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2020 Annual Report: Cultural Resources Surveys Conducted for Two Anadarko E&P Onshore LLC Projects on General Land Office Property in Reeves County, Texas

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Texas Antiquities Committee Annual Permit No. 9226
HJN 160006 AR 122

Prepared for:

Whitenton Group, Inc.
San Marcos, Texas

Prepared by:

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January 2021

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MANAGEMENT SUMMARY

During the 2020 calendar year, Horizon Environmental Services, Inc. (Horizon) conducted intensive cultural resources surveys for two proposed Anadarko E&P Onshore LLC (Anadarko) projects located on property owned by the Texas General Land Office (GLO) in Reeves County, Texas (Project Areas). These projects included several flowline and pipeline rights-of-way (ROWs). Both projects were privately funded and did not require any federal permitting or coordination. However, as the GLO is considered to be a political subdivision of the State of Texas, the portions of the two projects on GLO property fell under the regulations of the Antiquities Code of Texas (ACT). At the request of Whitenton Group, Inc. (Whitenton), Horizon conducted the cultural resources surveys of the Project Areas on behalf of Anadarko in compliance with the ACT. Overall, these surveys assessed approximately 9.7 acres of GLO land. The purpose of the surveys was to determine if any archeological sites were located within the Project Areas and, if any existed, to determine if the projects had the potential to have any adverse impacts on sites considered eligible for formal designation as State Antiquities Landmarks (SALs). The cultural resources surveys were conducted under Texas Antiquities Committee (TAC) annual permit number 9226.

The cultural resources surveys of the two Project Areas resulted in the documentation of one new archeological site. Site 41RV207 was documented as a diffuse, low-density prehistoric lithic scatter situated near the apex of a gradually sloping desert upland within Anadarko's Manassas State 55-4-21 1H-3H Gas, Oil, and SWD Pipeline Projects. The presence of early stage lithic flaking debris and the absence of any formal tools, fire-cracked rock (FCR), or cultural features on the site suggest that it functioned as a lithic procurement area rather than a campsite. The boundaries of the site were only documented within the limits of the current Project Area, and the site's deposits could continue for a currently undefined distance to the north and south. As such, the full horizontal extent of site 41RV207 was not assessed, and its overall SAL eligibility status remains undetermined. However, based on: 1) the surficial nature of the observed cultural deposits; 2) the lack of buried, stratified cultural deposits; 3) the lack of any temporally diagnostic materials on the site; and 4) the lack of any preserved floral/faunal remains, it was Horizon's opinion that the portion of site 41RV207 within the boundaries of the current Project Area is ineligible for formal designation as a SAL.

The cultural resources survey of the second Project Area assessed during 2020 resulted in entirely negative findings. No cultural materials were observed on the surface of the other assessed location or within any of the excavated shovel tests.

Based on the survey results, it was Horizon's opinion that the development of the two projects would have no adverse effects on significant cultural resources designated as or considered eligible for designation as SALs on GLO property. Horizon therefore recommended that Anadarko be allowed to proceed with the construction of these projects relative to the jurisdiction of the ACT. The Texas Historical Commission (THC) concurred with these recommendations for both projects.

All recovered cultural materials (if any) and all original field notes, maps, drawings, and photographs were to be curated at the Texas Archeological Research Laboratory (TARL) in accordance with the TAC Permit-Terms and Conditions and Texas Administrative Code Title 13, Part 2, Chapter 26.C.26.17.

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ACKNOWLEDGEMENTS

Horizon Environmental Services, Inc. (Horizon) conducted the intensive cultural resources survey of two proposed Anadarko E&P Onshore LLC (Anadarko) projects reported herein in compliance with the Antiquities Code of Texas (ACT). Russell Brownlow served as the principal investigator for the projects and lead author on this report. Jacob Lyons, McKinzie Froese, and Amy Goldstein conducted the field investigations, while Jacob Lyons and Karlie Schultz were responsible for drafting the figures.

1.0 INTRODUCTION

This document reports the results of intensive cultural resources surveys conducted during the 2020 calendar year for two proposed Anadarko E&P Onshore LLC (Anadarko) projects located on property owned by the Texas General Land Office (GLO) in Reeves County, Texas (Project Areas) (Figure 1-1). Both projects were privately funded and did not require any federal permitting or coordination. However, as the GLO is considered to be a political subdivision of the State, the portions of the projects on GLO property fell under the regulations of the Antiquities Code of Texas (ACT). At the request of Whitenton Group, Inc. (Whitenton), Horizon Environmental Services, Inc. (Horizon) conducted the cultural resources surveys of the Project Areas on behalf of Anadarko in compliance with the ACT. The purpose of the surveys was to determine if any archeological sites were located within the two Project Areas and, if any existed, to determine if the projects had the potential to have any adverse impacts on sites considered eligible for formal designation as State Antiquities Landmarks (SALs). The cultural resources surveys were conducted under Texas Antiquities (TA) annual permit number 9226.

The two Anadarko projects assessed by Horizon in 2020 included flowline and pipeline rights-of-way (ROWs) that were located wholly or in part on tracts of land owned by the GLO. Construction efforts within these ROWs typically consisted of clearing vegetation from each ROW via heavy machinery, followed by the excavation of the pipeline trench measuring several feet wide and excavated down to depths around 6.0 feet (1.8 meters [m]) below surface. Only the portions of each project situated on GLO land were assessed under TAC annual permit number 9226. These included the majority of one of the projects and roughly half of another. Overall, these surveys assessed approximately 9.7 acres of GLO land. Both of the projects are listed in Table 1-1 and their map identifiers are indicated in Figure 1-1. The individual interim reports prepared for each project, as well as the individual responses from the Texas Historical Commission (THC), are presented in Appendix A.

Table 1-1. Names of the two Anadarko Projects

Survey No.	Project Name
1	Manassas State 55-4-21 1H-3H Gas, Oil, and SWD Pipeline Projects
2	Palmito Ranch 1H-2H Flowline and Gas Lift Pipeline Projects

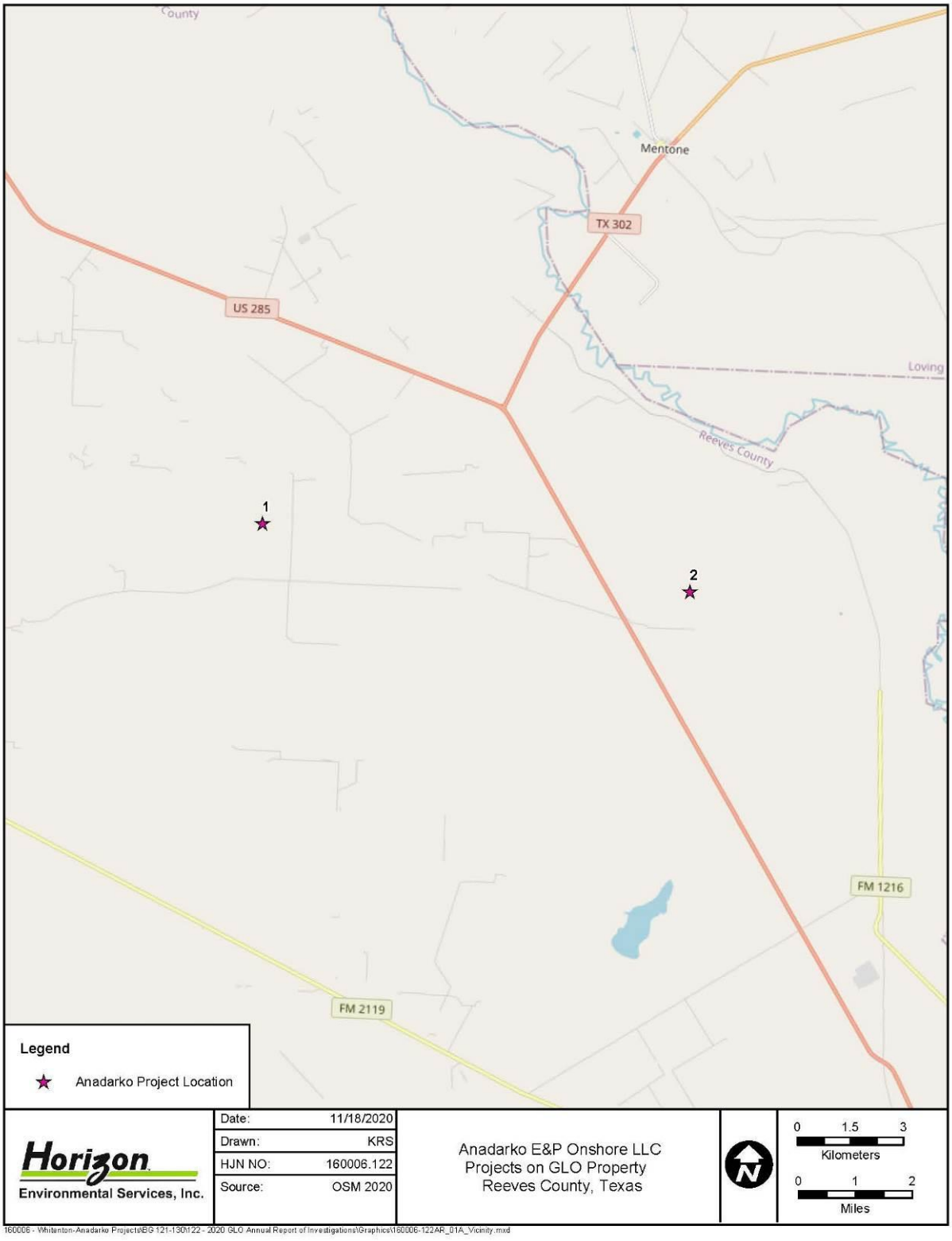

Figure 1-1. Vicinity map with the locations of the two Project Areas

The cultural resources investigations for both of the projects consisted of an initial archival review, an intensive cultural resources survey of each Project Area, the production of interim reports submitted for review by the State Historic Preservation Officer (SHPO), and the production of a final report for review by the SHPO in accordance with the THC's Rules of Practice and Procedure, Chapter 26, Section 27, and the Council of Texas Archeologists (CTA) Guidelines for Cultural Resources Management Reports. Russell Brownlow (Horizon's president) served as the projects' principal investigator, while Jacob Lyons, McKinzie Froese, and Amy Goldstein conducted the field investigations at various times in 2020.

The cultural resources surveys of the two Project Areas resulted in the documentation of one new archeological site. Site 41RV207 was documented as a diffuse, low-density prehistoric lithic scatter situated near the apex of a gradually sloping desert upland within Anadarko's Manassas State 55-4-21 1H-3H Gas, Oil, and SWD Pipeline Projects. The presence of early stage lithic flaking debris and the absence of any formal tools, fire-cracked rock (FCR), or cultural features on the site suggest that it functioned as a lithic procurement area rather than a campsite. The boundaries of the site were only documented within the limits of the current Project Area, and the site's deposits could continue for a currently undefined distance to the north and south. As such, the full horizontal extent of site 41RV207 was not assessed, and its overall SAL eligibility status remains undetermined. However, based on: 1) the surficial nature of the observed cultural deposits; 2) the lack of buried, stratified cultural deposits; 3) the lack of any temporally diagnostic materials on the site; and 4) the lack of any preserved floral/faunal remains, it was Horizon's opinion that the portion of site 41RV207 within the boundaries of the current Project Area is ineligible for formal designation as a SAL.

The cultural resources survey of the second Project Area assessed during 2020 resulted in entirely negative findings. No cultural materials were observed on the surface of the other assessed location or within any of the excavated shovel tests.

Based on the survey results, it was Horizon's opinion that the development of the two projects would have no adverse effects on significant cultural resources designated as or considered eligible for designation as SALs on GLO property. Horizon therefore recommended that Anadarko be allowed to proceed with the construction of these projects relative to the jurisdiction of the ACT. However, in the unlikely event that any cultural materials (including human remains or burial features) were inadvertently discovered at any point during construction, use, or ongoing maintenance of the various Project Areas, even in previously surveyed areas, Horizon further recommended that all work at the location of the discovery should cease immediately, and the THC and GLO should be notified of the discovery. The THC concurred with these recommendations for both projects.

All recovered cultural materials (if any) and all original field notes, maps, drawings, and photographs were to be curated at the Texas Archeological Research Laboratory (TARL) in accordance with the TAC Permit-Terms and Conditions and Texas Administrative Code Title 13, Part 2, Chapter 26.C.26.17.

