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Intensive Archaeological Survey for the Arco to Crane 138kV Transmission Line Oryx Crane Tap Project, Crane County, Texas

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Intensive Archaeological Survey for the Arco to Crane 138kV Transmission Line Oryx Crane Tap Project, Crane County, Texas

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Intensive Archaeological Survey for the Arco to Crane 138kV Transmission Line Oryx Crane Tap Project

Crane County, Texas

September 2018

By: Amy Leuchtmann

Principal Investigator: Melanie Johnson

Texas Antiquities Permit- #8414





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138kV Transmission Line Oryx Crane Tap Project,
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Texas Antiquities Permit- #8414

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September 2018



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Management Summary

Oncor Electric Delivery LLC (Oncor) contracted with HDR Engineering, Inc. (HDR) to conduct an intensive cultural resources survey for the Arco to Crane Tap Project. The proposed project consists of the construction of approximately one mile (mi; 1.6 kilometers [km]) of a 138 kV tap from the existing Arco to Crane transmission line to the new Oryx Crane substation within a 100-foot (ft) (30.48-meter [m]) wide corridor, in Crane County, Texas (Figure 1-1). This survey was conducted by HDR on behalf of Oncor to identify cultural resources within the APE.

The purpose of the archaeological survey was to determine the presence/absence of cultural resources within the Area of Potential Effects (APE), defined as the 1-mi (1.6-km) long, 100-ft (30.48-m) wide corridor for a total of 12.12 acres (4.9 hectares), and to evaluate identified resources for their eligibility for inclusion in the National Register of Historic Places (NRHP) or as a designated State Antiquities Landmark (SAL). The survey was conducted under Texas Antiquities Permit Number 8414. The survey was led by project manager Clayton Tinsley, accompanied by archaeologist Amy Leuchtman, on May 8, 2018, and resulted in a total of 4 person-hours.

HDR conducted an intensive archaeological survey with pedestrian walkover within the entire 1-mi (1.6-km) APE. Due to the high ground surface visibility (averaging approximately 90 percent) within the APE, shovel testing was not employed with the exception of one judgmental shovel test within a dune formation. No cultural resources were observed during the survey.

No further archaeological investigations are recommended within the APE. In the event that any archaeological deposits are encountered during construction, work should cease, and the Texas Historical Commission (THC) should be notified.

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Abbreviations and Acronyms

APE	Area of Potential Effects
Atlas	Texas Archeological Sites Atlas
CAS	Center for Archaeological Research
CFR	Code of Federal Regulations
cm	centimeters
ft	foot/feet
GPS	Global Positioning System
in	inch(es)
inbs	inches below surface
km	kilometer(s)
m	meter(s)
mi	mile(s)
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
SAL	State Antiquities Landmark
SHPO	State Historic Preservation Officer
TARL	Texas Archeological Research Laboratory
THC	Texas Historical Commission

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1 Introduction

Oncor Electric Delivery LLC (Oncor) contracted with HDR Engineering, Inc. (HDR) to conduct an intensive archaeological survey for the Arco to Crane Tap Project. The proposed project consists of the construction of approximately one mile (mi; 1.6 kilometers [km]) of a 138 kV tap from the existing Arco to Crane transmission line to the new Oryx Crane substation within a 100-foot (ft) (30.48-meter [m]) wide corridor, in Crane County, Texas (Figure 1-1). This survey was conducted by HDR on behalf of Oncor to identify cultural resources within the APE.

