and Presentations

In review Faunal Analysis at Tel Hamid. Submitted as chapter 5 to the Israeli Antiquities Authority for inclusion in the publication *The Excavations at Tel Hamid*.

Archeological Monitoring of Emergency Streambed Remediation Work at Acequia Park, San Antonio, Texas. August 2014. Prepared for W&M Environmental Group.

Addendum Report, Supplemental Cultural Resources Survey Investigations along the Red Gate Pipeline from the Previously Surveyed Red Gate Power Plant in Hidalgo County, Texas. July 2014. Prepared for South Texas Electric Cooperative, Inc.

A Phase I Archaeological Survey for an Additional Portion of the Proposed Hoopston Wind Project, Vermilion County, Illinois. June 2014. Prepared for Apex Clean Energy Holdings, LLC. Submitted to Illinois Historic Preservation Agency.

Archeological Assessment, ExxonMobil Pipeline Company's Adjustment of the Existing Baytown-to-Irving Pipeline Prior to TxDOT's Proposed Improvements to Tifco Road, Harris County, Texas. February 26, 2014. Prepared for ExxonMobil Pipeline Company.

Phase I Cultural Resources Investigations, Arrowhead Utica Pipeline, L.P. Project, Columbiana County, Ohio. January 2014. Prepared for Harvest Pipeline Company. Prepared with Westwood Professional Services and Weller & Associates. Submitted to the United States Army Corps of Engineers, Pittsburgh District.

Cultural Resources Survey of the 39.80 Miles of the Proposed Asherton Pipeline in Dimmitt and LaSalle Counties, Texas. December 2013. Prepared for Westwood Professional Services, Inc.

Cultural Resources Constraints Analysis for the Proposed Ramsey Wooley Pipeline Project in Columbiana County, Ohio. December 10, 2013. Prepared for Westwood Professional Services, Inc.

Cultural Resources Investigations for the Alazan Acequia (41BX620) and Historical Resources Survey for the Westside Multi-Modal Transit Center Phase 2 Project, San Antonio, Texas. November 2013. Prepared for HTNB and Via Metropolitan Transit.

Addendum Report for Intensive Archeological Survey of the Proposed Center Point Wastewater Lines and Interceptor in Center Point and Comfort, Kerr and Kendall Counties, Texas. November 2013. Prepared for Kerr County, Texas, and Tetra Tech.

Summary of Field Investigations, Intensive Survey at 41BX620 (Alazan Acequia) within the Westside Multi-Modal Transit Center Proposed Facility. October 30, 2013. Prepared for HTNB and Via Metropolitan Transit.

Archeological Survey of Portions of the Indigo Minerals Logansport Pipeline in DeSoto Parish, Louisiana. July 2013. Prepared for Enterprise Products Operating LLC. Submitted to U.S. Army Corps of Engineers Fort Worth District.

Addendum Report, Archeological Survey Investigations of Portions of the ATEX Express Pipeline Project (Spread 6), Alternate Route in Liberty County, Texas. June 2013. Prepared for

Enterprise Liquids Pipeline Company LLC. Submitted to U.S. Army Corps of Engineers Galveston District.

Archeological Survey of Portions of Seaway Crude Pipeline Company LLC's Proposed Seaway Loop Project—Segment 7 in Jefferson, Liberty, and Chambers Counties, Texas. June 2013. Prepared for Enterprise Crude Pipeline LLC on behalf of Seaway Crude Pipeline Company LLC. Submitted to U.S. Army Corps of Engineers Galveston District.

Archeological Survey of Portions of Enterprise Crude Pipeline LLC's Proposed Seaway Loop – Echo To Mont Belvieu Pipeline Project, Harris And Chambers Counties, Texas. May 2013. Prepared for Enterprise Crude Pipeline LLC. Submitted to U.S. Army Corps of Engineers, Galveston District.

Intensive Archeological Survey of Proposed North and South Backage Roads, Haltom City, Tarrant County, Texas. March 2013. Prepared for Haltom City.

Intensive Archeological Survey, CR 246 at Clear Fork Brazos River, Fisher County, Texas. February 2013. Prepared for Texas Department of Transportation Abilene District.

Intensive Archeological Survey of Proposed Improvements to County Road 258 from Sunset Ridge to Ronald Reagan Boulevard in Williamson County, Texas. October 2012. Prepared for Williamson County, Texas.

2012 Archeological and Historical Resources Surveys of 2,144 acres in the Proposed Marshall Mine, Harrison and Panola Counties, Texas. Reports of Investigations, Number 163. Prewitt and Associates, Inc. With Ross C. Fields, Stephanie L. Katauskas, and Amy E. Dase.

2012 Archeological Survey of Proposed Multi-Use Camping Area and Nearby Facilities at Galveston Island State Park, Galveston County, Texas. Letter Report No. 845. Prewitt and Associates, Inc. With Ross C. Fields.

2011 Archeological and Historic Resources Survey on East Houston Street from AT&T Parkway to Interstate Highway 10, City of San Antonio, Bexar County, Texas (CSJ 0915- 12-481). Letter Report No. 821. Prewitt and Associates, Inc. With Stephanie L. Katauskas and Karl Kibler.

2010 National Register Testing at 41BQ285, Bosque County, Texas: FM 56 Bridge Replacement at the North Bosque River. Reports of Investigations, No. 160. Prewitt and Associates, Inc., Austin, Texas. With Karl W. Kibler, and Douglas K. Boyd.

2008 Archeological Survey of a Section of the Proposed Brazos Riverwalk Trail at the Texas Ranger Hall of Fame and Museum in Waco, McLennan County, Texas. Letter Report No. 796. Prewitt and Associates, Inc. With Doug Boyd.

2008 Test Excavations at 41WS56, Wise County, Texas. Technical Reports, Number 81. Prewitt and Associates, Inc. With Doug Boyd and Karl Kibler.

2008 Faunal Analysis (Vertebrate) for 41TA268. Preliminary faunal report submitted to McCulluch Archeological Service, LLC.

2007 Archeological Survey of Property Slated for Possible Development by the Hutto Independent School District for the Hutto Elementary No. 5 School, Williamson County, Texas.

2006 National Register Testing at 41SV153, Somervell County, Texas. Technical Report No. 75. Prewitt and Associates Inc., Austin Texas. With Douglas K. Boyd,

2005 Archeological Impact Evaluations and Surveys in the Texas Department of Transportation's Corpus Christi, Laredo, Pharr, and San Antonio Districts, 2003-2005. Report of Investigations. No. 144. Prewitt and Associates Inc., Austin Texas. With Ross C. Fields, E. Frances Gadus, and Karl W. Kibler.