2.0 ENVIRONMENTAL SETTING

2.1 GENERAL PROJECT AREA DESCRIPTIONS

The two Anadarko projects on GLO land that were assessed in 2020 are both located in north-central Reeves County, Texas. They are located south and southwest of Mentone, Texas, and can be found on the US Geological Survey (USGS) 7.5-minute Mentone SW, Texas, and Sand Lake, Texas, topographic quadrangle maps (see Figure 1-1; also see individual interim reports in Appendix A). Both projects consist of several flowlines and pipelines that are co-located within larger overall ROWs. Each project is summarized in Table 2-1.

2.2 PHYSIOGRAPHY AND HYDROLOGY

The two Project Areas are located within desert settings in West Texas. They are typically found in relatively flat to gently undulating desert hills that are dissected by a variety of drainages and draws, including Smith Draw and tributaries of the Pecos River. Representative images of the Project Areas are presented in Figures 2-1 through 2-4.

Hydrologically, both Project Areas are situated within the Pecos River drainage basin. Both are located to the west or southwest of the Pecos River and are drained to the northeast or southeast by the various water channels listed above.

2.3 CLIMATE

Winters in Reeves County are generally cool, with an average temperature of 46.0 degrees Fahrenheit (°F). The summer months are hot, with an average temperature of 83.0°F. The average annual total precipitation is about 8.6 inches (21.8 centimeters [cm]), with roughly 70% of it falling between April and September (NRCS 1980).

2.4 SOILS

Soils mapped within each of the two Project Areas are presented within the individual interim reports prepared for each project in Appendix A.

Table 2-1. General descriptions of the two Anadarko Projects

Survey No.	Project Name	Description
1	Manassas State 55-4-21 1H-3H Gas, Oil, and SWD Pipeline Projects	The Project Area consists of: 1) three separate pipelines that will be co-located within one pipeline ROW that measures approximately 1.0 mile (1.6 km) long by 50.0 feet (15.2 m) wide with a total area of approximately 6.1 acres; and 2) a small surface site measuring 0.6 acres in size. Overall, the Project Area totals approximately 6.7 acres. Aside from the extreme western end of the pipeline ROW and southern half of the surface site, the remainder of the Project Area is located on GLO land.
2	Palmito Ranch 1H-2H Flowline and Gas Lift Pipeline Projects	The Project Area consists of two separate pipelines that will be co-located within one pipeline ROW that measures approximately 0.9 miles (1.4 km) long by 50.0 feet (15.2 m) wide with a total area of approximately 5.5 acres. Roughly the western half (0.5 miles [0.7 km]) of the ROW is located on GLO Land. This portion has a total area of approximately 3.0 acres.

2.5 FLORA AND FAUNA

The two Project Areas are located in the Chihuahuan Biotic Province, which includes all of Trans-Pecos Texas except for the Guadalupe Mountains (Blair 1950). Blair notes that portions of Culberson and the surrounding counties, including Reeves, were once part of an old bolson now drained by the Pecos River. Also located within the Chihuahuan Basins and Playas of the Chihuahuan Deserts ecoregion, the Project Areas are situated on geologic formations comprising sand sheet and caliche deposits (Griffith et al. 2007). Three native plant communities dominate the Chihuahuan Basins and Playas: saline flats and alkaline playa margins, gypsum land, and desert shrubland. The dominant species associated with the saline flats and alkaline playa margins plant community include fourwing saltbush (*Atriplex canescens*), seepweed (*Suaeda* spp.), pickleweed (*Salicornia* spp.), and alkali sacaton (*Sporobolus airoides*). The dominant species associated with the gypsum land plant community include gypsum grama (*Bouteloua breviseta*), blazingstar (*Mentzelia* spp.), and Torrey's jointfir (*Ephedra torreyana*). The dominant species associated with the desert shrubland plant community include creosote bush (*Larrea tridentata*), American tarwort (*Flourensia cernua*), yucca (*Yucca* spp.), sand sagebrush (*Artemisia filifolia*), blackbrush (*Acacia rigidula*), Christmas cactus (*Cylindropuntia leptocaulis*), lechuguilla (*Agave lechuguilla*), and cenizo (*Leucophyllum frutescens*) (Griffith et al. 2007).

Figure 2-1. View of typical desert setting within the Project Areas (Survey Area 1)

Figure 2-2. Another view of desert setting within the Project Areas (Survey Area 2)

Figure 2-3. Typical gravelly soils within the Project Areas

Figure 2-4. Typical shovel test within the Project Areas

3.0 REGIONAL HISTORY

3.1 CULTURAL BACKGROUND

The general temporal framework for most prehistoric archeological sites in Texas is based on the seriation of projectile point types originally established by Suhm et al. (1954) and later revised by Suhm and Jelks (1962), Prewitt (1981, 1985), and Turner and Hester (1999). This temporal framework, consisting of a tri-partite system based on technological changes in diagnostic artifacts that occurred as a result of indigenous adaptation to changing environments and subsistence strategies, is broken down into three main periods: PaleoIndian (pre-8500 B.P.), Archaic (8500 to 1250 B.P.), and Late Prehistoric (1250 to 250 B.P.). The Archaic period is further subdivided into the Early Archaic (8500 to 6000 B.P.), the Middle Archaic (6000 B.P. to 3500 B.P.), and the Late Archaic (3500 to 1250 B.P.) subperiods.

3.1.1 PaleoIndian (pre-8500 B.P.)

The PaleoIndian period is characterized by highly mobile groups hunting over large areas. Although now-extinct megafauna such as mammoth and bison are often found associated with sites of this time period, smaller game such as deer and turtles were also likely utilized as food items. Plant foods undoubtedly made up a portion of the diet as well. Based upon the low number of diagnostic artifacts recovered from sites of this period, as well as the low frequency of sites, population densities are considered low and probably consisted of small family groups. An increase in projectile point frequency toward the end of the period may suggest an increased population density or, perhaps, an increase in macro-band aggregation for the purpose of communal hunts. Sites from this time period are found mostly in upland tributary and spring settings, as well as deeply buried in floodplain alluvium. Clovis and Folsom points are indicative of Early PaleoIndian occupations, while Plainview, Golondrina, Scottsbluff, Meserve, Eden, Dalton, San Patrice, and Angostura points are characteristic of the later span of the period.

3.1.2 Early Archaic (8500 to 6000 B.P.)

Like the PaleoIndian period, Early Archaic population densities remained low, still consisting of small, mobile bands. However, a more generalized hunting-and-gathering strategy is evidenced by the use of river mussels. Early Archaic sites are typically located on terraces

along tributary watercourses but are also often found deeply buried in floodplain alluvium. Site locales and an increased use of river mussels possibly indicate a shift in subsistence strategies in order to exploit the bottomlands of major waterways during this period of wetter climates. Split-stemmed points such as Gower, Martindale, and Uvalde, as well as Big Sandy, Hardin, and Hoxie, are diagnostic of Early Archaic occupations.

3.1.3 Middle Archaic (6000 to 3500 B.P.)

During the Middle Archaic, the trend to bottomland exploitation increased, with fewer sites found along minor tributaries. Population density remained relatively low, but obviously increased over prior periods, with broad-spectrum hunting and gathering represented at larger sites where food sources were more abundant.

3.1.4 Late Archaic (3500 to 1250 B.P.)

In contrast to earlier time periods, the Late Archaic represents a period of increased population and site density. Subsistence was focused on hunting and gathering within the bottomlands of major creeks and rivers. Deer remains are quite common at Late Archaic sites, and the exploitation of plant foods (nuts) seems to have increased during this period, based upon an increase in plant-processing tools. Late Archaic sites are typically found on sandy terraces along tributaries as well as on clayey floodplains.

3.1.5 Late Prehistoric (1250 to 250 B.P.)

The Late Prehistoric, in general, is characterized by the advent of the bow and arrow, as well as ceramics, in Texas. Hunting and gathering continued, with an emphasis on deer and other small game. Horticulture also became evident in some areas. As in the Late Archaic, sites continue to be located on sandy terraces along major creeks and rivers. In fact, the majority of Late Prehistoric sites contain some traces of Late Archaic occupations. A marked population increase is evident, and increased territorial conflicts possibly explain the recovery of burials with indications of violent deaths. Furthermore, differentiated burial practices also suggest the development of non-egalitarian societies.

3.1.6 Historic (250 B.P. to Present)

The history of Reeves County is not well documented, due to its remoteness and low population. The Antonio de Espejo expedition was one of the first Spanish expeditions to cross into West Texas. According to Smith (2017), this expedition encountered a group of three Jumano Indians near Toyah Lake in eastern Reeves County in 1853. The Jumanos are said to have irrigated crops of peaches and corn near Balmorhea (Smith 2017). Later visitors to the region noted groups of Mescalero Indians growing corn along Toyah Creek. It wasn't until the 1870s that the first Anglo farmers and ranchers began to settle the area.

Named for Confederate colonel George R. Reeves, Reeves County separated from Pecos County in 1883 and was organized 1884. Around the turn of the twentieth century, state law permitted sale of school lands in West Texas. This led to a rush of new settlers in the region. By 1910, the population of the county had doubled to 4,392, with most residents living in

the numerous small towns that had sprung up, including Orla and Balmorhea, which were the only two towns with remaining post offices in the 1990s (Smith 2017). The 1920s and 1930s saw the expansion of oil exploration in the region, and the population increased to 6,407 residents. By the 1990s, the Reeves County economy was primarily based on oil and agriculture. In the early 2000s, the population had increased to 14,349.

3.2 PREVIOUS INVESTIGATIONS

The northwestern region of Reeves County has undergone extensive archeological surveys in the last 60 years, with the majority having been completed since the mid-1980s. Most of these archeological projects included Phase I and II subsurface investigations in support of oil and gas extraction projects. These investigations were undertaken along pipeline corridors and well pads for companies such as Anadarko, El Paso Natural Gas Company, and Plains All American Pipeline. Archeological surveys were completed by environmental engineering firms such as Horizon, SWCA, Inc., and Tierras Antiguas Archaeological Investigations, as well as by academic institutions such as the Cultural Resource Management Division from New Mexico State University.

The archeological sites recorded in Reeves County demonstrate a wide range of Native American historic and prehistoric material culture, with noteworthy examples of skilled artistic expression in both pictographs and petroglyphs, as well as in the form of richly decorated clay vessels and other ritual and ceremonial objects depicted in media, such as exotic shell, bone, or rare stone, including turquoise, malachite, and kaolinite (O'Laughlin and Black 2019). The temporal range of these cultures spans from PaleoIndian through the Archaic and into the Contact period. Many of the sites consist of prehistoric lithic scatters, burned rock middens containing fire-cracked rock (FCR), hearth features with faunal remains, and ceramic sherd assemblages. The distinct archeological tradition of the Jornada Mogollon existed in the region from roughly A.D. 400 to 1500 (Lehmer 1948). These peoples practiced sedentary lifeways, including an emphasis on cultigen intensification of crops such as maize and squash. The Jornada Mogollon, a part of the Pueblo complex, lived in pithouse villages (Whalen 1981) and produced skilled ceramic techniques such as El Paso Polychrome, Chupadero Black-on-White, and Playas Red incised (O'Laughlin 2001). All of these ceramic styles favor the Casas Grandes (Paquime) culture artistic style to the south near Chihuahua, Mexico (Lehmer 1958). These shared artistic types demonstrate extensive trade networks in and out of the Reeves County area. Later historic tribes in the region included the Jumano, Apache, and Comanche.

Reeves County contains several archeological sites which are exceptional and notable to mention. Late Archaic and Late Prehistoric petroglyphs occur at the Graef Petroglyph Site in Reeves County and just across the border in Loving County at site 41LV1, also known as Jackson's Petroglyph Site. The artistic style at Graef bears similarities to the Chihuahuan Desert Abstract Style of the Late Archaic period, and includes depictions of geometric designs, concentric circles, animals, and anthropomorphic figures. Site 41RV9 contains several Late Prehistoric burials in a large rock cairn, and site 41RV49 contains seven Cornertang bifacial knives and several temporally diagnostic projectile point styles, including Toyah, Frio, Langtry, Paisano, Ensor, Guadalupe, and Carlsbad.