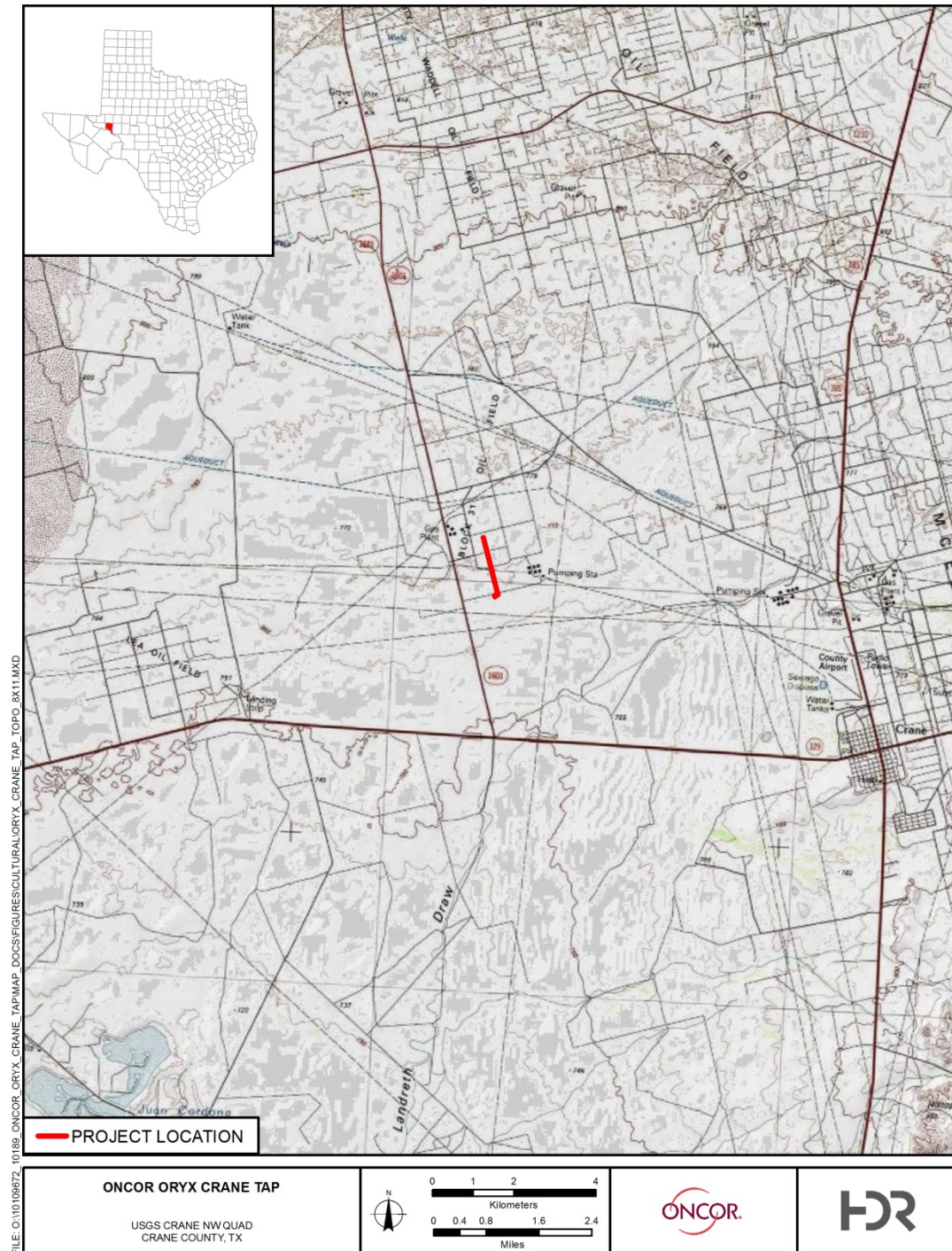
The purpose of the archaeological survey was to determine the presence/absence of cultural resources within the Area of Potential Effects (APE), defined as the 1-mi (1.6-km) long, 100-ft (30.48-m) wide corridor for a total of 12.12 acres (4.9 hectares), and to evaluate identified resources for their eligibility for inclusion in the National Register of Historic Places (NRHP) or as a designated State Antiquities Landmark (SAL). The survey was led by project manager Clayton Tinsley, accompanied by archaeologist Amy Leuchtmann, on May 8, 2018, and resulted in a total of 4 person-hours.

The survey resulted in no significant cultural resources being recorded within the APE. It is concluded that the proposed project will not impact recorded cultural resources.

This report contains geologic and cultural background information for the region, the survey methods employed, the results of the archaeological survey, and recommendations based on the results.

All records and materials generated by this project will be permanently curated at the Center for Archaeological Studies (CAS) at Texas State University in San Marcos, Texas.