2005 Test Excavations at 41BL1214, Bell County Texas: State Highway 95 Bridge Replacement at the Little River. Technical

Report No. 74 Prewitt and Associates, Inc., Austin Texas. With Karl Kibler

2003 The Tall Madaba Archaeological Project; Preliminary Report of the 1998-2000 Field Seasons. *Annual of the Department of Antiquities of Jordan* 47: 129-48. With Harrison, T.P., Foran, D., Graham, A., Barlow, C., and J. Ferguson,

2001 *The Basin and Range Province: Continuing Intensive Survey of Indian Mesa I & II*. With James Karbula and Jonathan Jarvis. Submitted to the U.S. Army Corp of Engineers and the Texas Historical Commission.

2001 Changing Perspectives on the Toyah: Data Recovery Investigations of 41TV441, The Toyah Bluff Site Travis County, Texas. Submitted to Travis County Transportation Natural Resources Division. With James Karbula and Rachel Feit. .

2001 Results of the Cultural Resource Investigations for the Colvin Oil Well # 1. Hicks & Company, Austin. With Rachel Feit.

2000 *The Basin and Range Province: Intensive Survey of Indian Mesa I & II*. With James Karbula and John Andrew Moreman. Submitted to the U.S. Army Corp of Engineers and the Texas Historical Commission. August

2000 The MOAB Archaeological Resource Survey: Shifting Settlement Patterns in the Central Highlands of Jordan; Report on the 2000 Field Season. With Stephen H. Savage. Report submitted to the Jordanian Department of Antiquities published in the *Annual of the Department of Antiquities of Jordan*.

1999 *Faunal Remains from Tel Hamid: A Preliminary Report*. With Brian C. Hesse. Submitted to the Israel Antiquities Authority.

1998 *A Phase I Cultural Resources Assessment of the Proposed Bridge Replacement on Rocky Ridge Road Over Little Shades Creek, Jefferson County, Alabama*. For the Jefferson County Commission, Department of Roads and Transportation, Jefferson County, Alabama.

1998 *A Phase I Cultural Resources Assessment of the Town of Cherokee Proposed Water Tank and Access Road in Colbert County*. The University of Alabama at Birmingham Anthropology Laboratory. For Professional Services Industries, Incorporated.

1997 *Animal Husbandry in the Early Iron Age at Tel Beth Shemesh*. Report submitted to Z. Lederman and S. Bunimovitz, Tel Beth Shemesh Project. With Brian C. Hesse and Emmett Brown.

1997 *A Cultural Resources Assessment of the Gilmore Property, Pinson Valley Alabama*. The University of Alabama at Birmingham Anthropology Laboratory. With Jack R. Bergstresser and Caryn Y. Hollingsworth. For the Community Development Department of the City of Birmingham, Alabama.

1997 *A Phase I Cultural Resources Assessment of the Bridge Replacement on Johns Road Over Valley Creek (JCP 37-36-96)*. The University of Alabama at Birmingham Anthropology Laboratory. With Jack R. Bergstresser for The Jefferson County Road Commission.

1996 *Enhancing the Focus of an Archaeological Site Using Computer Methods: The Mahan Homestead Project* presented to the Alabama Archaeological Society: December, 1996.

1996 *Cultural Resources Assessment of the Proposed Town of Cherokee Water Treatment Plant, in Colbert County*. The University of Alabama at Birmingham Anthropology Laboratory With Caryn Y. Hollingsworth for Nelson and Company.

1996 *A Cultural Resources Assessment of the Proposed Town of Cherokee Water Tank, in Colbert County*. The University of Alabama at Birmingham Anthropology Laboratory. With Caryn Y. Hollingsworth for Nelson and Company.

1996 *A Phase I Cultural Resources Assessment of the Byrd Bearing Tract in Jefferson County, Alabama* for Southern Natural Gas. The University of Alabama at Birmingham

Anthropology Laboratory. With Jack R. Bergstresser.

1996 *Archaeological Investigations of the Pipeline Replacement Corridor in Talladega*

County, Alabama. The University of Alabama at Birmingham Anthropology Laboratory. With Jack R. Bergstresser. For Southern Natural Gas.

DEBRA L. BEENE, M.A. RPA

Education

M.A., Anthropology, The University of Texas at Austin, 1994

B.F.A., Studio Art, The University of Texas at Austin, 1985

University of Texas at San Antonio Archeological Field School, Hondo Ranch, Texas, 1987

Professional Affiliations

Register of Professional Archeologists
Society for American Archaeology
Council for Texas Archeologists
Texas Archeological Society
American Rockart Research Association

Professional Experience

Professional archeologist with more than twelve years of field, laboratory, and report writing experience, fifteen years' experience in reviewing state and federal preservation regulations and ten years in public outreach, education, and training. Although mostly focused on prehistoric archeology, emphasizing Archaic and early Prehistoric hunter-gatherer adaptations in desert environments, conducted archeological research throughout Texas. This experience included: the conduct and supervision of all phases of archeological research and field investigations, collaboration on public outreach and educational heritage programs, supervision of historical research and collection of oral histories, supervision of the Texas Antiquities Code and Section 106 review process as defined by the National Historic Preservation Act, the development of historical contexts for National Register nominations, and the development of Cultural Resource Management Plans.

Other professional experience includes:

- Visiting lecturer on the Rock Art of Texas Indians, Austin College's field program, three seasons, 1992, 1994, 1998
- Consultant/principal investigator for multi-disciplined heritage program for gifted and talented 4th graders, Sherman ISD, Texas Council for the Humanities grant, 2000
- Team leader for volunteer rock art recording projects in state parks and on private property, Rock Art Task Force & Texas Parks & Wildlife Department, 1993-1994
- Consultant on the Texas-Mexican Border Interdisciplinary Event, Austin College, 2001
- Developed and conducted the Texas Historical Commission's Avocational Archeologist Field Training Camp at Sanderson, 2001
- Block supervisor and instructor for Texas Archeological Field Schools, all ages, 1996, 1999, 2000, and 2011 field seasons
- Presenter/speaker at Texas Recreation and Parks Society annual conference, 1999 and 2000
- Presenter/speaker at Texas Parks and Wildlife Department's annual conference, 1998 and 1999

Blanton & Associates, Inc., 2012 to present

Principal Investigator/Archeologist: upon employment, completed the write up of outstanding projects for publication. The main duty remains writing reports, research designs, and environmental impact studies; preparing permit applications and back-ground and constraints studies; organizing and conducting field investigations, analyses, and report preparation along with preparing and submitting collections for curation. Participated in or was in

charge of numerous archeological proposals or investigations of various types throughout Texas, Louisiana, Illinois, and California.