4.0 METHODOLOGY

4.1 DATABASE AND MAP REVIEW

Prior to all field survey efforts, a Horizon archeologist conducted archival research via the THC's Texas Archeological Sites Atlas (Atlas) online database and via the National Park Service's (NPS) National Register of Historic Places (NRHP) Google Earth map layer to ascertain the number, type, and significance of any previously recorded archeological sites, cemeteries, and historic properties within a 1.0-mile (1.6-kilometer [km]) radius of both of the Project Areas. Given the remoteness of the Project Areas and the general lack of prior surveys in the area, neither of the Project Areas had any documented cultural resources within the 1.0-mile (1.6-km) review perimeters. The results of the archival research conducted for both of the projects are presented within the associated interim reports in Appendix A.

4.2 FIELD METHODS

A one- to two-person Horizon archeological field crew assessed the separate Project Areas at various times in 2020. The survey efforts typically entailed intensive surface inspection and subsurface shovel testing within each Project Area. As these investigations were conducted prior to the updated 2020 Texas State Minimum Archeological Survey Standards (TSMASS), all investigations utilized the earlier version of the TSMASS. For linear projects measuring up to 100.0 feet (30.5 m) wide, which included all of the assessed flowline and pipeline ROWs, the TSMASS require a minimum of 16 shovel tests per mile. Horizon met or exceeded the TSMASS in both Project Areas. The number of shovel tests excavated within each Project Area are presented in Table 4-1. The specific methodology for each of the two projects is presented within the associated interim reports in Appendix A. All excavated matrices were screened through 0.25-inch (6.3-millimeter [mm]) hardware mesh or were trowel-sorted if the dense clay soils prohibited successful screening.

For each project, field notes were maintained on terrain, vegetation, soils, landforms, shovel tests, and cultural materials observed (if any). Standardized shovel test forms were completed for every shovel test. These forms included location data, depth, soil type, and notations on any artifacts encountered. For any new archeological sites recorded, standard site forms were to be completed and filed at TARL for permanent housing. Similarly, for any previously recorded archeological sites that were assessed, updated site forms were to be completed and filed at TARL.

Table 4-1. Number of shovel tests excavated within the two Project Areas

Survey No.	Project Name	No. of Shovel Tests
1	Manassas State 55-4-21 1H-3H Gas, Oil, and SWD Pipeline Projects	19
2	Palmito Ranch 1H-2H Flowline and Gas Lift Pipeline Projects	8

A selective collection strategy was utilized during the survey efforts wherein only diagnostic cultural materials were to be collected for eventual curation at an approved facility. Non-diagnostic artifacts were to be tabulated and assessed in the field and placed back where they were found. Digital photographs with a photo log were also completed as appropriate. The locations of all shovel tests were recorded via handheld global positioning system (GPS) units utilizing the Universal Transverse Mercator (UTM) coordinate system and the North American Datum of 1983 (NAD 83). Shovel test locations and shovel test data are presented within the associated interim reports in Appendix A.

All recovered cultural materials (if any) and all original field notes, maps, drawings, and photographs were to be curated at TARL in accordance with the TAC Permit-Terms and Conditions and Texas Administrative Code Title 13, Part 2, Chapter 26.C.26.17.

5.0 RESULTS AND RECOMMENDATIONS

The cultural resources surveys of the two Project Areas resulted in the documentation of one new archeological site. Site 41RV207 was documented as a diffuse, low-density prehistoric lithic scatter situated near the apex of a gradually sloping desert upland within Anadarko's Manassas State 55-4-21 1H-3H Gas, Oil, and SWD Pipeline Projects. The presence of early stage lithic flaking debris and the absence of any formal tools, fire-cracked rock (FCR), or cultural features on the site suggest that it functioned as a lithic procurement area rather than a campsite. The boundaries of the site were only documented within the limits of the current Project Area, and the site's deposits could continue for a currently undefined distance to the north and south. As such, the full horizontal extent of site 41RV207 was not assessed, and its overall SAL eligibility status remains undetermined. However, based on: 1) the surficial nature of the observed cultural deposits; 2) the lack of buried, stratified cultural deposits; 3) the lack of any temporally diagnostic materials on the site; and 4) the lack of any preserved floral/faunal remains, it was Horizon's opinion that the portion of site 41RV207 within the boundaries of the current Project Area is ineligible for formal designation as a SAL.

The cultural resources survey of the second Project Area assessed during 2020 resulted in entirely negative findings. No cultural materials were observed on the surface of the other assessed location or within any of the excavated shovel tests. The results for both of the Project Areas are summarized in Table 5-1.

Table 5-1. Results and recommendations for the two Anadarko Projects

Survey No.	Project Name	Site Nos.	Recommendations
1	Manassas State 55-4-21 1H-3H Gas, Oil, and SWD Pipeline Projects	41RV207	Ineligible within ROW. No further investigations warranted
2	Palmito Ranch 1H-2H Flowline and Gas Lift Pipeline Projects	-	No further investigations warranted

Based on the negative survey results, it was Horizon's opinion that the development of the two projects would have no adverse effects on significant cultural resources designated as or considered eligible for designation as SALs on GLO property. Horizon therefore

recommended that Anadarko be allowed to proceed with the construction of these projects relative to the jurisdiction of the ACT. However, in the unlikely event that any cultural materials (including human remains or burial features) were inadvertently discovered at any point during construction, use, or ongoing maintenance of the various Project Areas, even in previously surveyed areas, Horizon further recommended that all work at the location of the discovery should cease immediately, and the THC and GLO should be notified of the discovery. The THC concurred with these recommendations for both projects. The THC comments for each of the Project Areas are presented in Table 5-2.

Table 5-2. THC comments for the two Anadarko Projects

Survey No.	Project Name	THC Determinations
1	Manassas State 55-4-21 1H-3H Gas, Oil, and SWD Pipeline Projects	**Above-Ground Resources** • No historic properties are present or affected by the project as proposed **Archeology Comments** • THC/SHPO concurs with information provided • Property/properties are not eligible for designation as State Antiquities Landmarks • Draft report acceptable
2	Palmito Ranch 1H-2H Flowline and Gas Lift Pipeline Projects	**Above-Ground Resources** • No historic properties are present or affected by the project as proposed **Archeology Comments** • No effect on archeological sites • THC/SHPO concurs with information provided • No sites recorded

All recovered cultural materials (if any) and all original field notes, maps, drawings, and photographs were to be curated at TARL in accordance with the TAC Permit-Terms and Conditions and Texas Administrative Code Title 13, Part 2, Chapter 26.C.26.17.

6.0 REFERENCES CITED

Blair, W.F.

1950 The Biotic Provinces of Texas. The Texas Journal of Science 2(1):93-117.

Griffith, G., S. Bryce, J. Omernik, and A. Rogers

2007 *Ecoregions of Texas*. Prepared for the Texas Commission on Environmental Quality. ftp://ftp.epa.gov/wed/ecoregions/tx/TXeco_Jan08_v8_Cmprsd.pdf. Accessed 23 June 2014.

Lehmer, D.J.

1948 The Jornada Branch of the Mogollon. Social Science Bulletin No. 17. The University of Arizona.

1958 A Review of Trans-Pecos Texas Archeology. Bulletin of The Texas Archeological Society 29 (1):109-144.

(NRCS) US Department of Agriculture, Natural Resources Conservation Service

1980 Soil Survey of Reeves County, Texas. <http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/texas/TX389/0/Reeves.pdf>. Published June 1980. Accessed 18 November 2020.

O'Laughlin, T. C.

2001 Long Lessons and Big Surprises: Firecracker Pueblo. In: Following Through: Papers in Honor of Phyllis S. Davis, edited by Regge N. Wiseman, T. C. O'Laughlin, and Cordelia T. Snow, pp. 122-131. Archaeological Society of New Mexico: 27.

O'Laughlin, T.C. and S. Black,

2019 Texas Beyond History Online, "Firecracker Pueblo," <https://www.texasbeyondhistory.net/firecracker/credits.html>. Accessed 10 May 2019.

(OSM) OpenStreetMap Contributors

2020 Open Street Map. <http://www.openstreetmap.org>. Available under the Open Data Commons Open Database License (ODbL) (https://opendatacommons.org/licenses/odbl/). Accessed 18 November 2020.

Prewitt, E.R.

1981 Cultural Chronology in Central Texas. *Bulletin of the Texas Archeological Society* 52:65-89.

1985 From Circleville to Toyah: Comments on Central Texas Chronology. *Bulletin of the Texas Archeological Society* 54 (for 1983):201-238.

Smith, J.C.

2017 Reeves County. *The Handbook of Texas Online*. Texas State Historical Association. <http://www.tshaonline.org/handbook/online/articles/hcr06>. Accessed 1 February 2017.

Suhm, D.A. and E. B. Jelks

1962 *Handbook of Texas Archeology: Type Descriptions*. The Texas Archeological Society Special Publication No. 1 and The Texas Memorial Museum Bulletin No. 4. Austin.

Suhm, D.A., A.D. Krieger, and E. B. Jelks

1954 An Introductory Handbook of Texas Archeology. *Bulletin of the Texas Archeological Society* 25:1-562.

Turner, E.S., and T.R. Hester

1999 *A Field Guide to Stone Artifacts of Texas Indians*. Third Revised Edition. Gulf Publishing Company, Houston.

Whalen, M. E.

1981 Cultural-Ecological Aspects of the Pithouse-to-Pueblo Transition in a Portion of the Southwest. American Antiquity 46(1):75-92.

APPENDIX A:

Interim Reports

Horizon™
Environmental Services, Inc.

21 January 2020

Mr. Mark Wolfe
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711-2276

RE: Interim Report
Anadarko Petroleum Corporation
Manassas State 55-4-21 1H-3H Gas, Oil, and SWD Pipeline Projects
Reeves County, Texas
Antiquities Code of Texas (GLO) – TAC Permit No. 9226
HJN 160006 AR 118

Mr. Wolfe:

Anadarko Petroleum Corporation (Anadarko) is proposing to develop the Manassas State 55-4-21 1H-3H Gas, Oil, and SWD Pipeline Projects in Reeves County, Texas (Project Area; Figures 1 through 5). The development of the Project Area will be privately funded. However, the vast majority of the alignment is located on property owned by the Texas General Land Office (GLO). As the GLO is considered to be a political subdivision of the state, the portion of the undertaking on GLO land is regulated by the Antiquities Code of Texas (ACT). On behalf of Anadarko, Whitenton Group (Whitenton) has contracted with Horizon Environmental Services, Inc. (Horizon) to conduct a cultural resources survey of the Project Area in compliance with the ACT. The purpose of the survey was to determine if any archeological sites were located within the Project Area on GLO land and, if any existed, to determine if the project had the potential to have any adverse impacts on sites considered eligible for formal designation as State Antiquities Landmarks (SALs). Horizon conducted the cultural resources investigations under Texas Antiquities Committee (TAC) annual permit number 9226.

Russell Brownlow (Horizon president) served as the Principal Investigator for the investigations and author of this interim report. Jacob Lyons (Horizon project archeologist) and McKinzie Froese (Horizon archeological field technician) conducted the field investigations.

This interim report summarizes Horizon's findings and serves as a management tool for consultation purposes regarding the Project Area. The results of these investigations will eventually be compiled into a formal report that will incorporate all projects completed under TAC annual permit number 9226 during the 2020 calendar year. Subsequent to the approval of the formal report, Horizon will also prepare all specimens, artifacts, materials, samples, and original field notes, maps, drawings, and photographs for curation at the Texas Archeological Research Laboratory (TARL) in accordance with the TAC Permit-Terms and Conditions and Texas Administrative Code Title 13, Part 2, Chapter 26.C.26.17.