Figure 1-1. Topographic Map of the Area of Potential Effects.



2 Background

2.1 Geology and Soils

The underlying geology within the APE consists of sand and silt of Holocene age (USGS 2018).

According to data from the Natural Resources Conservation Service (NRCS), the APE contains two soil map units: Wickett association, gently undulating and the Penwell-Pyote association, undulating (NRCS 2018).

The primary soil series within the APE is the Wickett series, which consists of moderately deep, well drained, moderately rapidly permeable sandy soils (NRCS 2018). These soils formed in sandy and loamy eolian materials over thick beds of calcium carbonate, and occur on nearly level to very gently sloping uplands with slopes ranging from 0 to 3 percent (NCRS 2018). The Penwell series consists of very deep soils formed in sandy eolian deposits with sandy parent material appearing around 30 cm (13 in) (USGS 2018). The Pyote series consists of very deep soils formed in sandy and loamy sediments that have been modified by wind (NRCS 2018).

2.2 Cultural History

The prehistory of western Texas can be divided into three major periods: Paleoindian, Archaic (both periods subdivided into Early, Middle, and Late), and Late Prehistoric (or Formative) period in the western Trans-Pecos (Table 2-1). These periods are primarily defined by diagnostic cultural artifacts found in the archaeological record that are indicative of major shifts or changes in socio-cultural practices.

Table 2-1. Prehistoric Chronology of the Trans-Pecos Region (Miller and Kenmotsu 2004).

Period	Sub-period	Western Trans-Pecos/Jornada		Eastern Trans-Pecos/La Junta	
		Regional Phase	Date Range	Regional Phase	Date Range
Paleoindian*	Early Paleoindian	Clovis	10,000–6000 B.C.*	Clovis	10,000–6000 B.C.
	Middle Paleoindian	Folsom		Folsom	
	Late Paleoindian	Plano/Cody		Plano/Cody	
Archaic	Early Archaic	Early Archaic	6000–4000 B.C.	Early Archaic	6500–3000 B.C.
	Middle Archaic	Middle Archaic	4000–1200 B.C.	Middle Archaic	3000–1200 B.C.
	Late Archaic	Late Archaic	1200 B.C.–A.D. 200	Late Archaic	1200 B.C.–A.D. 900

Period	Sub-period	Western Trans-Pecos/Jornada		Eastern Trans-Pecos/La Junta	
		Regional Phase	Date Range	Regional Phase	Date Range
Late Prehistoric / Formative**		Mesilla/Pithouse	A.D. 200–1100	Livermore	A.D. 900–1200
		Dona Ana/Traditional	A.D. 1100–1200	La Junta	A.D. 1200–1400
		El Paso/Pueblo	A.D. 1200–1400	Conception	A.D. 1400–1683
		Post-Pueblo	A.D. 1400–1500		

* The Paleoindian phases are marked by functional and stylistic differences in tool kits, but the lack of chronometric dates precludes any attempt to provide date ranges for each phase (Miller and Kenmotsu 2004)

**The Late Prehistoric period in the western Trans-Pecos is referred to as the Formative Period (Miller and Kenmotsu 2004)

2.2.1 Paleoindian Period

The Paleoindian period is traditionally characterized by small, highly mobile bands reliant on big-game hunting, including large megafauna such as mammoths (Judge 1973). While no chronometric dates have been obtained for a Paleoindian occupation of the Trans-Pecos region, evidence in the form of various artifacts and features confirm their presence (Miller and Kenmotsu 2004). Based on the stylistic differences in tool kits, the Paleoindian period is divided into three phases—the Clovis, Folsom, and Plano/Cody phases. Fluted lanceolate projectile points, characteristic of the Clovis phase, have been discovered in the Trans-Pecos region, providing evidence of a Clovis occupation. In addition, two Clovis habitation sites have been found in the western segment of the Trans-Pecos region (Miller and Kenmotsu 2004).

Evidence from the Folsom phase of the Paleoindian period is far more common than the preceding Clovis phase in the Trans-Pecos region. Folsom tools and sites are well documented throughout the region. The reliance on big game hunting continued during the Folsom phase with an emphasis on bison hunting, specifically the large, extinct species of bison, *Bison antiquus*. However, the Tularosa/Hueco Bolsons in the Trans-Pecos region present a unique settlement pattern during this phase that seems to have been oriented toward hunting other animals (Amick 1994).