Texas Historical Commission, 1996 to 2012

Archeologist III, Review and Compliance, and Trans-Pecos Regional Archeologist: work was divided between federal and state regulatory review and public assistance/outreach. Reviewed compliance projects for, but not limited to, the Federal Energy Regulatory Commission, Environmental Protection Agency, USDA-Rural Development and Rural Utilities Service, Border Patrol/Customs/Homeland Security, US Corps of Engineers, International Boundary and Water Commission, Bureau of Land Management, Air Force, Fort Bliss Military Reservation, Texas Parks and Wildlife Department, Texas Department of Criminal Justice, Adjutant General's Office, General Land Office, and the National Park Service. Coordinated with private companies, public agencies, and public officials to insure successful completion of Section 106, Section 110, and Texas Antiquities Code compliance projects in a timely manner while protecting and preserving significant cultural resource sites. Duties included guidance/problem solving when inadvertent discoveries, construction impacts to known significant archeological sites, including burials, and after-the-fact and inadequate investigations occurred. As a regional archeologist, worked with private landowners, interested public, and city governments to identify, preserve, and protect important cultural resources; and spoke to public groups including schools, history associations, archeological societies, and many other community groups on the importance of understanding our collective cultural past. Participated in public education programs and spoke at conferences on issues of the protection and advantages of heritage tourism and cultural resource management.

Board Member: successfully wrote grants for educational programming and facility improvements for the historic hot springs complex that has been open to the public since 1897.

Chinati Hot Springs, Inc. 2001 to 2004

Board Member: successfully wrote grants for educational programming and facility improvements for the historic hot springs complex that has been open to the public since 1897.

Chinati Hot Springs, Inc. 2000 to 2001

Interim Executive Director for the newly formed non-profit, Chinati Hot Springs, Inc.: created a board of directors, co-authored a grant to fund a full time executive director position, and successfully wrote grants for historical assessments and trail development at the hot springs.

Geo-Marine, Inc., 1994 to 1996

Project Archeologist/Team Member: responsible for coordinating and directing archeological field investigations, data collection, analysis, and writing reports. This work included all levels of archeological investigation: intensive and reconnaissance surveys, site evaluations, monitoring, and NRHP/SAL testing and mitigation. Participated in or was in charge of numerous archeological investigations of various types throughout Texas, Oklahoma, Kansas, and California. Sample projects include the White Oak Creek Mitigation Area Project, Lake Texoma and Wister Lake Historic Properties Management Plans, Camp Bullis Survey Report, Wise County Pipeline Survey Report, Hutchinson County Pipeline Survey Report, and the Areas XIII and XIV of the Red River Chloride Control Project Survey and Report.

Espey, Houston & Associates, Inc. 1994

Project Archeologist: directed intensive survey, site recordation and assessment, mapping, and analysis of cultural resources for the Delaware Mountains Wind Energy Project. Included follow-up field visits and meetings to coordinate with/advise clients how to quickly and efficiently mitigate construction impacts to significant archeological sites.

Texas Parks and Wildlife Department and the Office of the State Archeologist 1991-1994

Principal Investigator: planned and directed survey and testing investigations for Las Cuevas Amarillas Project in Presidio County, Texas. Supervised between 20 and 100 field personnel and volunteers for the testing phase of this important prehistoric site; conducted research and analysis, artifact curation, and prepared the report.

University of Texas at Austin Classics Department 1993-1994**Social Sciences/Humanities Research**

Assistant II: worked with a team to produce illustrations for "The Pantanello Necropolis" publication project (Southern Italy).

Austin College, Sherman, Texas 1992, 1994, 1998 January Terms

Visiting Lecturer: lectured for the Art Department on the Rock Art of Ancient Texans.

Prewitt and Associates, Inc. 1991

Crew Member: responsible for assisting in the mitigation of a Late Prehistoric site in Kent County on the Justiceburg Reservoir Project (Central Texas).

Courson Oil and Gas and the Office of the State Archeologist/Texas Historical Commission 1991

Project Archeologist/Crew Chief: performed intensive survey, site recordation, and mapping for the Canadian River Breaks Paleindian Project that covered various counties of the Texas Panhandle.

Texas Parks and Wildlife Department Lab Assistant 1989-1991

Project Archeologist/Crew Chief: performed various duties associated with broad spectrum surveys of the Big Bend Ranch State Natural Area (now titled Big Bend Ranch State Park) in Presidio and Brewster Counties (Trans-Pecos). Performed various duties associated with

recording rock art for the Seminole Canyon State Historical Park Archaeology Program in Val Verde County (Lower Pecos). Responsible for surveying and recording archeological sites within the Chaparral Wildlife Management Area, Dimmit and La Salle Counties (South Texas). Assisted in the mitigation of a prehistoric site within the North Toledo Bend Wildlife Management Area (Northeast Texas). Participated in the testing of prehistoric sites in Kimble County and in the South Llano River State Park (Central Texas). Assisted in the survey and recordation of sites within the Colorado Bend State Park (Central Texas).

All American Pipeline Laboratory Project 1990

Lab Member: responsible for the analysis, inventory, and curation of artifacts found along the pipeline right of way.

National Park Service Amistad National Recreation Area 1989

Seasonal Archeologist: conducted survey and monitoring of prehistoric sites, prepared reports, organized and cataloged collections, and developed public programs in Val Verde County (Lower Pecos).

Publications and Presentations

in preparation. *Texas-Oklahoma Passenger Rail Study*, Archeological Prehistoric Cultural Resources Technical Study and EIS. Prepared for FRR and Texas Department of Transportation Environmental Affairs Division.

2014. Debra L. Beene. *Intensive Archeological Survey of the Proposed IH 35 Underpass at Bud Stockton Loop/CR 313 Williamson County, Texas*. January 2014. Prepared for Texas Department of Transportation Environmental Affairs Division. Submitted to Texas Historical Commission.

2013-2014: Peer Review by Debra L. Beene and Brandon Young. *Results of Archeological Survey of the Proposed Hidalgo Loop Sections A and C, the International Bridge Trade Corridor, and State Highway 365 Projects Hidalgo*

County, Texas. Prepared for Atkins, Austin, Texas.