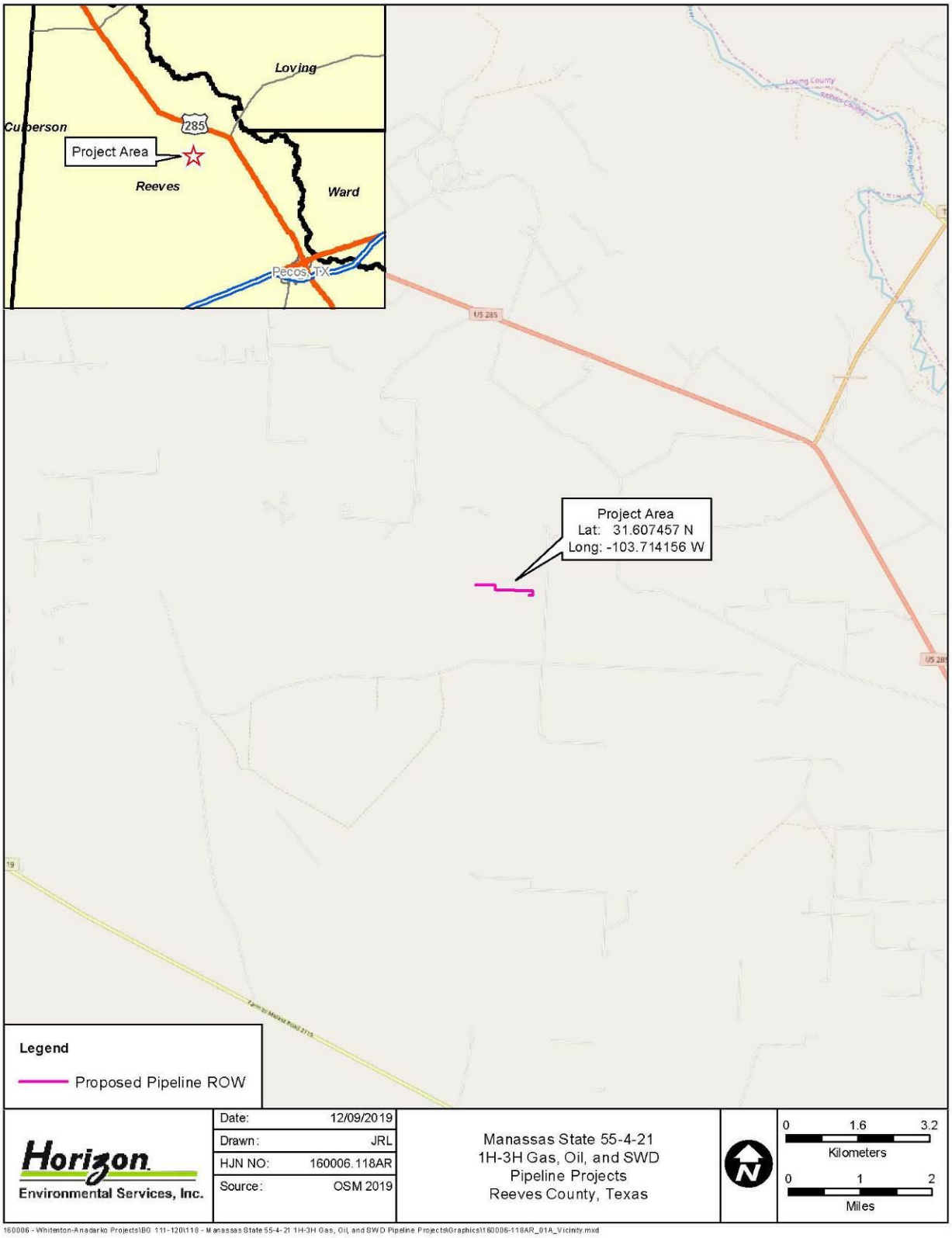

Figure 1. Vicinity map with general location of the Project Area

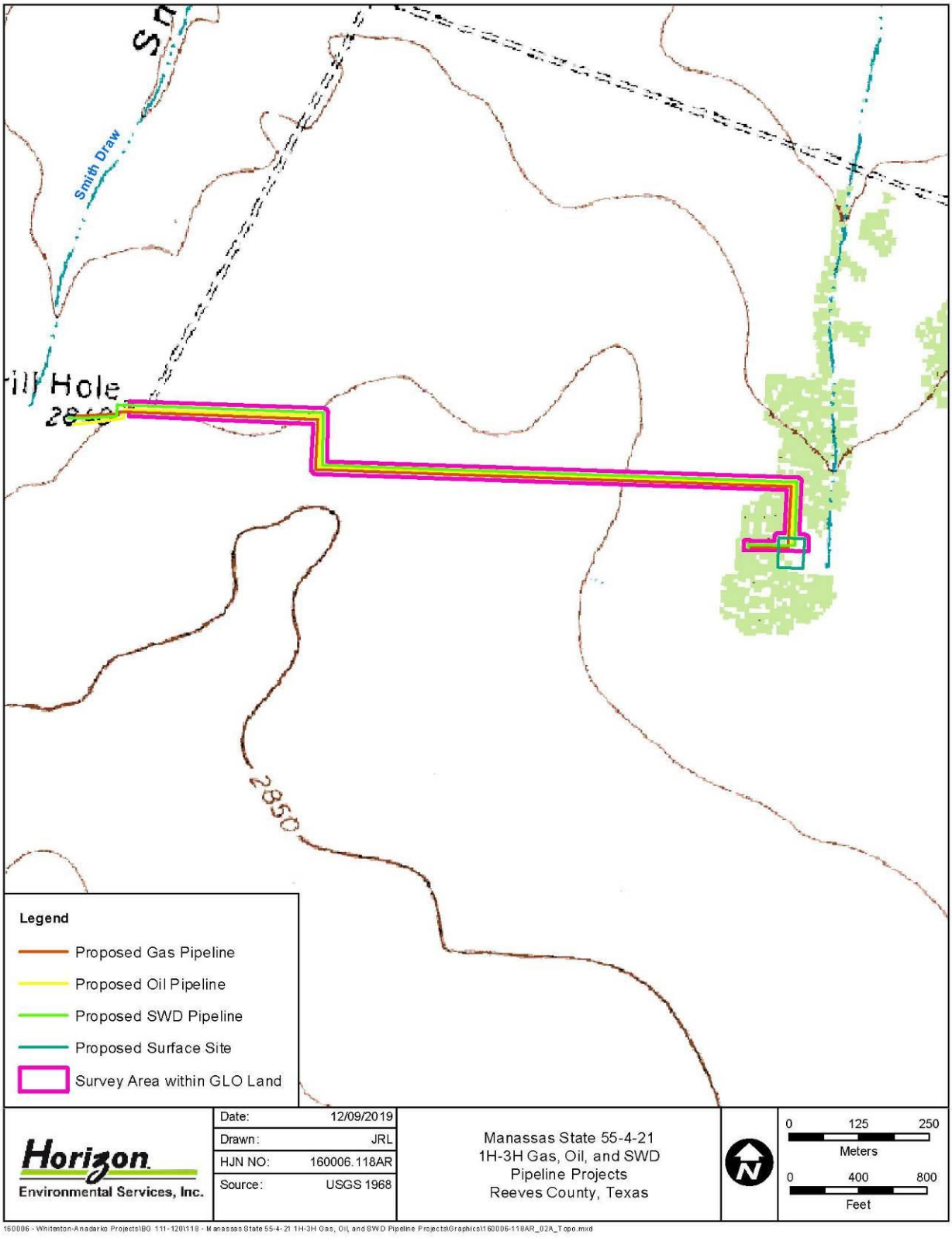

Figure 2. Topographic map with location of the Project Area

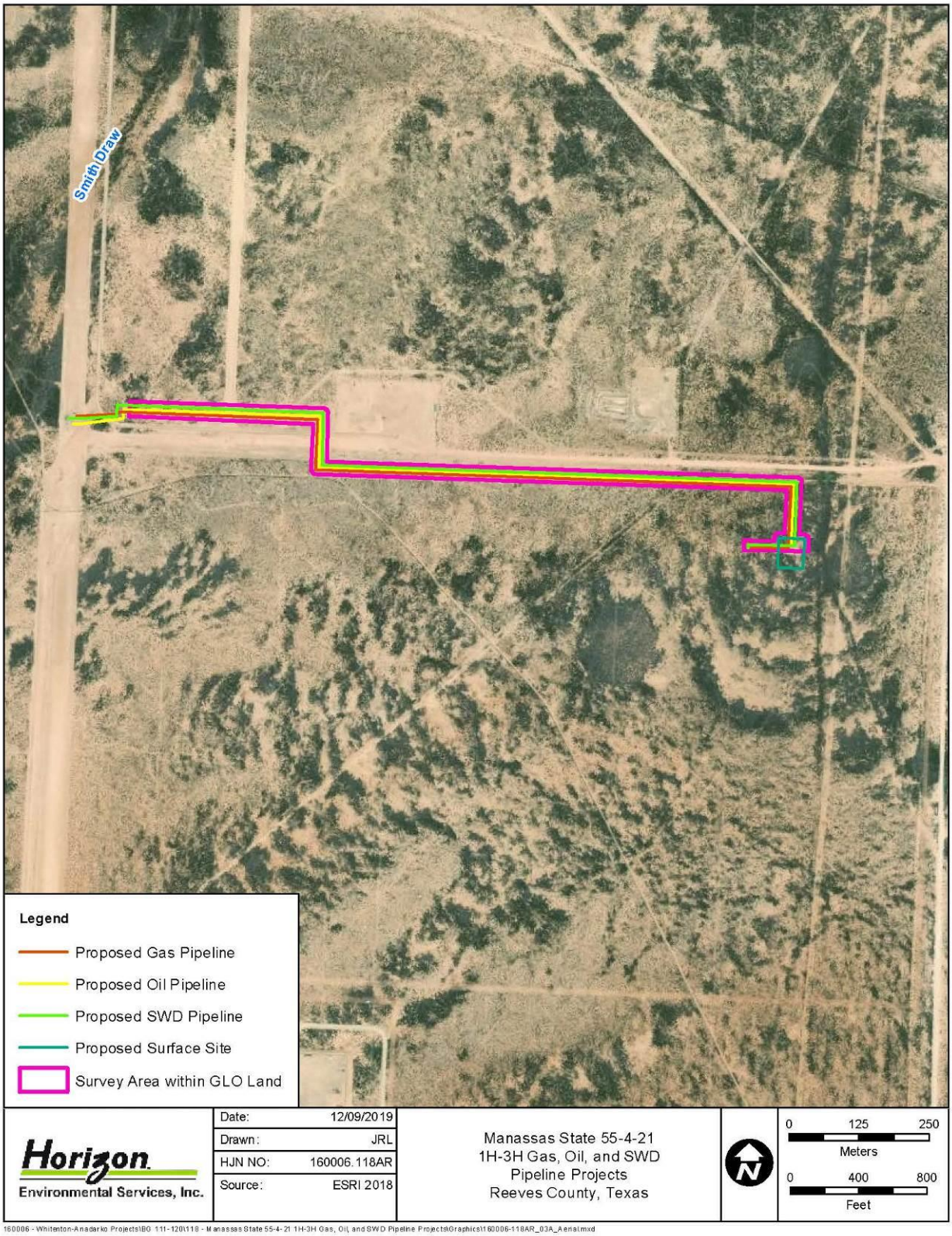

Figure 3. Aerial photograph with location of the Project Area

Figure 4. Typical view of Project Area near its eastern end, facing west

Figure 5. Typical ground surface within Project Area

Project Description

The Project Area is located in Reeves County, approximately 9.5 miles (15.3 kilometers [km]) southwest of Mentone, Texas. It can be found on the US Geological Survey (USGS) 7.5-minute Mentone SW, Texas, topographic quadrangle map. The Project Area consists of: 1) three separate pipelines that will be colocated within one pipeline right-of-way (ROW) that measures approximately 1.0 mile (1.6 km) long by 50.0 feet (15.2 meters [m]) wide with a total area of approximately 6.1 acres; and 2) a small surface site measuring 0.6 acre in size. Overall, the Project Area totals approximately 6.7 acres. Aside from the extreme western end of the pipeline ROW and southern half of the surface site, the remainder of the Project Area is all located on GLO land. Its approximate center point is located at Latitude 31.607495 and Longitude -103. 714915.

Background Research

Archival research conducted via the Texas Historical Commission's (THC's) *Texas Archeological Sites Atlas* (Atlas) online database indicated the presence of no previously recorded archeological sites or cemeteries within a 1.0-mile (1.6-km) radius of the Project Area (THC 2020). Similarly, a review of the National Park Service's (NPS) National Register of Historic Places (NRHP) Google Earth map layer indicated the presence of no historic properties listed on the NRHP within the review perimeter (NPS 2020). No documented cultural resources, including any listed on the NRHP, are located within or immediately adjacent to the boundaries of the Project Area.

The closest documented cultural resource to the Project Area is a prehistoric campsite. This site, 41RV116, is located approximately 3.1 miles (5.0 km) southwest of the Project Area.

Soils

Two soil types are mapped within the portions of the Project Area on GLO land. These soils are summarized in Table 1 (NRCS 1980) and presented Figure 6.

Archeological Probability Assessment

Prehistoric archeological sites are commonly found in upland areas and on alluvial terraces near stream/river channels or drainages. Additionally, in this part of the state, they are often found in proximity to playa lakebeds and dune blowouts. Based on the location of the Project Area on an elevated landform above Smit Draw and one of its tributaries, it was Horizon's opinion prior to the field efforts that there existed a moderate to high potential for undocumented prehistoric cultural deposits within the boundaries of the Project Area.