The end of the Pleistocene, climatic change, and disappearance of megafauna led to the emergence of the late Paleoindian phase and the diversification of point types (Hester and Turner 2015). The variety of tool traditions of the late Paleoindian phase is grouped into the Plano and Cody complexes. While cultural material from this phase is more common than that of earlier Paleoindian phases, well documented occupation sites are rare in comparison to the Folsom phase (Miller and Kenmotsu 2004).

2.2.2 Archaic Period

The continuation of climatic change during the early Holocene “contributed to the large-scale changes in subsistence strategies, requiring a diversification of the Paleoindian subsistence base with a greater focus on exploitation of plant foods” (Miller and Kenmotsu 2004:218). This transition marked the beginning of the Archaic period across

the continent around 6000 B.C. Like the Paleoindian period, the Archaic period is typically divided into three phases: the Early, Middle, and Late Archaic. The Archaic period generally represents locally specific adaptation to the Holocene environment. It is during the Archaic period that the eastern and western Trans-Pecos regions distinguish themselves from one another.

The Early Archaic in the Trans-Pecos is poorly represented in the archaeological record, which is mainly composed of surface finds and only a few features or substantial settlements. Populations were still organized into small, fairly mobile groups, but changes in projectile point technology suggest a more restricted, seasonally mobile settlement system (Miller and Kenmotsu 2004). Projectile points changed from the lanceolate points to a variety of stemmed points, and coarser-grained materials were utilized. The projectile point styles began to become more regionally specific during this phase.

The Middle Archaic in the Trans-Pecos saw an increase in populations, resulting in a greater number of settlement sites in the archaeological record. The discovery of house structures within Middle Archaic settlements in the Trans-Pecos suggests longer periods of occupation. These structures in the western Trans-Pecos region are “among the earliest evidence for semi-sedentary settlements in the Southwest” (Miller and Kenmotsu 2004:224). The trend of increased regionalization of projectile point forms continued in the Middle Archaic period.

The land use during the Late Archaic was greatly intensified, and the first evidence of agricultural development emerged during this phase. Hunting and gathering remained an important aspect of the economy, but the focus shifted to small game such as rabbits. As a result of a briefly wetter environment in the Trans-Pecos, Late Archaic sites expanded into all ecological zones and promoted interaction among hunting-gathering groups (Miller and Kenmotsu 2004). The use of dry rock shelters during the Late Archaic period resulted in the better preservation of cultural materials, including fiber netting, basketry, animal skins, and wooden and shell pendants. Thermal features increased in number during the Late Archaic, indicating an intensification of plant processing. Ring middens became prominent features in the Late Archaic, which have been known historically to have been used to cook bulbs such as sotol. Evidence suggests that during this period, populations were increasing and becoming more sedentary with an increasing reliance on agriculture.

2.2.3 Late Prehistoric Period

In the western Trans-Pecos region, the Late Prehistoric (or Formative) period is divided into three phases: the Mesilla, Doña Ana, and El Paso. During this period, the bow and arrow was introduced, and small- to medium-sized game animals were the primary focus of these groups. Throughout the Formative period, settlement patterns became increasingly standardized. The Mesilla phase witnessed the beginning of the transition to a more sedentary society. While groups still maintained a fair degree of mobility and were primarily dependent on hunting and gathering, the emergence of pithouse architecture along with huts and the presence of some domesticated plant species laid the groundwork for the more agriculturally dependent societies that developed in later

phases. El Paso plain brown ceramics are also present in the archaeological record as well as some imported wares.

The Doña Ana phase began constructing surface rooms in addition to pithouses. These changes in architecture and settlement patterns are believed to represent an increasing dependence on agriculture during the Formative period (Binford 1990). Beginning around A.D. 1000, decoration of local ceramics became more prevalent. This phase also saw an increase in interregional interaction, as evidenced by the increase in nonlocal ceramics.