2013-2014: Archeological Background and Constraints Studies available upon request. Sample: *Loop 1604 from Culebra Road (FM 471) to Bandera Road (SH 16, Bexar County, Texas; IH 35 CAIP Implementation Plan, Central Texas; CR 519 at Kings Branch, Johnson County, Texas; FM 1567 over Running Creek, Hopkins County, Texas; FM 2653 at White Oak Creek, Hopkins County, Texas; CR 156 over Old West Main Drain, Willacy County, Texas; CR 246 at Clear Fork Brazos River, Fisher County, Texas; CR 390 at Black Branch, Fannin County, Texas; CR 239 at North Sulphur River, Fannin County, Texas; Los Ebanos Road over Mission Bridge Pilot Channel, Hidalgo County, Texas; Business State Highway (BS) 7-B over Goodwin Branch, Falls County, Texas; CR 442 at Coffee Mill Creek, Fannin County, Texas; SP 557 from FM 148 to IH 20 and IH 20 from FM 148 to SP 557, Kaufman County, Texas; Las Milpas Road at South Floodway Channel, Hidalgo County, Texas; Flecha Lane - Las Cruces Drive Realignment, Webb County, Texas; Cambridge Street at IH 610 South, Harris County, Texas; CR 252 at Honey Grove Creek, Fannin County, Texas; CR 491 at Saunders Creek, Fannin County, Texas; State Highway 288 Direct Connectors to the Texas Medical Center Area, Harris County, Texas; IH 20 Frontage Road from east of Lamesa Road to east of State Highway 158, Midland County, Texas; and Kornegay Road at Drainage Ditch, Cameron County, Texas.*

2013. Debra L. Beene. *Intensive Archeological Survey of FM 47 at Sabine River, Rains and Van Zandt Counties, Texas.* March 2013. Prepared for Texas Department of Transportation Environmental Affairs Division. Submitted to Texas Historical Commission.

2013. Debra L. Beene. *Intensive Archeological Survey of CR 322 at the Clear Fork Brazos River Crossing, Fisher County, Texas.* February 2013. Prepared for Texas Department of Transportation Environmental Affairs Division. Submitted to Texas Historical Commission.

DEBRA L. BEENE, BLANTON & ASSOCIATES, INC., PAGE 4

2013. Debra L. Beene. *Intensive Archeological Survey of Double Culvert Road at Donahoe Creek, Waller County, Texas.* September 2013. Prepared for Texas Department of Transportation Environmental Affairs Division. Submitted to Texas Historical Commission.

2013. Debra L. Beene. *Intensive Archeological Survey of Proposed Improvements to Dacus Johnson Road over Lake Creek in Montgomery County, Texas.* October 2013. Prepared for Texas Department of Transportation Environmental Affairs Division. Submitted to Texas Historical Commission.

2013. Timothy Griffith, Joseph Sanchez, and Debra L. Beene. *Addendum Report, Archeological Survey Investigations of Portions of the ATEX Express Pipeline Project (Spread 6), Alternate Route in Liberty County, Texas.* June 2013. Prepared for Enterprise Liquids Pipeline Company LLC. Submitted to U.S. Army Corps of Engineers Galveston District.

2013. Timothy Griffith, Joseph Sanchez, and Debra L. Beene. *Archeological Survey of Portions of Seaway Crude Pipeline Company LLC's Proposed Seaway Loop Project—Segment 7 in Jefferson, Liberty, and Chambers Counties, Texas.* June 2013. Prepared for Enterprise Crude Pipeline LLC on behalf of Seaway Crude Pipeline Company LLC. Submitted to U.S. Army Corps of Engineers Galveston District.

2013. Brandon Young and Debra L. Beene. *Archeological Investigations for Chamisa CAES at Tulia LLC.* April 2013. Prepared for Chamisa CAES at Tulia LLC.

2013. Brandon Young and Debra L. Beene. *Intensive Archeological Survey of Proposed North and South Backage Roads, Haltom City, Tarrant County, Texas.* March 2013. Prepared for Haltom City.

2013. Brandon Young, Joseph Sanchez, and Debra L. Beene. *Archeological Data Recovery at Prehistoric Sites 41VV2012 and 41VV2013 in the Del Rio Outer Loop, Val Verde County, Texas.* March 2013. Prepared for Val Verde County and Pate Transportation Partners, LP.

Submitted to Texas Department of Transportation Environmental Affairs Division.

2013. Debra L. Beene. *Intensive Archeological Survey of Proposed Improvements to CR 519 at King Branch, Johnson County, Texas*. February 2013. Prepared for Texas Department of Transportation Environmental Affairs Division. Submitted to Texas Historical Commission.

2013. Debra L. Beene. *Intensive Archeological Survey, CR 322 at Clear Fork Brazos River, Fisher County, Texas*. February 2013. Prepared for Texas Department of Transportation Abilene District.

2013. Debra L. Beene. *Archeological Survey of the Proposed Red Gate Power Plant, Hidalgo County, Texas*. February 2013. Prepared for South Texas Electric Cooperative, Inc.

2012. Brandon Young and Debra L. Beene. *Intensive Archeological Survey of Proposed Improvements to County Road 258 from Sunset Ridge to Ronald Reagan Boulevard in Williamson County, Texas*. October 2012. Prepared for Williamson County, Texas.

1996. Largent, Floyd B., Debra L. Beene, Maynard B. Cliff, and Steven M. Hunt. *Cultural Resources Testing of Two Sites within the White Oak Creek Wildlife Management Area (WOCMA), Bowie and Titus Counties, Texas*. White Oak Creek Wildlife Management Area Archeological Technical Series, Report of Investigations No. 6. Geo-Marine, Inc., Plano, Texas.

1996. Debra L. Beene and Floyd B. Largent. *Cultural Resources Testing of Two Sites within the White Oak Creek Wildlife Management Area (WOCMA), Bowie and Titus Counties, Texas*. CRM News and Views 8 (2), Texas Historical Commission, Austin.

1996 Debra L. Beene and Johanna L. Buysse. *Cultural Resources Survey and Relocation of Resources along the Proposed Security Fenceline at Camp Bullis Military Reservation, Bexar County, Texas*. Miscellaneous Report of

DEBRA L. BEENE, BLANTON & ASSOCIATES, INC., PAGE 5

Investigations No. 124. Geo-Marine, Inc. Plano, Texas

1996. Debra L. Beene. *Cultural Resources Survey of 2.8 Miles of Proposed Pipeline within the L.B.J. National Grassland and Adjoining Areas, Wise County, Texas*. Miscellaneous Report of Investigations No. 127. Geo-Marine, Inc., Plano, Texas.

1996. Debra L. Beene. *Lake Texoma Historic Properties Management Plan*. Geo-Marine, Inc. Plano, Texas.

1996. Debra L. Beene. *Wister Lake Historic Properties Management Plan*. Geo-Marine, Inc. Plano, Texas.

1996. Kellie A. Krapf and Debra L. Beene. *Cultural Resources Survey of 2.54 Miles of Proposed Pipeline in Hutchinson County, Texas*. Miscellaneous Report of Investigations No. 131. Geo-Marine, Inc., Plano, Texas.