Table 1. Soils within the Project Area

Soil Name and Map Unit	Soil Type	Soil Depth (Inches)	Setting
Delnorte-Chilicotal association, rolling (12)	Delnorte Very gravelly loam	Delnorte 0 to 8: Very gravelly loam 8 to 12: Extremely gravelly loam 12 to 20: Caliche 20 to 80: Extremely gravelly fine sand	Delnorte Nearly level hilly uplands, fan piedmonts, and fan remnants
	Chilicotal Very gravelly fine sandy loam	Chilicotal 0 to 2: Very gravelly fine sandy loam 2 to 28: Very gravelly loam 28 to 40: Extremely gravelly Loam 40 to 80: Extremely gravelly sandy loam	Chilicotal Gently undulating to strongly rolling fan remnants and alluvial fans
Reakor association, nearly level (32)	Loam	0 to 7: Loam 7 to 17: Heavy loam 17 to 65: Clay loam	Broad plains and alluvial fans

In regard to historic-era resources, the lack of visible structures in immediate proximity to the Project Area on the relevant topographic quadrangle map suggested a decreased potential for historic-era standing structures or associated cultural deposits within the boundaries of the Project Area.

Field Survey

Methodology

A 2-person Horizon archeological field crew surveyed the Project Area on 14 January 2020. This entailed intensive surface inspection and the excavation of subsurface shovel tests. The Texas State Minimum Archeological Survey Standards (TSMASS) require a minimum of 16 shovel tests per mile for linear projects measuring up to 100.0 feet (30.5 m) in width. This equates to a minimum of 16 shovel tests along the 1.0 mile (1.6 km) length of the Project Area. Horizon exceeded the TSMASS by excavating a total of 19 shovel tests within the Project Area. All excavated matrices were screened through 0.25-inch (6.4-millimeter [mm]) hardware mesh or were trowel-sorted if dense clay soils prohibited successful screening. The locations of the excavated shovel tests are presented on Figure 7. Shovel test data are presented in Table 2.

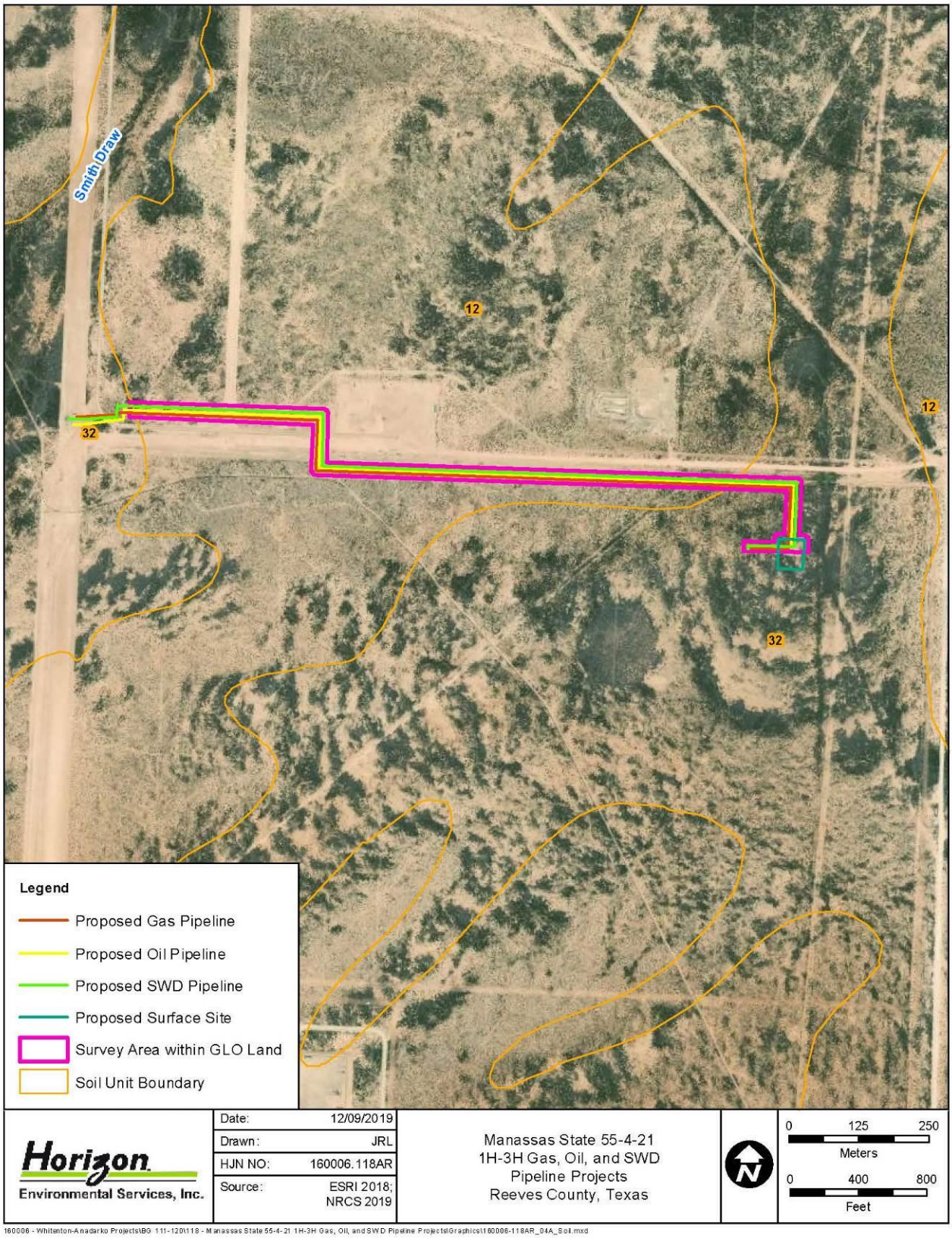

Figure 6. Soils mapped within the Project Area

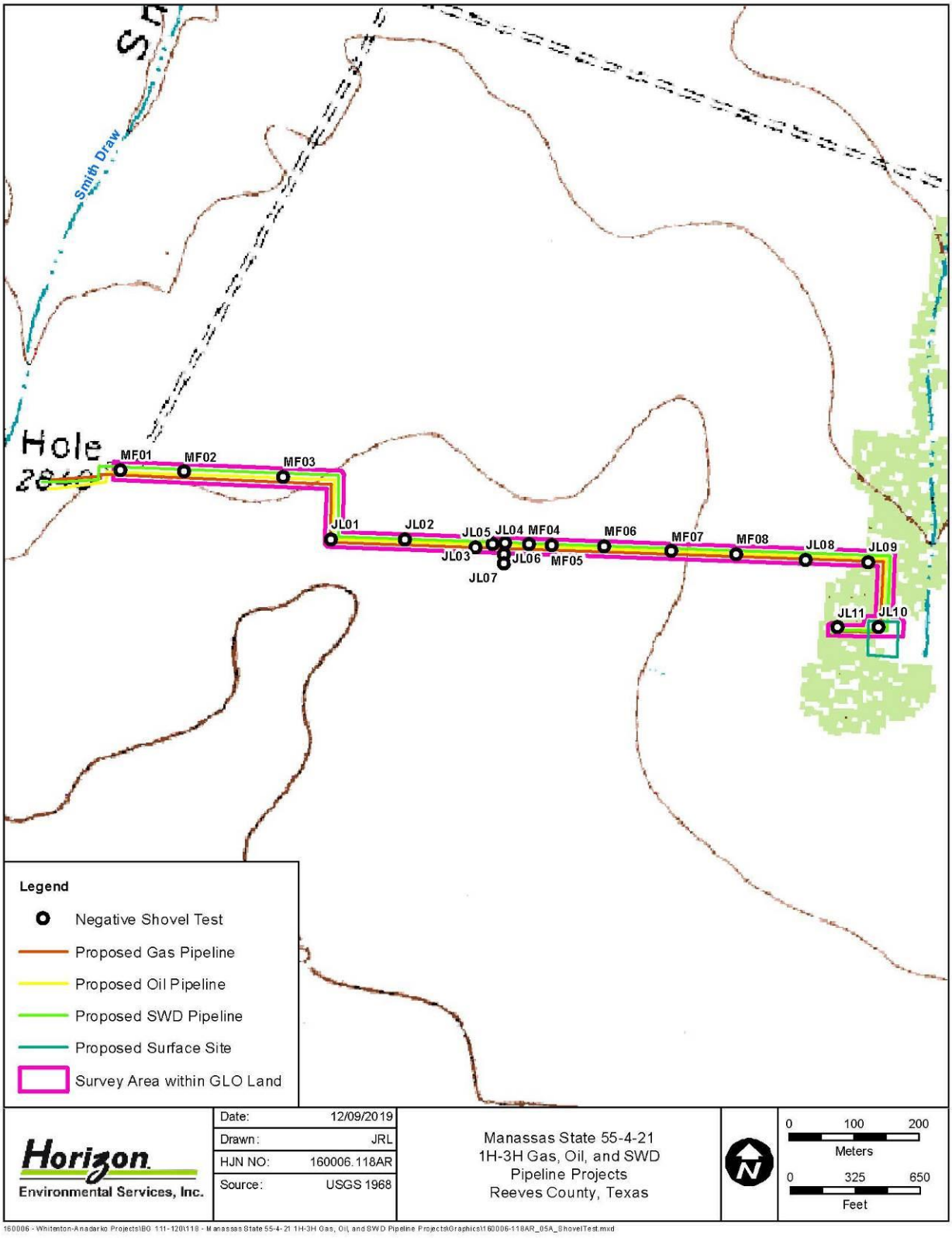

Figure 7. Shovel test locations within the Project Area

Table 2. Shovel Test Data

ST No.	UTM Coordinates[1]		Depth (cmbs)	Soils	Artifacts
	Easting	Northing			
MF01	621367	3497723	0-30	Pale brown gravelly, sandy loam	None
			30-60+	Reddish brown very compact, gravelly, extremely compact sandy loam	None
MF03	621464	3497725	0-30	Pinkish-gray gravelly sandy loam	None
			30-60+	Pinkish-brown extremely gravelly, compact sandy loam	None
MF03	621616	3497726	0-20	Pinkish-gray gravelly sandy loam	None
			20-40+	Pinkish-brown extremely gravelly, compact sandy loam	None
MF04	621999	3497644	0-15	Pale reddish-brown very gravelly, silty loam	None (41RV207)
			15+	Caliche	None (41RV207)
MF05	622033	3497644	0-35	Pale pinkish-brown extremely sandy loam	None (41RV207)
			35+	Caliche	None (41RV207)
MF06	622113	3497646	0-15	Pale yellowish-brown extremely compact, gravelly sandy loam	None
			15+	Caliche	None
MF07	622217	3497644	0-30	Reddish-brown gravelly, silty loam	None
			30+	Caliche	None
MF08	622316	3497645	0-20	Pale reddish-brown sandy loam	None
			20-45+	Reddish-brown extremely compact, sandy loam	None
JL01	621696	3497633	0-40	Pale reddish-brown gravelly silty loam	None
			40-50+	Caliche	None
JL02	621808	3497640	0-30	Pale reddish-brown gravelly silty loam	None
			30+	Caliche	None
JL03	621918	3497634	0-65	Pale reddish-brown gravelly silty loam	None
			65-70+	Caliche	None
JL04	621962	3497643	0-70	Pale reddish-brown gravelly silty loan	None (41RV207)
			70-80+	Reddish-brown compact silty clay	None (41RV207)
JL05	621944	3497640	0-60	Reddish-brown gravelly silty loam	None (41RV207)
			60-65+	Caliche	None (41RV207)
JL06	621961	3497626	0-85	Pale reddish-brown gravelly silty loam	None (41RV207)
			85-90+	Caliche	None (41RV207)
JL07	621962	3497612	0-30	Pale reddish-brown gravelly silty loam	None (41RV207)

ST No.	UTM Coordinates[1]		Depth (cmbs)	Soils	Artifacts
	Easting	Northing			
			30-40+	Caliche	None (41RV207)
JL08	622424	3497642	0-50	Reddish-brown gravelly sand	None
			50-55+	Gravels	None
JL10	622520	3497644	0-40	Dark reddish-brown gravelly sand	None
			40-50+	Dark reddish-brown compact sandy clay	None
JL10	622540	3497545	0-40+	Dark brown compact sandy clay	None
JL11	622477	3497542	0-30+	Dark brown compact sandy clay	None

[1] All UTM coordinates are located in Zone 14 and utilize the North American Datum of 1983 (NAD 83).

cmbs = Centimeters below surface ST = Shovel test UTM = Universal Transverse Mercator

Results

The cultural resources survey of the Project Area resulted in the documentation of one new prehistoric lithic scatter within the Project Area. This site, 41RV207, is summarized below.