The El Paso phase represents the apex of the transition from the mobile hunter-gatherers in the Mesilla phase to an increasingly sedentary population. Architecture is seen in the form of pueblos (square or rectangular, multi-roomed structures with caliche plastered walls and floors) (Miller and Kenmotsu 2004). Settlement distribution became markedly more restricted, focusing around well-watered landscapes. The development of water control features during the El Paso phase corresponded with the pronounced agricultural development at this time in comparison to the earlier phases. Thermal and storage features along with the changes in groundstone technologies point to an increase in plant processing. Ceramic decoration continued to be more frequent and more elaborate.

The Late Prehistoric period in the eastern Trans-Pecos region is usually undivided, though two poorly defined phases have been assigned to the eastern Trans-Pecos/La Junta district. These phases are the Livermore and La Junta phases. Throughout most of the eastern Trans-Pecos, few changes took place during the Late Prehistoric in terms of subsistence and mobility aside from the introduction of the bow and arrow (Miller and Kenmotsu 2004). Hunting and gathering continued to be the primary means of subsistence in the region. While small groups across the eastern Trans-Pecos maintained their traditional subsistence patterns from the Late Archaic, they were still knowledgeable of the changes taking place in other regions and even adapted some of the new technologies, such as pottery, to fit their way of life.

However, two distinct regions in the eastern Trans-Pecos, the La Junta district and the Salt Flat Basin, adopted a more agriculturally dependent subsistence pattern during the Late Prehistoric period. These groups were semi-sedentary to sedentary, living in small pithouse villages, growing crops. In general, the changes visible in the archaeological record taking place during the Late Prehistoric in the La Junta district followed a similar, though less pronounced, pattern to those in the western Trans-Pecos (Miller and Kenmotsu 2004).

2.2.4 Historic European and Euro-American Cultural Period (1725–1950)

Crane County

Prior to the establishment of Crane County in 1887, the landscape was within the territory of the Lipan Apaches, a tribe among the originators of the plains culture. Historic settlement within the county started slowly, as the dry conditions deterred homesteaders. The county's first census in 1890 shows only 15 people living in Crane County. This number had grown to 51 by 1900, along with the 17,650 cattle and 3,750 sheep counted

the same year. Arid conditions continued to define the settlement pattern, though there was a temporary burst of expansion during the first decade of the 19th century. The town of Crane, the future county seat, became a post office in 1908. By 1910, the population grew to 331 people spread out on 71 farms or ranches in the county. Almost no crop production was reported in 1910, and by the 1920 census, only 8 ranches, 37 people, and about 4,700 cattle remained (Leffler 2016).

Crane County began to truly develop in 1926, when oil was first discovered, bringing thousands of people into the area. While water continued to be a precious commodity, the oil boom brought the county's population up to 2,221 in 1930. Going forward, Crane County would become one of the most productive oil counties in the state of Texas. Over 1.5 billion barrels of oil would be produced between its discovery in 1926 and 1991 (Leffler 2016).

By 2014, the population of the county rose to 4,950, while the town of Crane remains the only community (Leffler 2016). Development in the county remains centered around the oil business.

3 Methods

3.1 Previous Investigations near the APE

A review of the Texas Historical Commission’s (THC’s) Archeological Sites Atlas (Atlas) indicated that there have been three previous cultural resources surveys conducted and one Official Texas Historical Marker (OTHM) located within one mi (1.6 km) of the APE (Figure 3-1). Additionally, no archaeological sites, recorded Texas Historic Landmarks, NRHP-listed properties or districts, cemeteries, or other cultural resources have been identified within one mi of the APE.

None of the three previous cultural resources surveys crosses the APE (see Figure 3-1). Details for the surveys are listed in Table 3-1.

Table 3-1. Previous Cultural Resources Surveys within One Mile of the APE.