1996. Debra L. Beene. *Cultural Resources Survey of 2.54 Miles of Proposed Pipeline within the L.B.J. National Grassland and Adjoining Areas, Wise County, Texas*. Miscellaneous Report of Investigations No. 20. Geo-Marine, Inc., Plano, Texas.

1995. Debra L. Beene. *Cultural Resources Survey of 1.8 Miles of Proposed Pipeline in Texas County, Texas*. Letter Report No. 18, Geo-Marine, Inc., Plano, Texas.

1995. Debra L. Beene. *Cultural Resources Survey of Eighteen Miles of Proposed Pipeline in Hutchinson County, Texas*. Miscellaneous Report of Investigations No. 109. Geo-Marine, Inc., Plano, Texas.

1995. Debra L. Beene. *Cultural Resources Survey of Areas XIII and XIV of the Red River Chloride Control Project, Childress County, Texas*. Miscellaneous Report of Investigations No. 119. Geo-Marine, Inc., Plano, Texas.

1994. Debra L. Beene. *Test Excavations at the Cuevas Amarillas Site, 41PS201, Big Bend Ranch State Natural Area, Presidio County,*

Texas. Thesis presented to the University of Texas at Austin

1993. Debra L. Beene. *Test Excavations at the Cuevas Amarillas Site, 41PS201, Big Bend Ranch State Natural Area, Presidio County, Texas*. Paper presented at the Annual Meeting of the Texas Archeological Society, Corpus Christi, Texas.

1992. Debra L. Beene. *Test Excavations at the Cuevas Amarillas Site, 41PS201, Big Bend Ranch State Natural Area, Presidio County, Texas*. APR News and Views 4(1), Texas Historical Commission, Austin.

JOSEPH M. SANCHEZ**Education**

B.A., Anthropology, University of Texas at Austin, 1984.

Continuing Education

Habitat Management Planning, August 2004

GIS Introduction for Conservation Professionals
June 2002

Non-game Species Survey Techniques June 2001

Shorebird Ecology and Management April 2001

Professional Experience

Mr. Sanchez has worked as a professional archeologist for more than 23 years accumulating extensive hands-on field and managerial experience. As a project archeologist, he has participated in and overseen the day-to-day field operations on more than 100 successfully completed projects. He has authored and/or co-authored more than 30 technical reports.

Areas of expertise include:

- All phases of survey, testing and mitigation
- Soil documentation and profiling
- Use of heavy machinery (back-hoe, track-hoe, grade-all) within an archaeological context
- Lithic analysis
- Mapping and site documentation
- Field photography
- Management of field personnel

Blanton & Associates, Inc., 2006 to Present

Project Archeologist. Mr. Sanchez conducts archeological survey, excavation, research, and analysis projects and produces oral and written reports. Mr. Sanchez is very familiar with local, state, and federal preservation laws, including recommendations and guidelines from the Texas Historical Commission and the Council of Texas Archeologists.

Project Archeologist, Moore Archeological Consulting, Inc., Houston, Texas, 1997-2005

Project Archeologist.

Sul Ross State University Center for Big Bend Studies, Alpine, Texas, 1996-1997

Project Archeologist.

Office of the State Archeologist, Texas Historical Commission, Austin, Texas, 1995-1996

Assistant Project Archeologist.

Moore Archeological Consulting, Houston, Texas, 1992-1995

Project Archeologist.

Paul H. Rosendahl, Inc. (PHRI), G.M.F., Guam, 1990-1992

Field Supervisor.

Prewitt and Associates, Inc., Austin, Texas, 1990

Crew Chief.

Texas A&M University Archeological Research Laboratory, College Station, Texas, 1989-1990

Crew Chief.

University of Texas Archeological Research Laboratory, 1989

Archeological Technician.

Prewitt and Associates, Inc., Austin, Texas, 1985-1989

Archeological Technician.

Publications/Project Experience

2014

Archeological Monitoring of Emergency Streambed Remediation Work at Acequia Park, San Antonio, Texas. August 2014. Prepared for W&M Environmental Group.

2013

November 2011-2013 to now. Archaeologist for ATEX Express Pipeline Project, sponsored by Enterprise Liquids Pipeline LLC. Conducts cultural resources surveys for a 586-mile long natural gas liquids pipeline that traverses Pennsylvania, West Virginia, Ohio, Indiana, and Texas.

Addendum Report, Supplemental Cultural Resources Survey Investigations along the Red Gate Pipeline from the Previously Surveyed Red Gate Power Plant in Hidalgo County, Texas. July 2014. Prepared for South Texas Electric Cooperative, Inc.

Phase I Cultural Resources Investigations, Arrowhead Utica Pipeline, L.P. Project, Columbiana County, Ohio. January 2014. Prepared for Harvest Pipeline Company. Prepared with Westwood Professional Services and Weller & Associates. Submitted to the United States Army Corps of Engineers, Pittsburgh District.

Cultural Resources Survey of the 39.80 Miles of the Proposed Asherton Pipeline in Dimmitt and LaSalle Counties, Texas. December 2013. Prepared for Westwood Professional Services, Inc.

Cultural Resources Investigations for the Alazan Acequia (41BX620) and Historical Resources Survey for the Westside Multi-Modal Transit Center Phase 2 Project, San Antonio, Texas. November 2013. Prepared for HTNB and Via Metropolitan Transit.

Summary of Field Investigations, Intensive Survey at 41BX620 (Alazan Acequia) within the Westside Multi-Modal Transit Center Proposed Facility. October 30, 2013. Prepared for HTNB and Via Metropolitan Transit.

Intensive Archeological Survey of the Proposed Center Point Wastewater Lines and Interceptor in Center Point and Comfort, Kerr and Kendall Counties, Texas. November 2013. Prepared for Kerr County, Texas, and Tetra Tech.

Archeological Survey of Portions of the Indigo Minerals Logansport Pipeline in DeSoto Parish, Louisiana. July 2013. Prepared for Enterprise Products Operating LLC. Submitted to U.S. Army Corps of Engineers Fort Worth District.

Addendum Report, Archeological Survey Investigations of Portions of the ATEX Express Pipeline Project (Spread 6), Alternate Route in Liberty County, Texas. June 2013. Prepared for

Enterprise Liquids Pipeline Company LLC. Submitted to U.S. Army Corps of Engineers Galveston District.

Archeological Survey of Portions of Seaway Crude Pipeline Company LLC's Proposed Seaway Loop Project—Segment 7 in Jefferson, Liberty, and Chambers Counties, Texas. June 2013. Prepared for Enterprise Crude Pipeline LLC on behalf of Seaway Crude Pipeline Company LLC. Submitted to U.S. Army Corps of Engineers Galveston District.