Site 41RV207

General Description

Site 41RV207 is a newly recorded prehistoric lithic scatter located within the central portion of the Project Area (Figures 8 and 9). It is situated on gradually sloping upland that slopes easterly toward a vegetated drainage linked to Smith Draw. Vegetation across the site is sparse, consisting of mesquite, yucca, creosote, Spanish dagger, and short scrubby grasses (Figures 10 and 11). The site is bound to the north by an existing, heavily disturbed east/west oriented pipeline ROW and lease road. It slopes downward to the west, south and east.

Surface visibility across the site ranged from 80% to 100%. A total of seven shovel tests were excavated across this site within the Project Area. All seven produced negative results for subsurface cultural materials.

Observed Cultural Materials

The cultural materials observed on site 41RV207 consisted of a low-density, diffuse scatter of lithic debitage comprised of eight chert flakes (two primary, two secondary, and four tertiary), one rhyolite flake, one crude chert biface, and two chert cores (Figures 12 and 13). No formal tools or fire-cracked rock (FCR) specimens were noted on the site that would reflect the use of the location as a campsite. Rather, the presence of available gravels on the erosional surface of the site and the number of specimens reflecting the early stages of the lithic reduction process suggest that the location likely served as source of raw lithic materials.

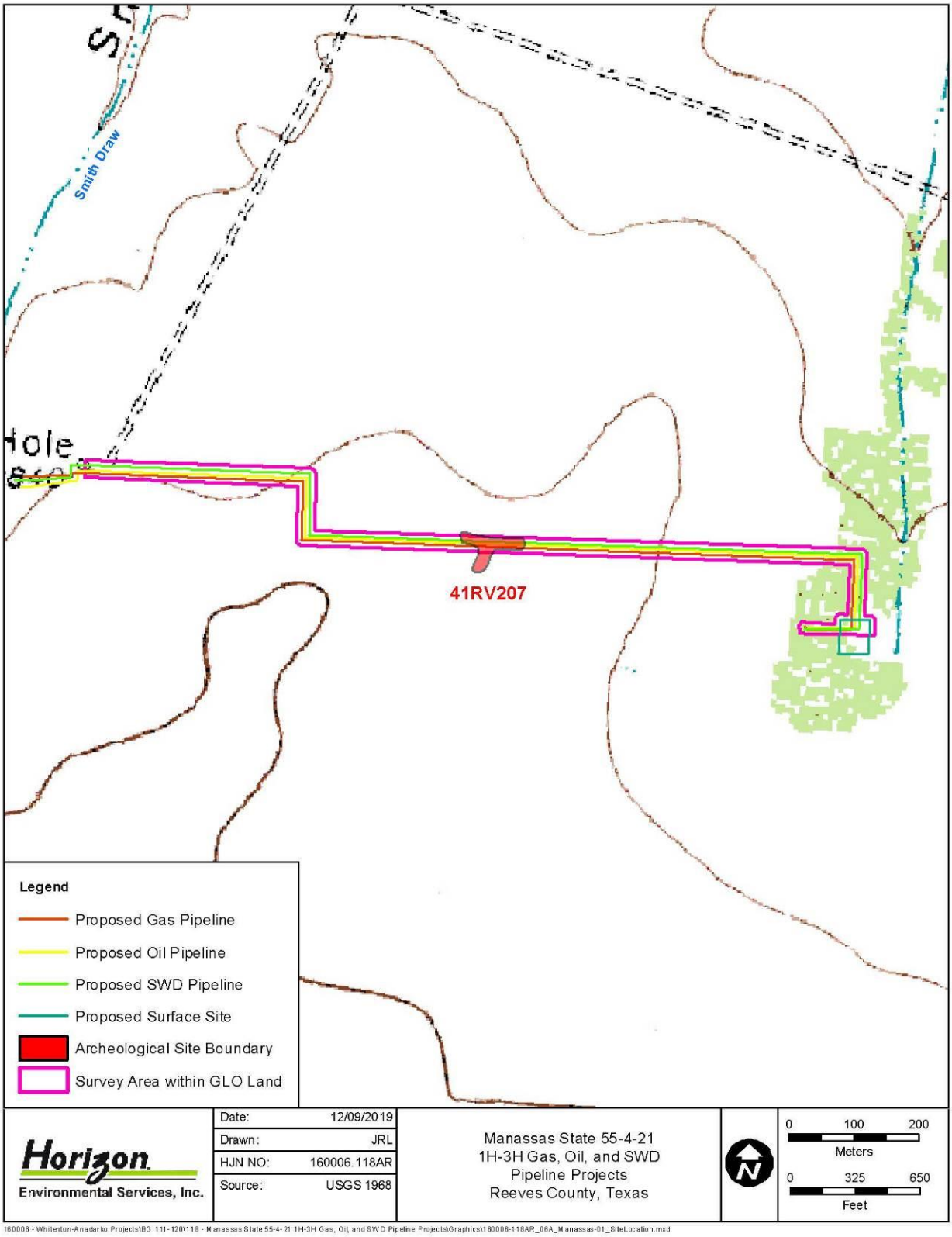

Figure 8. Location of site 41RV207

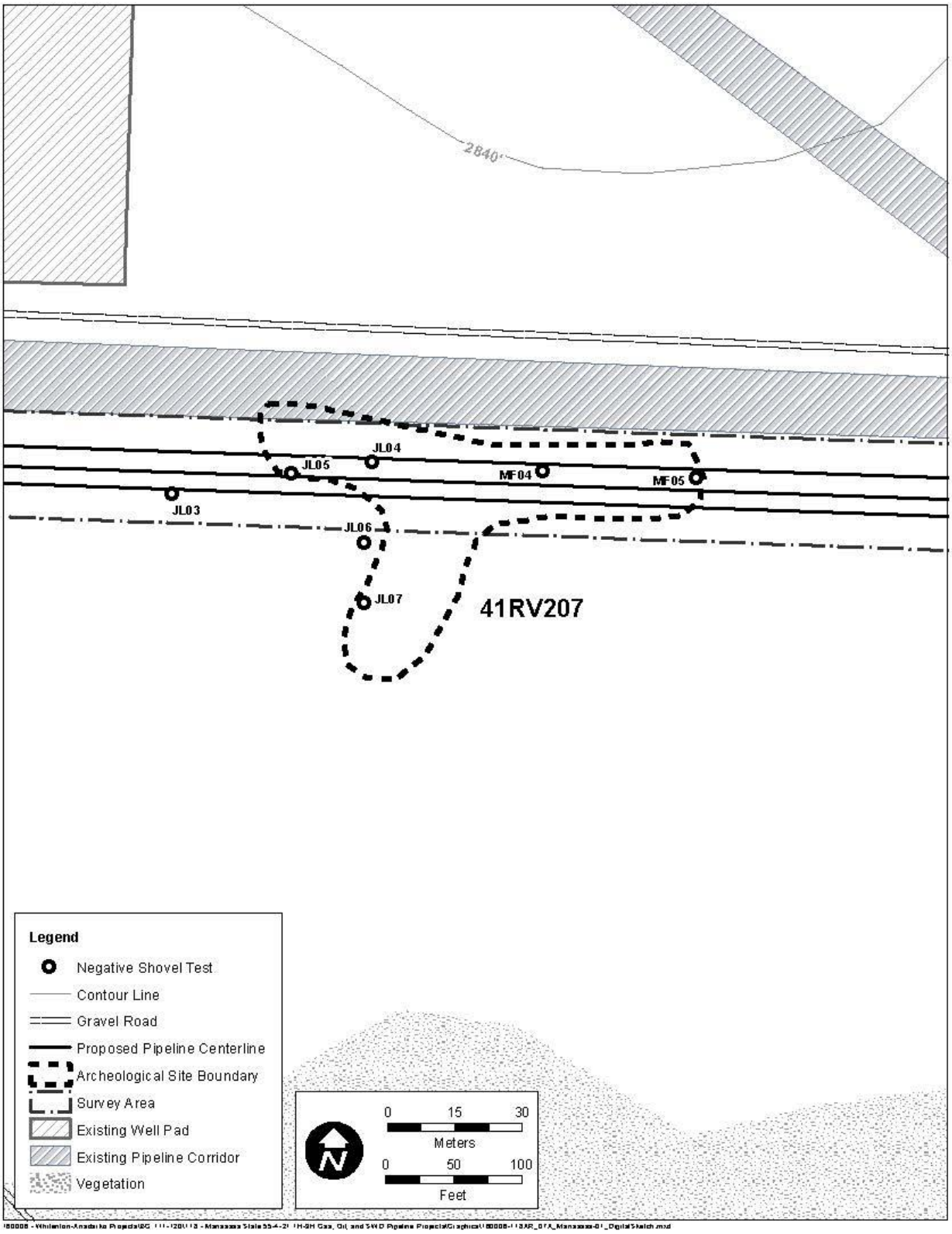

Figure 9. Sketch map of site 41RV207

Figure 10. Site 41RV207, facing east

Figure 11. Site 41RV207, facing west

Figure 12. View of select lithic debitage specimens on site 41RV207

Figure 13. View of bifacially flaked specimen and cores on site 41RV207

Cultural Features

No cultural features were observed on the surface of site 41RV207, and no evidence of any subsurface cultural features was noted within any of the seven shovel tests excavated across the site.

Horizontal and Vertical Extents of the Cultural Materials

Based on the extent of the observed surface materials, the assessed horizontal extent of the site measures approximately 180.4 feet (55.0 m) north to south by 311.7 feet (95.0 m) east to west. The site was only documented within and immediately adjacent to the limits of the current Project Area and its deposits could continue for an undefined distance to the north, on the opposite side of the existing pipeline ROW that borders the site, and to the south beyond the extent of the current surface inspection. As such, its full horizontal extent was not assessed.

All observed cultural materials were noted on the erosional surface of the site. No evidence of subsurface cultural deposits was noted within any of the seven shovel tests excavated across the site.

Summary

Site 41RV207 was documented as a diffuse, low-density prehistoric lithic scatter situated near the apex of a gradually sloping desert upland. A variety of gravels on the erosional surface of the site provided a source of raw lithic material that was exploited by the aboriginal occupants of the region. This is evidenced by the specimens of early stage lithic flaking debris scattered over the surface of the site. The absence of any formal tools, FCR, or cultural features on the site suggested that it did not function as a campsite.

The boundaries of the site were only documented within the limits of the current Project Area, and the site's deposits could continue for a currently undefined distance to the north and south. As such, the full horizontal extent of site 41RV207 was not assessed, and its overall SAL eligibility status remains undetermined. However, based on: 1) the surficial nature of the observed cultural deposits; 2) the lack of buried, stratified cultural deposits; and 3) the lack of any temporally diagnostic materials on the site; and 4) the lack of any preserved floral/faunal remains, it is Horizon's opinion that the portion of site 41RV207 within the boundaries of the current Project Area is a non-contributing element to the overall SAL eligibility status of the site. With this in mind, it is Horizon's further opinion that no additional investigations are warranted on site 41RV207 in connection with the currently proposed undertaking.

Recommendations

Based on the assessment that the portion of site 41RV207 within the boundaries of the current Project Area is a non-contributing element to the overall SAL eligibility status of the site, it is Horizon's opinion that the construction of the Manassas State 55-4-21 1H-3H Gas, Oil, and SWD Pipeline Projects will have no adverse effect on significant cultural resources designated as or considered eligible for designation as SALs. Horizon therefore recommends that Anadarko be allowed to proceed with the development of the Project Area relative to the

jurisdiction of the ACT. However, in the unlikely event that any cultural materials (including human remains or burial features) are inadvertently discovered at any point during construction, use, or ongoing maintenance within the limits of the proposed undertaking, even in previously surveyed areas, all work at the location of the discovery should cease immediately, and the THC and GLO should be notified of the discovery.

On behalf of Anadarko and Whitenton, Horizon is seeking documented consultation with your office in compliance with the ACT. Should you concur with Horizon's findings and recommendations, please sign below and return. Again, this letter serves as an interim report for consultation purposes. The results of these investigations will eventually be incorporated into a formal report that includes the results of all cultural resources investigations conducted under TAC annual permit number 9226 during the 2020 calendar year. Subsequent to the approval of the formal report, Horizon will also prepare all specimens, artifacts, materials, samples, and original field notes, maps, drawings, and photographs for curation at the Texas Archeological Research Laboratory (TARL) in accordance with the TAC Permit-Terms and Conditions and Texas Administrative Code Title 13, Part 2, Chapter 26.C.26.17.