Identifier	Agency	Report Title	Contractor	Year	Comments / Recommendations
8500079938	BLM	Cultural Resource Survey for the Mesquite SWC Pipeline, Loving County, Texas	Lone Mountain Archeological Services	2016	—
8500079881	EOG Resources, Inc.	Cultural Resources Survey of the Proposed +20,810-foot Conan to Conan SWD 10-inch Water Line, Loving County, Texas	Goshawk Environmental Consulting, Inc.	2015	—
8500076586	BLM	Archaeological Survey for the Sunoco Loving to Lea Pipeline in Loving County, Texas	SWCA	2015	—

One OTHM (#3862) is located approximately 0.25 mi west of the APE (see Figure 3-1). The marker notes the innovation, conservation, and good management of a block of oil wells (Block 31 Unit) and commemorates the one hundred millionth barrel of oil produced from this block in 1969.

3.2 Survey Methods

HDR conducted an intensive archaeological survey with pedestrian walkover and photo documentation of the entire 1-mi (1.6-km) APE. The pedestrian survey employed two transects within the 100-ft (30.48-m) wide corridor. High ground surface visibility throughout the entire APE and caliche exposure excluded shovel testing with the exception of one judgmental shovel test within a dune formation.

The single judgmental shovel test was approximately 30 centimeters (cm; 12 inches [in]) in diameter and was excavated in 20-cm (8-in) arbitrary levels to a depth of 60 cm (23.6 in) below surface. The soil removed was screened through 0.635-cm (0.25-in) mesh screen, and soil descriptions followed the guidelines and terminology established by the National Soil Survey Center (Schoeneberger et al. 2002). Soil colors were recorded using a Munsell Soil Color Chart. The excavated shovel test was recorded on a shovel test form noting depth, soil matrix descriptions, and cultural materials recovered. Digital photographs were used to document the survey conditions, and details of each photograph were recorded on standardized forms. The shovel test location was recorded using aerial maps and the Google Earth app for iPhones.

3.2.1 Site Designation

The THC differentiates between archaeological sites and isolated finds. Sites are evaluated and recommended eligible or ineligible for inclusion in the NRHP. Isolated finds are ineligible for inclusion in the NRHP as they do not meet the requirements to be designated as a site. The HDR standards for defining archaeological sites and isolated finds involves the cultural affiliation and number of artifacts present within an area of pre-determined size. A prehistoric site designation is applied when five or more prehistoric artifacts are present within a 20 m² area. A historic site designation is applied when 10 or more artifacts of two or more artifacts classes are present within a 20 m² area. Isolated finds are defined as the presence of four prehistoric artifacts or less, fewer than 10 historic artifacts, or historic artifacts from only one artifact class within a 20 m² area. Site boundaries are defined by the presence of surficial materials and by shovel tests yielding cultural materials. Where possible, all radial shovel tests are excavated at 10 m intervals until two sterile units are encountered in all cardinal directions. As part of the identification and documentation of sites, sites are recorded on a State of Texas Archeological Data Site Form. This form records a variety of data including location, setting, artifactual materials recovered, and other information. All sites are sketch-mapped, recorded using a GPS unit, and photo-documented. Once completed, the form is submitted to the Texas Archeological Research Laboratory (TARL) for official trinomial designation.

All records and materials generated by this project will be permanently curated at CAS at Texas State University in San Marcos, Texas.

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Figure 3-1. Previous Surveys and Cultural Resources within One Mile of the APE.

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4 Results

4.1 Survey Results

HDR conducted an intensive archaeological survey with pedestrian walkover and photo documentation of the 1-mi (1.6-km) long, 100-ft (30.48-m) wide APE (Figure 4-1 and Figure 4-2). The soil within the APE was sandy with occasional caliche fragments on the surface (Figure 4-3). Typical vegetation within the APE consisted of mesquite and shrubs with 90 percent ground visibility (Figure 4-1 and Figure 4-4). In addition to high surface visibility, no seasonal wetland features were encountered within the APE that would have prompted shovel testing. At the time of the survey, the APE crossed over multiple existing pipelines, transmission line scars, and gravel roads (Figure 4-5).

No cultural materials were found during the survey. A single judgmental shovel test was conducted within an aeolian dune formation and was negative for cultural resources (Figure 4-6).

Figure 4-1. Overview of APE, facing Southeast.



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Figure 4-2. Aerial Photographic Map of the APE showing the Survey Results.

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Figure 4-3. Previously disturbed area with exposed caliche, facing Northwest.