Archeological Survey of Portions of Enterprise Crude Pipeline LLC's Proposed Seaway Loop – Echo To Mont Belvieu Pipeline Project, Harris And Chambers Counties, Texas. May 2013. Prepared for Enterprise Crude Pipeline LLC. Submitted to U.S. Army Corps of Engineers, Galveston District.

Intensive Archeological Survey of Four Post-review Discoveries within the Del Rio Outer Loop, Val Verde County, Texas. April 2013. Prepared for Val Verde County with Brandon Young and Mark Willis.

Intensive Archeological Survey of Proposed North and South Backage Roads, Haltom City, Tarrant County, Texas. March 2013. Prepared for Haltom City.

Archeological Data Recovery at Prehistoric Sites 41VV2012 and 41VV2013 in the Del Rio Outer Loop, Val Verde County, Texas. March 2013. Prepared for Val Verde County and Pate Transportation Partners, LP. Submitted to Texas Department of Transportation Environmental Affairs Division and Texas Historic Commission.

Intensive Archeological Survey of SH 242 from IH 45 to US 59 in Montgomery County, Texas. February 2013. Prepared for Texas Department of Transportation Houston District and Transystems.

2012

Addendum Report for Supplemental Archeological Investigations at Site 41HY165 for Proposed Improvements to State Loop 82 from Thorpe Lane to Charles Austin Drive in the City

Of San Marcos, Hays County, Texas. November, 2012. Prepared for the City of San Marcos and Texas Department of Transportation Austin District.

Archeological Survey of a Proposed Turbine in the Channel Energy Center, Houston, Harris County, Texas. March 26, 2012. Prepared for Channel Energy Center LLC.

Archeological Survey of a Proposed Turbine in the Deer Park Energy Center, Houston, Harris County, Texas. March 26, 2012. Prepared for Deer Park Energy Center LLC.

Intensive Archeological Survey of the Proposed Brushy Creek Wastewater Interceptor Phase II in Williamson County, Texas. March 2012. Prepared for Walker Engineering and the City of Hutto. Submitted to Texas Historical Commission.

Intensive Archeological Survey Supplemental Report, US 77 from SH 107 in the City of Combes to SH 44 in the City of Robstown, Cameron, Willacy, Kenedy, Kleberg, and Nueces Counties, Texas. January 2012. Prepared for Texas Department of Transportation and Texas Turnpike Authority Division.

2011

Intensive Archeological Survey of the Proposed Mountain Creek Interceptor Segments MC-7 And MC-8 in the City of Grand Prairie, Dallas and Tarrant Counties, Texas. December 2011. Prepared for Trinity River Authority of Texas and Lockwood, Andrews & Newnam, Inc.

Intensive Archeological Survey of McCombs Street/FM 2529 from US 54 to Just North of FM 2637 in El Paso, El Paso County, Texas. October 2011. Prepared for Texas Department of Transportation El Paso District. Submitted to Texas Historical Commission.

Archeological Survey of FM 407 at Trail Creek in Denton County, Texas. October 2011. Prepared for Texas Department of Transportation Dallas District and Parsons Brinckerhoff. Submitted to Texas Historical Commission.

Intensive Archeological Survey of the Proposed Highland Sewer Line, City of McAllen, Hidalgo County, Texas. October 2011. Prepared for City of McAllen. Submitted to Texas Historical Commission.

Intensive Archeological Survey of the M325 Segment of the Proposed Village Creek Relief Sanitary Sewer Line in Tarrant County, Texas. October 2011. Prepared for the City of Fort Worth. Submitted to Texas Historical Commission.

An Archeological Survey of IH 35 at CR 132, Hays County, Texas. September 2011. Prepared for Texas Department of Transportation Austin District. Submitted to Texas Historical Commission.

Intensive Archeological Survey of the Proposed Rosillo Creek NWWC (SC-15) Project in the City of Kirby, Bexar County, Texas. September 2011. Prepared for Bexar County Flood Control and Pate Engineers, Inc.

Intensive Archeological Survey of the Proposed Schaefer Road Drainage Phase I (CB-19) Project in Northeast Bexar County, Texas. September 2011. Prepared for Bexar County Flood Control.

Intensive Archeological Survey of Old Airport Road at Burgess Creek in Parker County, Texas. September 2011. Prepared for Texas Department of Transportation Fort Worth District, and Aguirre & Fields, LP.

Archeological Testing at 41WB710 and 41WB713 within the Proposed El Pico Water Treatment Plan in the City of Laredo, Webb County, Texas. June 2011. Prepared for the City of Laredo and Dannenbaum Engineering Corporation.

Intensive Archeological Survey of the Proposed Brushy Creek Wastewater Interceptor Phase II in Williamson County, Texas. April 2011. Prepared for Walker Engineering and the City of Hutto. Submitted to Texas Historical Commission.

Intensive Archeological Survey of a Proposed Water Main for the County Road 108 Water

Improvement Project, City of Hutto, Williamson County, Texas. April 2011. Prepared for Walker Engineering and the City of Hutto. Submitted to Texas Historical Commission.

Intensive Archeological Survey of a Proposed Wastewater Collection System in the Rosa Azul Subdivision Area, Socorro, El Paso County, Texas. February 2011. Prepared for Moreno Cardenas Inc. Consultign Engineers and Lower Valley Water District. Submitted to Texas Historical Commission.

Intensive Archeological Survey of SH 286 from SH 358 to One Mile South of FM 43 in the City of Corpus Christi, Nueces County, Texas. January 2011. Prepared for Texas Department of Transportation Corpus Christi District.

Cultural Resources Survey for the Proposed Biggs East Gate Road, El Paso County, Texas. January 2011. Prepared for Texas Department of Transportation El Paso District.

Archeological Survey on SH: 75 from IH 45 to Post Oak Road in the City of Conroe, Montgomery County, Texas. January 2011. Prepared for Texas Department of Transportation Houston District and KBR.

Archeological Survey of FM 3083 from IH 45 to LP 336 in the City of Conroe, Montgomery County, Texas. January 2011. Prepared for Texas Department of Transportation Houston District and Transystems.

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Intensive Archeological Survey of Selected Parts of Loop 1604 from US 90 to IH 35 in the City of San Antonio, Bexar County, Texas. December 2010. Prepared for Alamo Regional Mobility Authority. Submitted to Texas Department of Transportation Environmental Affairs Division.

Spinning Star Wind Ranch and Transmission Line Environmental Report, Upton, Reagan, and Crockett Counties, Texas December 2010. Prepared for Spinning Star Energy, LLC, for U.S. Department of Energy application.

Research Design, Archeological Data Recovery Excavations at Prehistoric Sites 41VV2012 and 41VV2013 in the Del Rio Outer Loop, Val Verde County, Texas. September 29, 2010. Prepared for Texas Department of Transportation Environmental Affairs Division.