If you have any questions, please do not hesitate to call or email me.

Sincerely,
For Horizon Environmental Services, Inc.

Russ Brownlow, MA, RPA
President

_____
Concurrence / Date

References

(ESRI) Environmental Systems Research Institute

2019 Digital topographic quadrangles and orthographic photography sourced by Esri for ArcGIS Online, <arcgis.com>. Accessed 9 December 2019.

(NPS) National Park Service

2019 National Register of Historic Places Google Earth Map Layer – South Region. <http://nrhp.focus.nps.gov/natreg/docs/Google_Earth_Layers.html>. Accessed 9 December 2019.

(NRCS) US Department of Agriculture, Natural Resources Conservation Service

1980 Soil Survey of Reeves County, Texas. <http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/texas/TX389/0/Reeves.pdf>. Accessed 14 January 2020.

2019 Soil Survey Geographic (SSURGO) Database for Reeves County, Texas.

(OSM) OpenStreetMap Contributors

2019 *Open Street Map*. <http://www.openstreetmap.org>. Available under the Open Data Commons Open Database License (www.opendatacommons.org/licenses/odbl). Accessed 9 December 2019.

(THC) Texas Historical Commission

2019 Texas Archeological Sites Atlas Restricted Database. <https://atlas.thc.state.tx.us>. Accessed 9 December 2019.

(USGS) US Geological Survey

1968 7.5-minute series topographic map, Mentone SW, Texas, quadrangle.

Russ Brownlow

From: noreply@thc.state.tx.us
Sent: Friday, February 7, 2020 2:27 PM
To: Russ Brownlow; reviews@thc.state.tx.us
Subject: Project Review: 202005739

[EXTERNAL EMAIL]

TEXAS HISTORICAL COMMISSION
real places telling real stories

Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
Permit 9226
THC Tracking #202005739
Manassas State 55-4-21 1H-3H Gas, Oil, and SWD Pipeline Projects
West Texas
Mentone,TX

Dear Russ Brownlow:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the Executive Director of the Texas Historical Commission (THC), pursuant to review under the Antiquities Code of Texas.

The review staff led by Drew Sitters and Caitlin Brashear has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- No historic properties are present or affected by the project as proposed. However, if historic properties are discovered or unanticipated effects on historic properties are found, work should cease in the immediate area; work can continue where no historic properties are present. Please contact the THC's History Programs Division at 512-463-5853 to consult on further actions that may be necessary to protect historic properties.

Archeology Comments

- THC/SHPO concurs with information provided.
- Property/properties are not eligible for designation as State Antiquities Landmarks.
- Draft report acceptable. Please submit another copy as a final report along with shapefiles showing the area where the archeological work was conducted. Shapefiles should be submitted electronically to Archeological_projects@thc.texas.gov.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: drew.sitters@thc.texas.gov, caitlin.brashear@thc.texas.gov

This response has been sent through the electronic THC review and compliance system(eTRAC).Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions.For more information, visit http://thc.texas.gov/etrac-system.

Sincerely,

For Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

Horizon™
Environmental Services, Inc.

11 March 2020

Mr. Mark Wolfe
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711-2276

RE: Interim Report
Anadarko Petroleum Corporation
Palmito Ranch 1H-2H Flowline and Gas Lift Pipeline Projects
Reeves County, Texas
Antiquities Code of Texas (GLO) – TAC Permit No. 9226
HJN 160006 AR 120

Mr. Wolfe:

Anadarko Petroleum Corporation (Anadarko) is proposing to develop the Palmito Ranch 1H-2H Flowline and Gas Lift Pipeline Projects in Reeves County, Texas (Project Area; Figures 1 through 5). The development of the Project Area will be privately funded. However, roughly half of the alignment is located on property owned by the Texas General Land Office (GLO). As the GLO is considered to be a political subdivision of the state, the portion of the undertaking on GLO land is regulated by the Antiquities Code of Texas (ACT). On behalf of Anadarko, Whitenton Group (Whitenton) has contracted with Horizon Environmental Services, Inc. (Horizon) to conduct all necessary cultural resources investigations within the Project Area in compliance with the ACT. The purpose of the survey was to determine if any archeological sites were located within the Project Area on GLO land and, if any existed, to determine if the project had the potential to have any adverse impacts on sites considered eligible for formal designation as State Antiquities Landmarks (SALs). Horizon conducted the cultural resources investigations under Texas Antiquities Committee (TAC) annual permit number 9226.

Russell Brownlow (Horizon president) served as the Principal Investigator for the investigations and author of this interim report. Amy Goldstein (Horizon staff archeologist) conducted the field investigations.

This interim report summarizes Horizon's findings and serves as a management tool for consultation purposes regarding the Project Area. The results of these investigations will eventually be compiled into a formal report that will incorporate all projects completed under TAC annual permit number 9226 during the 2020 calendar year. Subsequent to the approval of the formal report, Horizon will also prepare all specimens, artifacts, materials, samples, and original field notes, maps, drawings, and photographs for curation at the Texas Archeological Research Laboratory (TARL) in accordance with the TAC Permit-Terms and Conditions and Texas Administrative Code Title 13, Part 2, Chapter 26.C.26.17.