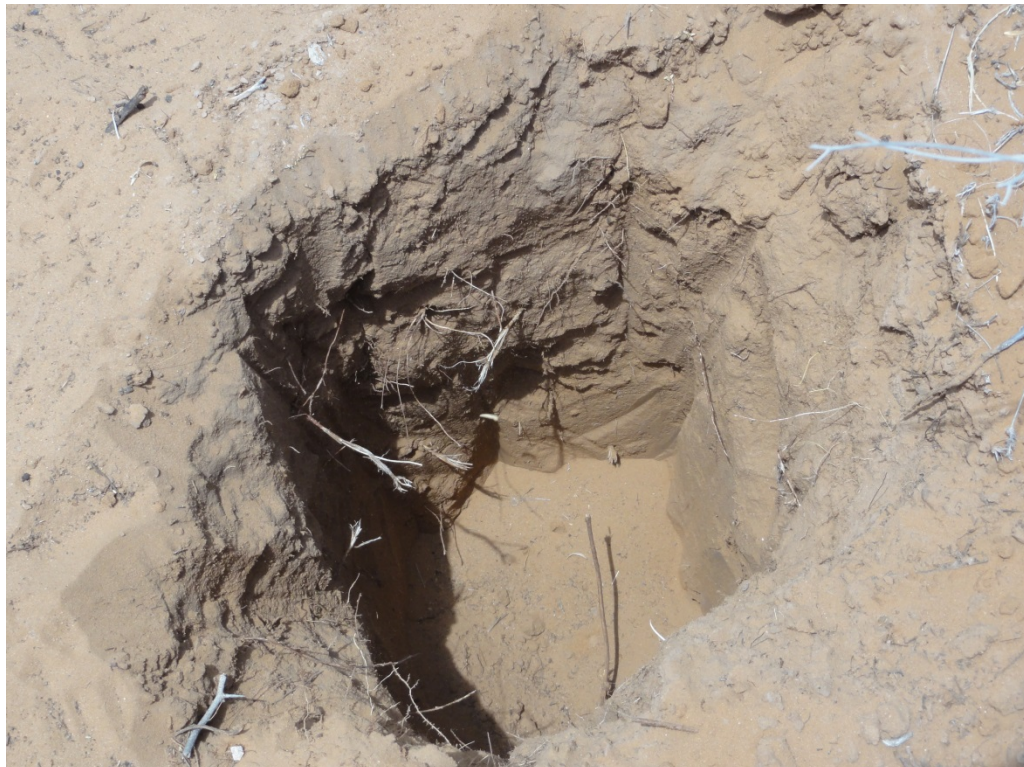
Figure 4-4. Typical Ground Surface and Vegetation within APE.



Figure 4-5. Cleared Corridor on APE, facing East.



Figure 4-6. Profile of Shovel Test within Dune Formation.



5 Summary and Recommendations

5.1 National Register Eligibility

5.1.1 Criteria for Evaluation of Eligibility

As part of this review process, cultural resources investigations are undertaken with the purpose of identifying resources that are listed in, or eligible for listing in, the NRHP. The assessment of significance of cultural resources is based on federal guidelines and regulations. Any cultural resource that is listed in or eligible for inclusion in the NRHP is known as a “historic property,” and the term “eligible for inclusion in the NRHP” includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet NRHP-listing criteria. The criteria for evaluating properties for inclusion in the NRHP (36 Code of Federal Regulations [CFR] 60.4 [a–d]) are codified under the authority of the National Historic Preservation Act of 1966, as amended, and the Advisory Council on Historic Preservation has set forth guidelines to use in determining site eligibility. Subsequent to the identification of relevant historical themes and related research questions, these four criteria for eligibility are applied:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, material, workmanship, feeling, and association and

- A. that are *associated with events* that have made a significant contribution to the broad patterns of our history; or
- B. that are *associated with the lives of persons* significant in our past; or
- C. that *embody the distinctive characteristics* of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. that have yielded, or may be likely to *yield, information important in prehistory or history*. Note that the application of Criterion D presupposes that the information imparted by the site is significant in history or prehistory [36 CFR 60.4, emphasis added].