Archeological Survey of Lake Falcon County Park and Boat Ramp in the City of Zapata, Zapata County, Texas. September 2010. Prepared for the County of Zapata and the Texas Department of Transportation Pharr District. Submitted to the Texas Historical Commission.

Intensive Archeological Survey of the M325 Segment of the Proposed Village Creek Relief Sanitary Sewer Line in Tarrant County, Texas. June 2010. Prepared for the City of Fort Worth. Submitted to Texas Historical Commission.

Intensive Archeological Survey of a Proposed City of Grand Prairie Wastewater Utility Line on U.S. Army Corps of Engineers Property South of Joe Pool Lake in Ellis County, Texas. May 2010. Prepared for City of Grand Prairie and Espey Consultants. Submitted to U.S. Army Corps of Engineers Fort Worth District.

An Intensive Archeological Survey in Hazel Bazemore County Park, Nueces County, Texas. April 2010. Prepared for Nueces County and Olivarri & Associates, Inc. Submitted to the Texas Historical Commission.

An Intensive Archeological Survey of a Proposed Extension to the McCarty Lane Improvement Project from 5,170 Feet East of IH 35 to 6,534 Feet East of IH 35, Hays County, Texas. March 2010. Prepared for the City of San Marcos and KBR, Inc. Submitted to the Texas Historical Commission.

Cultural Resources Survey for the Proposed Expansion of the North McAllen Wastewater Treatment Plant in the City of McAllen, Hidalgo County, Texas. April 2010. Prepared for Dannenbaum Engineering on Behalf of the City of McAllen. Submitted to the Texas Historical Commission.

Intensive Archeological Survey of Two Off-system Bridges in Wise County, Texas. March 2010. Prepared for Texas Department of Transportation Fort Worth District. Submitted to the Texas Historical Commission.

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Archeological Survey of a Proposed Bike and Hike Trail along Wonder World Drive in the City of San Marcos, Hays County, Texas. November 2009. Prepared for the City of San Marcos and KBR.

Archeological Survey of McCarty Lane at Cottonwood Creek in the City of San Marcos, Hays County, Texas. November 2009. Prepared for City of San Marcos and KBR, Inc.

Interim Report: Archeological and Geoarcheological Investigations for the Proposed El Pico Water Treatment Plant in the City of Laredo, Webb County, Texas. October 2, 2009. Prepared for the City of Laredo. Submitted to the Texas Historical Commission.

2008

An Intensive Archeological Survey of IH 45 from Just North of Wintergreen Road to Just South of Pleasant Run Road, Dallas County, Texas. October 2008. Prepared for Texas Department of Transportation Dallas District and Dannenbaum Engineering Corporation.

Archeological Investigations on CR 142 at Stinking Creek in Kent County, Texas. October 2008. Prepared for the Texas Department of Transportation Abilene District. Submitted to the Texas Historical Commission.

Archeological Investigations for Three Off-system Bridge Replacements in Scurry County, Texas. October 2008. Prepared for the Texas Department of Transportation Abilene District. Submitted to the Texas Historical Commission.

Archeological Investigations for the Proposed Deadwood Gas Well in Laguna Atascosa National Wildlife Refuge, Cameron County, Texas. October 2008. Prepared for Sanchez Oil & Gas Corporation. Submitted to Texas Historical Commission.

Archeological Survey of FM 89 at Elm Creek, Taylor County, Texas. July 2008. Prepared for Federal Highway Administration and Texas Department of Transportation Abilene District.

An Intensive Archeological Survey of US 80 at SH 352 in Dallas County, Texas. June 2008. Prepared for Texas Department of Transportation Dallas District.

Archeological Survey of Military Drive from Market Street to Arnold Boulevard in the City of Abilene, Taylor County, Texas. June 2008. Prepared for Texas Department of Transportation Abilene District.

An Intensive Archeological Survey of the Proposed Old Milwaukee Outfall Pipeline in the City of Laredo, Webb County, Texas. June 2008.

Archeological Survey for the Salado Creek Hike and Bike Trail between Houston Street and Benz-Englemen Road in the City of San Antonio, Bexar County, Texas. May 2008. Prepared for the City of San Antonio and Lockwood Andrews and Newnam.

Archeological Survey of US 277 at Fish Creek in Nolan County, Texas. May 2008. Prepared for Federal Highway Administration and Texas Department of Transportation Abilene District.

An Intensive Archeological Survey of the Colombia Wastewater Treatment Plant in the City of Laredo, Webb County, Texas. January 2008. Prepared for the City Of Laredo.

2007

Archeological Investigations for Three Off-system Bridge Replacements in Fisher County, Texas. November 2007. Prepared for Texas Department of Transportation Abilene District.

An Intensive Archeological Survey for the Proposed Plover Point Boardwalk in Laguna Atascosa National Wildlife Refuge, Cameron County, Texas. November 2007. Prepared for The Friends of Laguna Atascosa and the Laguna Atascosa National Wildlife Refuge.

Cultural Resource Investigations on IH-10 between SH 62 and the Sabine River, Orange County, Texas. August 2007. Prepared for Texas Department of Transportation Beaumont District and CH2M Hill.

An Intensive Archeological Survey for the Proposed US 87 Reliever Route in the City of LaMesa, Dawson County, Texas. August 2007. Prepared for Texas Department of Transportation Lubbock District and Parkhill, Smith, & Cooper, Inc. Submitted to Texas Department of Transportation Environmental Affairs Division.

Archeological Investigations for Roadway Widening and Bridge Replacement Construction on FM 685 between US 79 and SH 130, Williamson County, Texas. July 2007. Prepared for Texas Department of Transportation Austin District.

Archeological Testing at Site 41PK248 on the Alabama-Coushatta Indian Reservation, Polk County, Texas. June 2007. Prepared for Comstock Oil and Gas, Inc. Submitted to the Bureau of Indian Affairs, Bureau of Land Management, and Texas Historical Commission.

Archeological Survey for a Proposed Bridge Replacement on US 180 at the North Prong of Hubbard Creek in the City of Albany, Shackelford County, Texas. June 2007. Prepared for Federal Highway Administration and Texas Department of Transportation Abilene District.

Archeological Investigations on CR 640 at Mulberry Creek in Taylor County, Texas. June 2007. Prepared for Federal Highway Administration and Texas Department of Transportation Abilene District.

Archeological Investigations on CR 143 at Seale Creek in Nolan County, Texas. June 2007. Prepared for Federal Highway Administration and Texas Department of Transportation Abilene District.