The physical characteristics and historic significance of the overall property are examined when conducting NRHP evaluations. Although a property in its entirety may be considered eligible based on Criteria A, B, C, and/or D, specific data are also required for individual components therein based on date, function, history, physical characteristics, and other information. Resources that do not relate in a significant way to the overall property may contribute if they independently meet the NRHP criteria.

For a historic resource, district, or landscape to be determined eligible for the NRHP, it must retain enough of its historic integrity to convey its significance. For the NRHP, there are seven aspects of integrity:

1. Location
2. Design
3. Setting
4. Materials
5. Workmanship
6. Feeling
7. Association

Occasionally, certain resources fall into categories in which they must be evaluated further using one or more of the following Criterion Considerations. If a resource identified during the reconnaissance-level survey falls into one of these categories, the following Criterion Considerations will be applied in conjunction with one or more of the four NRHP criteria:

- A. A religious property deriving primary significance from architectural or artistic distinction or historical importance, or
- B. A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event, or
- C. A birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his or her productive life, or
- D. A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or
- E. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived, or
- F. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance, or
- G. A property achieving significance within the past 50 years if it is of exceptional importance (36 CFR 60.4).

The scientific value of archaeological sites is often assessed under Criterion D. With regard specifically to this criterion, the goal of prehistoric archaeological research and management is to fill gaps in the knowledge about specific research domains. Scientific importance is driven, in part, by the research paradigms of the time and in part by the

amount of information available about a particular research topic in a specific geographic area. The most robust forms of scientific importance should honor diverse and occasionally competing schools of research interests and their attendant approaches. In order to fulfill Criterion D, a site must possess certain attributes (e.g., intact buried cultural strata with functionally and temporally diagnostic materials, datable cultural features) such that further intensive research at the site could be expected to add additional information to relevant research questions.

5.1.2 State Antiquities Landmark

At the state level, archaeological sites may be considered significant and be recognized or designated as an SAL, provided that at least one of the following conditions is met:

1. The archaeological site is situated on lands owned or controlled by the State of Texas or one of its political subdivisions; or
2. The archaeological site is situated on private land which has been specifically designated as an SAL and fits at least one of the following criteria:
 - A. Preservation of materials must be sufficient to allow application of standard archaeological techniques to advantage;
 - B. The majority of artifacts are in place so that a significant portion of the site's original characteristics can be defined through investigation;
 - C. The site has the potential to contribute to cumulative cultural history by the addition of new information;
 - D. The site offers evidence of unique or rare attributes; and/or
 - E. The site offers a unique and rare opportunity to test techniques, theories, or methods of preservation, thereby contributing to scientific knowledge [Texas Natural Resources Code 1977; Title 9, Chapter 191, Texas Antiquities Committee, Section 191.094 and Chapter 41.7, Antiquities Code of Texas].

Buildings, structures, cultural landscapes, and non-archaeological sites, objects, and districts may be designated as an SAL, provided that the following conditions are met:

1. The property fits within at least one of the following criteria:
 - A. The property is associated with events that have made a significant contribution to the broad patterns of our history, including importance to a particular cultural or ethnic group;
 - B. The property is associated with the lives of persons significant in our past;
 - C. The property embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction;
 - D. The property has yielded, or may be likely to yield, information important in Texas culture or history;
2. The property retains integrity at the time of the nomination, as determined by the executive director of the commission; and

3. For buildings and structures only, the property must be listed in the NRHP, either individually, or as a contributing property within a historic district. Contributing status may be determined by the Keeper of the National Register or the executive director of the commission.

5.2 Conclusion and Recommendation Summary

HDR conducted an intensive archaeological survey of the entire 1-mi (1.6-km) APE. Due to the high ground surface visibility (averaging approximately 90 percent) within the APE, pedestrian walkover was employed. The entire APE was walked over with two survey transects. The survey area proved to be highly disturbed due to the existence of multiple pipelines, transmission lines, and roads. No cultural resources were identified within the APE.

HDR recommends no further archaeological investigations within the APE, and construction may proceed. However, in the event that any archaeological deposits are encountered during construction, work should cease, and the THC should be notified.

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