Archeological Investigations on US 83 at Salt Fork of the Brazos River and Stinking Creek in Stonewall County, Texas. June 2007. Prepared

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Archeological Survey on FM 1235 between Buffalo Gap and View, Taylor County, Texas. February 2007. Prepared for Texas Department of Transportation Abilene District.

2006

Interim Report, Archeological Survey for the Proposed Colombia Wastewater Treatment Plant Expansion for the City of Laredo in Webb County, Texas. December 19, 2006. Submitted to Texas Historical Commission.

Cultural Resource Avoidance Measures on Federal Property for the Mercedes Connection Seismic Exploration Project, Cameron and Willacy Counties, Texas. Interim Report. October 9, 2006. Prepared at the Request of the U.S. Fish & Wildlife Service. Submitted to the Texas Historical Commission.

A Class III Archeological Inventory of Two Proposed Well Pads on the Alabama-Coushatta Indian Reservation, Polk County, Texas. July 2006. Prepared for Comstock Oil and Gas, Inc. Submitted to the Bureau of Indian Affairs, Bureau of Land Management, and Texas Historical Commission.

An Archeological Survey of Bicentennial Park and a Proposed Hiking Trail in Sanderson, Terrell County, Texas. March 2006. Prepared for Landgraf, Crutcher and Associates, Inc., and the County of Terrell

Prior

Author of methodological section of an ongoing survey of the San Jacinto Battlegrounds State Park, Houston, Texas. Responsible for originating and implementing survey methods utilizing volunteer metal detectorist. 2004.

Inventory and Assessment of Cultural Resources, Redstone Golf Course Expansion, Harris County, Texas. Report of Investigations No. 300. Moore Archeological Consulting, Inc., Houston, Texas. 2003.

Author of the report on a 416-acre survey within a forested tract bordering Greens Bayou, Harris County, Texas. A total of 70 sites were recorded. 2003.

Archeological Reconnaissance of Upper Fresno Canyon Rim, Big Bend Ranch State Park, Texas. Reports in Contract Archeology No. 1. Center For Big Bend Studies, Sul Ross State University, Alpine, Texas. 1999.

A Cultural Resource Survey of a Proposed Ella Boulevard Extension and Floodwater Detention Basin, Harris County, Texas. Report of Investigations No. 315. Moore Archeological Consulting, Inc., Houston, Texas. 2002.

Archeological Survey of 145 Acres Along Greens Bayou, Harris County, Texas. Report of Investigations No. 297. Moore Archeological Consulting, Inc., Houston, Texas. 2001.

Archeological Survey of White Oak Bayou from Cole Creek to West Road, Harris County, Texas. Report of Investigations No. 292. Moore Archeological Consulting, Inc., Houston, Texas. 2000.

Archeological Survey of the Proposed Clear Creek ISD School Site, Galveston, Texas. Report of Investigations No. 282. Moore Archeological Consulting, Inc., Houston, Texas. 2000.

Cultural Resource Survey of a Proposed Greens Bayou Detention Basin, Harris County, Texas. Report of Investigations No. 251. Moore Archeological Consulting, Inc., Houston, Texas. 1999.

Cultural Resource Studies at the 400-Acre Pine Lakes Tract, Northern Harris County, Texas. Report of Investigations No. 241. Moore Archeological Consulting, Inc., Houston, Texas. 1998.

A Cultural Resource Survey of Proposed Seismic Exchange, Inc., Seismic Lines in the Jack Gore Baygall/Neches Bottom Unit of the Big Thicket National Preserve, Hardin and Jasper Counties, Texas. Report of Investigations No. 240. Moore

Archeological Consulting, Inc., Houston, Texas. 1998.

Cultural Resource Assessments of Proposed Railway Improvements for the Union Pacific-Southern Pacific Merger Across Texas. Report of Investigations No. 182. Moore Archeological Consulting, Inc., Houston, Texas. 1996.

A Cultural Resource Investigation of the 43-Acre Proposed Clear Creek Regional Detention Basin in Southern Harris County, Texas. Report of Investigations No. 181. Moore Archeological Consulting, Inc., Houston, Texas. 1996.

Author of the report on a thorough reconnaissance survey of select areas within Big Bend Ranch State Park. The survey covered over 1,800 acres and 46 sites were recorded. 1996.

An Archeological Survey of the Proposed Greenhouse Road Expansion Project in Western Harris County, Texas. Report of Investigations No. 170. Moore Archeological Consulting, Inc., Houston, Texas. 1996.

Co-author on the report of a survey of 650 acres within a forested environment around Lake O' The Pines Reservoir. 1996.

A Preliminary Geomorphological and Archeological Assessment of the City of Houston Proposed Northeast Water Purification Plant Site, Harris County, Texas. Report of Investigations No. 145. Moore Archeological Consulting, Inc., Houston, Texas. 1995.

A Cultural Resources Survey of Four Tracts of Forested Land Around Lake O' Pines Reservoir in Marion and Upshur Counties in Northeast Texas. Report of Investigations No. 136. Moore Archeological Consulting, Inc., Houston, Texas. 1994.

Archeological Testing at the Polvo Site Presidio County, Texas. Office of the State Archeologist Report No. 39. Office of the State Archeologist, Texas Historical Commission, Austin, Texas. 1994.

An Archeological Survey of a Proposed Off-Road Vehicle Recreational Course, Monahans Sandhills State Park, Ward County, Texas. Texas Antiquities Committee Permit No. 1217. Office of the State Archeologist, Texas Historical Commission, Austin, Texas. 1993.

A Cultural Resources Survey of a Regional Detention Site on White Oak Bayou, Harris County, Texas. Report of Investigations No. 73. Moore Archeological Consulting, Inc., Houston, Texas. 1993.

An Archeological Survey of Two Detention Basins on Langham and Dinner Creeks, Harris County, Texas. Report of Investigations No. 72. Moore Archeological Consulting, Inc., Houston, Texas. 1992.

An Archeological Survey of the Langham Creek Channel Improvement Project, Harris County, Texas. Report of Investigations No. 71. Moore

Archeological Consulting, Inc., Houston, Texas. 1992.

National Register Eligibility and Assessment at the Al Soloman I and Al Soloman II Sites, Cypress Creek Harris County, Texas. Reports of Investigations No. 12. Archeological Research Laboratory Texas A&M University. 1991.

An Archeological Survey of the Proposed Greens Bayou Regional Stormwater Detention Facility, Greens Bayou, Harris County, Texas. Archeological Surveys No. 7. Archeological Research Laboratory Texas A&M University. 1990.

Co-author of a report on a survey of 1,500-acre tract adjacent to Greens Bayou, Houston, Texas. A total of 37 sites were recorded. 1996.

ADDENDUM

HISTORIC RESOURCES SURVEY REPORT

IS PROVIDED IN A SEPARATE FILE