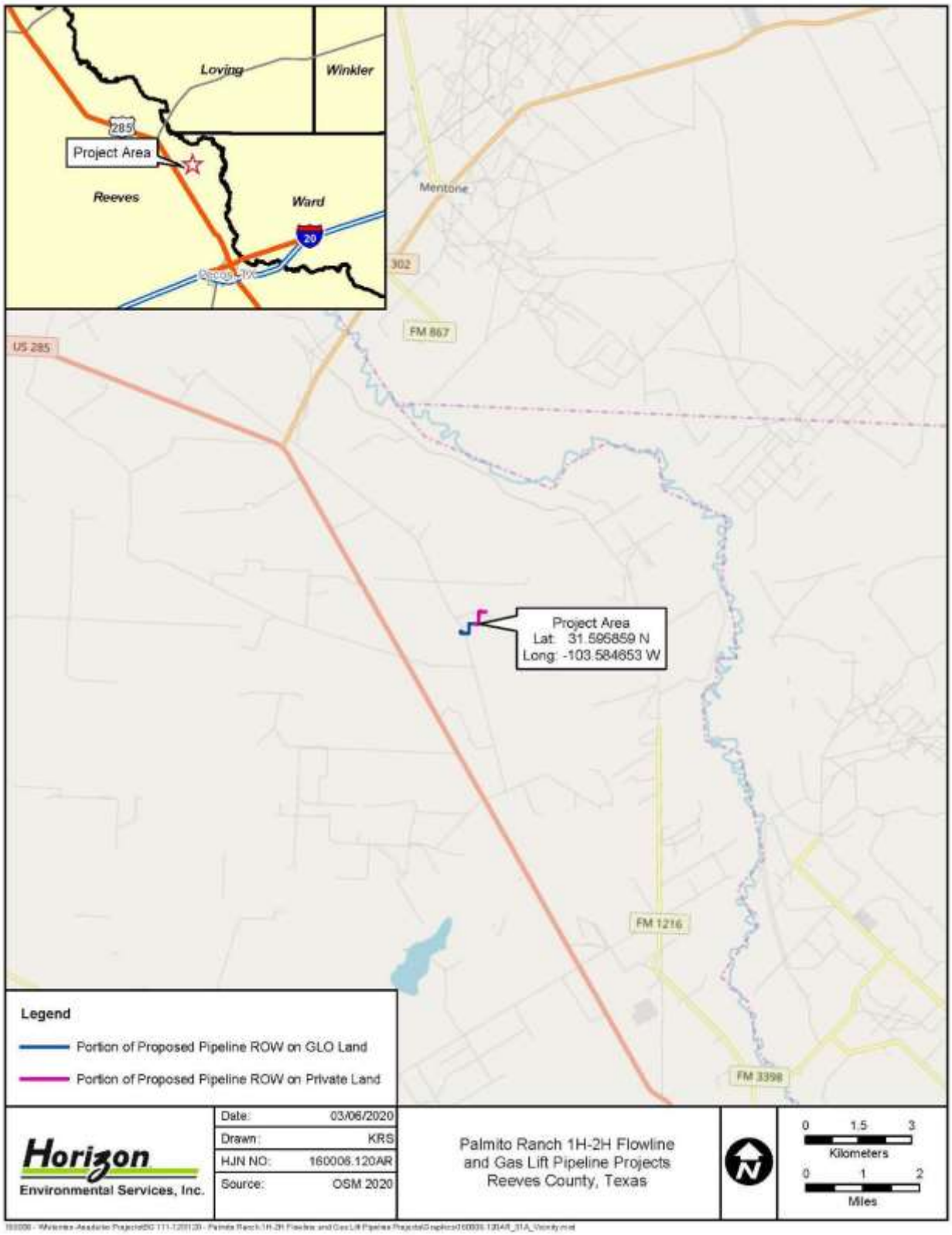

Figure 1. Vicinity map with general location of the Project Area

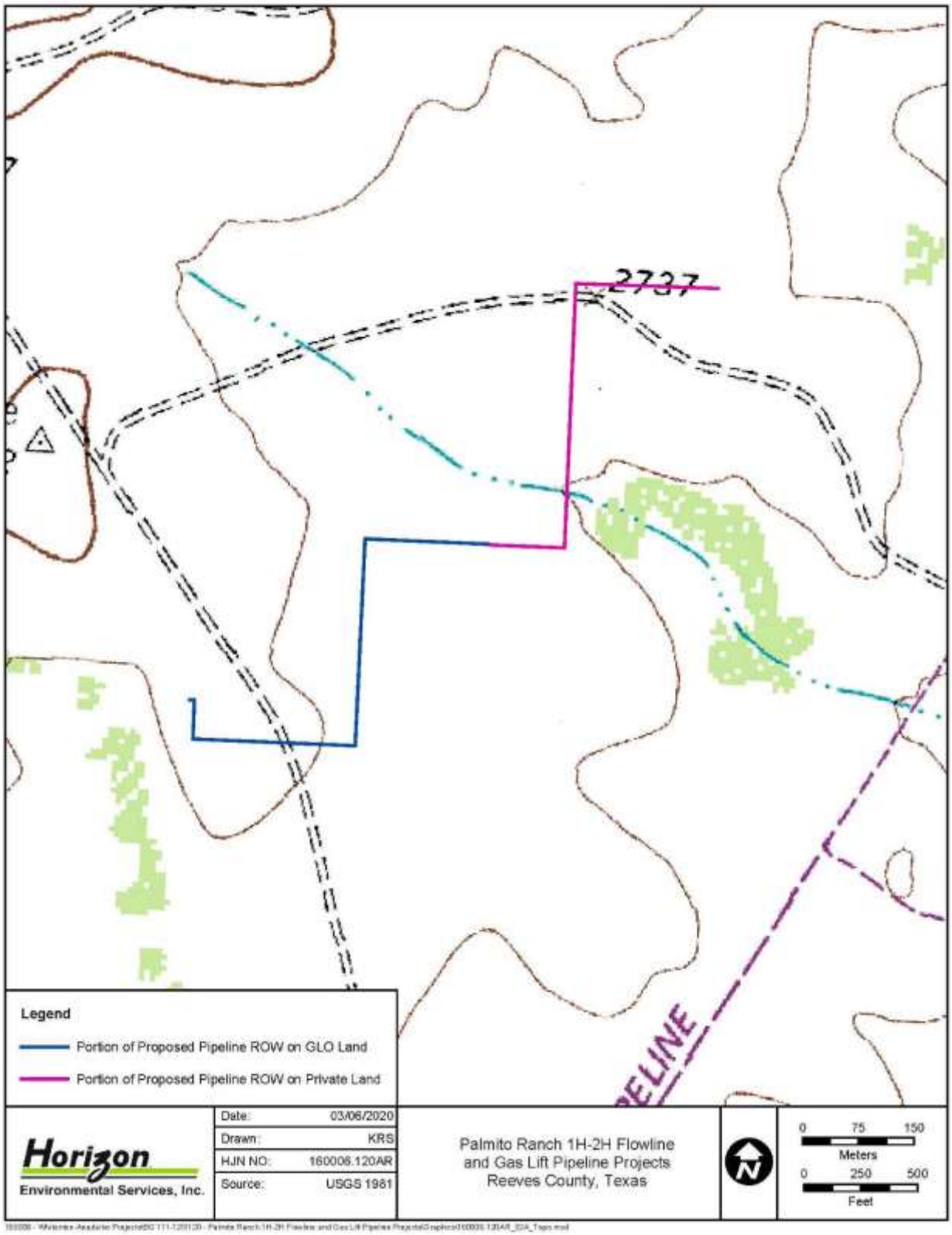

Figure 2. Topographic map with location of the Project Area

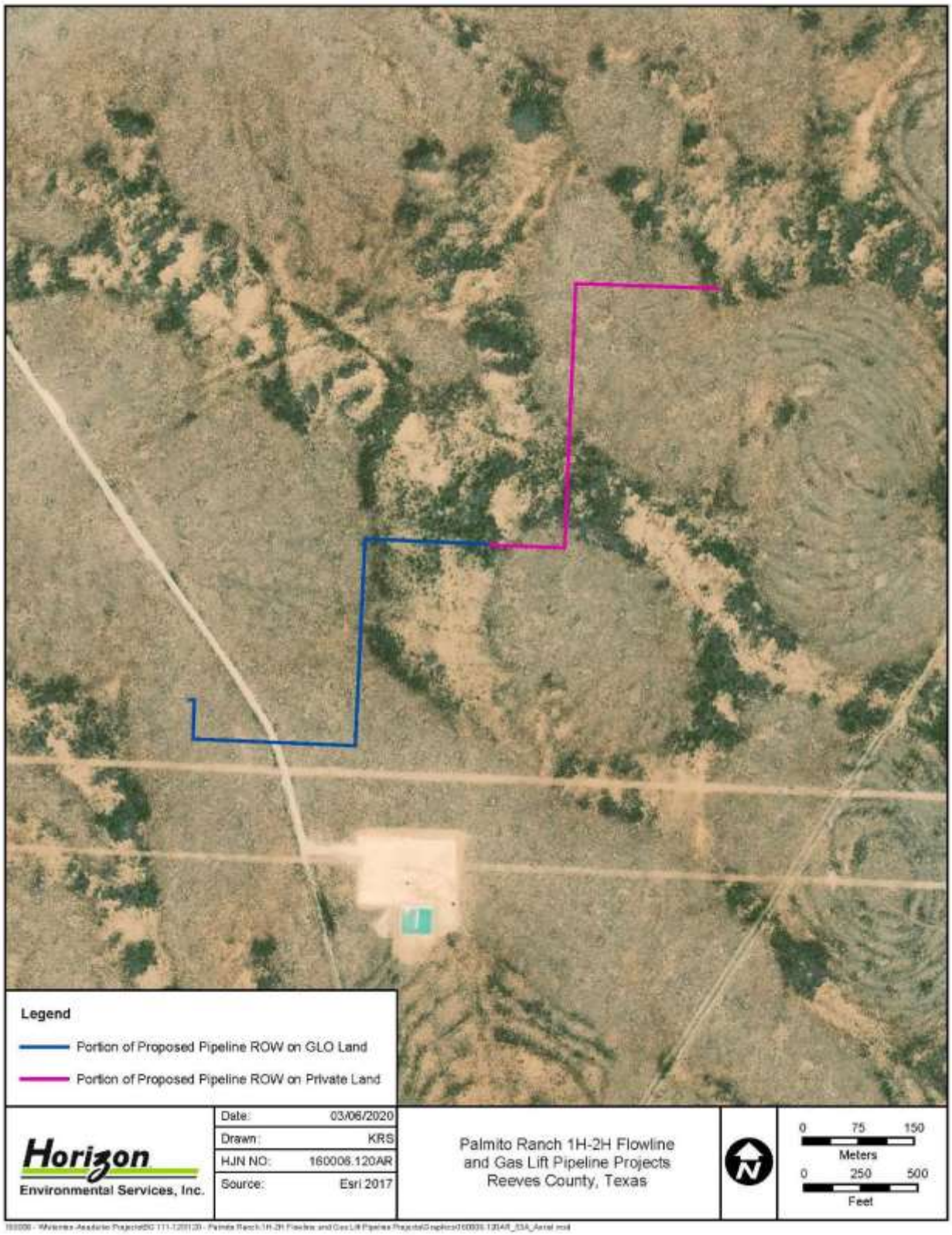

Figure 3. Aerial photograph with location of the Project Area

Figure 4. Typical view of Project Area near its center, facing north

Figure 5. Typical ground surface within Project Area

Project Description

The Project Area is located in Reeves County, approximately 7.4 miles (11.9 kilometers [km]) south of Mentone, Texas. It can be found on the US Geological Survey (USGS) 7.5-minute Sand Lake Texas, topographic quadrangle map. The Project Area consists of two separate pipelines that will be colocated within one pipeline right-of-way (ROW) that measures approximately 0.9 mile (1.4 km) long by 50.0 feet (15.2 meters [m]) wide with a total area of approximately 5.5 acres (maps enclosed). Roughly the western half (0.5 mile [0.7 km]) of the ROW is located on GLO Land. This portion has a total area of approximately 3.0 acres. The approximate center point of the overall Project Area is located at Latitude 31.595793 and Longitude -103.584043.

Background Research

Pre-field background research conducted via the Texas Historical Commission's (THC's) Texas Archeological Sites Atlas (Atlas) online database indicated the presence of no previously recorded archeological sites or cemeteries within a 0.6-mile (1.0-km) radius of the Project Area (THC 2020). Similarly, a review of the National Park Service's (NPS) National Register of Historic Places (NRHP) Google Earth map layer indicated the presence of no historic properties listed on the NRHP within the review perimeter (NPS 2020). No documented cultural resources, including any listed on the NRHP, are located within or immediately adjacent to the boundaries of the Project Area. Based on the Atlas database, no previous cultural resources surveys have been undertaken with the boundaries of the current Project Area.

The closest documented cultural resource to the Project Area is a prehistoric lithic procurement area. This site, 41RV97, is located approximately 1.5 miles (2.4 km) northeast of the Project Area.

Soils

Two soil types are mapped within the portions of the Project Area on GLO land. These soils are summarized in Table 1 (NRCS 1980) and presented Figure 6.

Archeological Probability Assessment

Prehistoric archeological sites are commonly found in upland areas and on alluvial terraces near stream/river channels or drainages. Additionally, in this part of the state, they are often found in proximity to playa lakebeds and dune blowouts. Based on the location of the Project Area on an elevated landform above several unnamed drainages, it was Horizon's opinion prior to the field efforts that there existed at least a moderate potential for undocumented prehistoric cultural deposits within the boundaries of the Project Area.

Table 1. Soils within the Project Area

Soil Name and Map Unit	Soil Type	Soil Depth (Inches)	Setting
Delnorte-Chilicotal association, rolling (12)	Delnorte Very gravelly loam	Delnorte 0 to 8: Very gravelly loam 8 to 12: Extremely gravelly loam 12 to 20: Caliche 20 to 80: Extremely gravelly fine sand	Delnorte Nearly level hilly uplands, fan piedmonts, and fan remnants
	Chilicotal Very gravelly fine sandy loam	Chilicotal 0 to 2: Very gravelly fine sandy loam 2 to 28: Very gravelly loam 28 to 40: Extremely gravelly Loam 40 to 80: Extremely gravelly sandy loam	Chilicotal Gently undulating to strongly rolling fan remnants and alluvial fans
Reakor association, nearly level (32)	Loam	0 to 7: Loam 7 to 17: Heavy loam 17 to 65: Clay loam	Broad plains and alluvial fans

In regard to historic-era resources, the lack of visible structures in immediate proximity to the Project Area on the relevant topographic quadrangle map suggested a decreased potential for historic-era standing structures or associated cultural deposits within the boundaries of the Project Area.

Field Survey

Methodology

A Horizon archeologist surveyed the Project Area on 10 March 2020. This entailed intensive surface inspection and the excavation of subsurface shovel tests. The Texas State Minimum Archeological Survey Standards (TSMASS) require a minimum of 16 shovel tests per mile for linear projects measuring up to 100.0 feet (30.5 m) in width. This equates to a minimum of 8 shovel tests along the 0.5 mile (0.7 km) portion of the Project Area on GLO Land. Horizon met the TSMASS by excavating a total of 8 shovel tests within the Project Area. All excavated matrices were screened through 0.25-inch (6.4-millimeter [mm]) hardware mesh or were trowel-sorted if dense clay soils prohibited successful screening. The locations of the excavated shovel tests are presented on Figure 7, while an image of a typical shovel test within the Project Area is presented in Figure 8. Shovel test data are presented in Table 2.

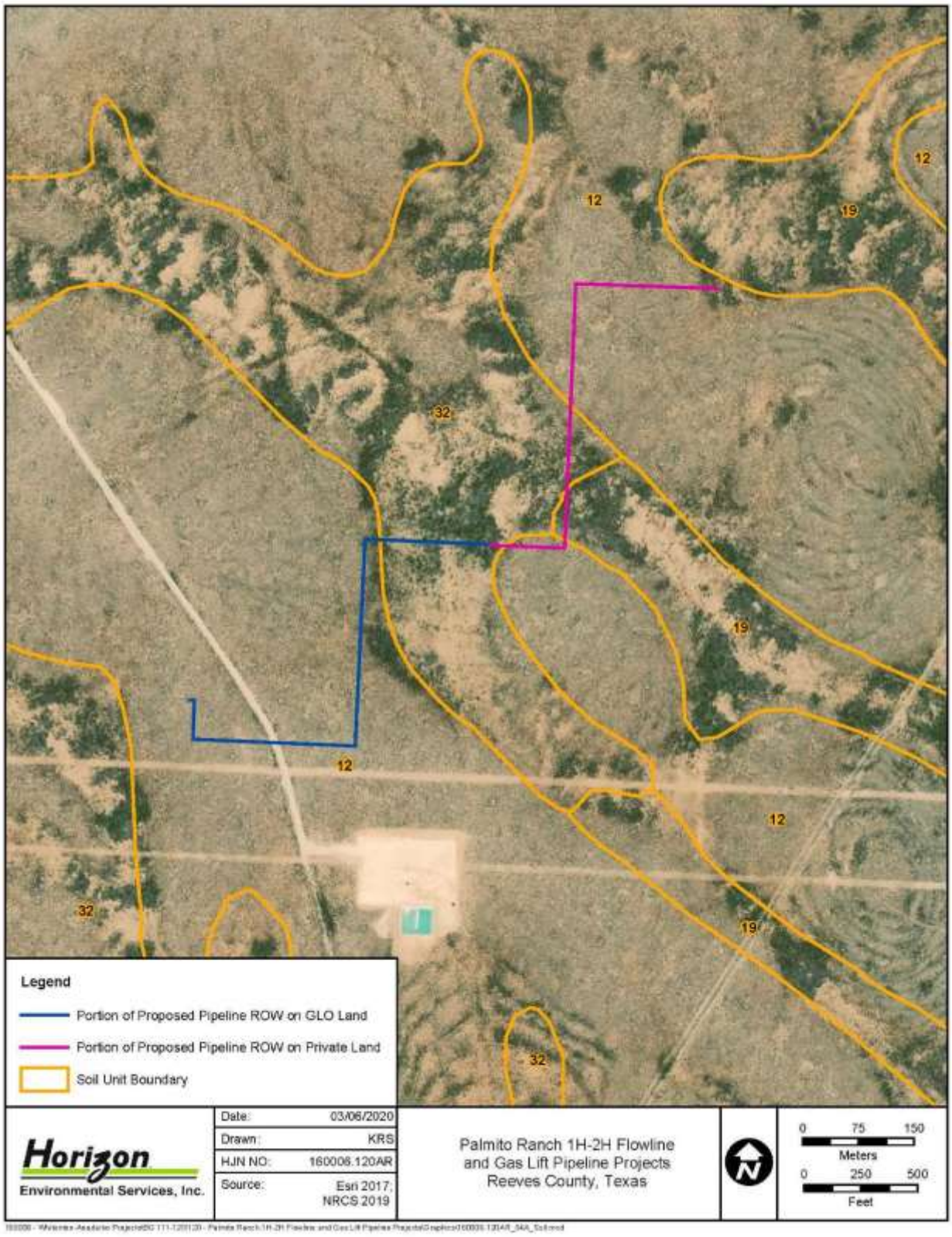

Figure 6. Soils mapped within the Project Area

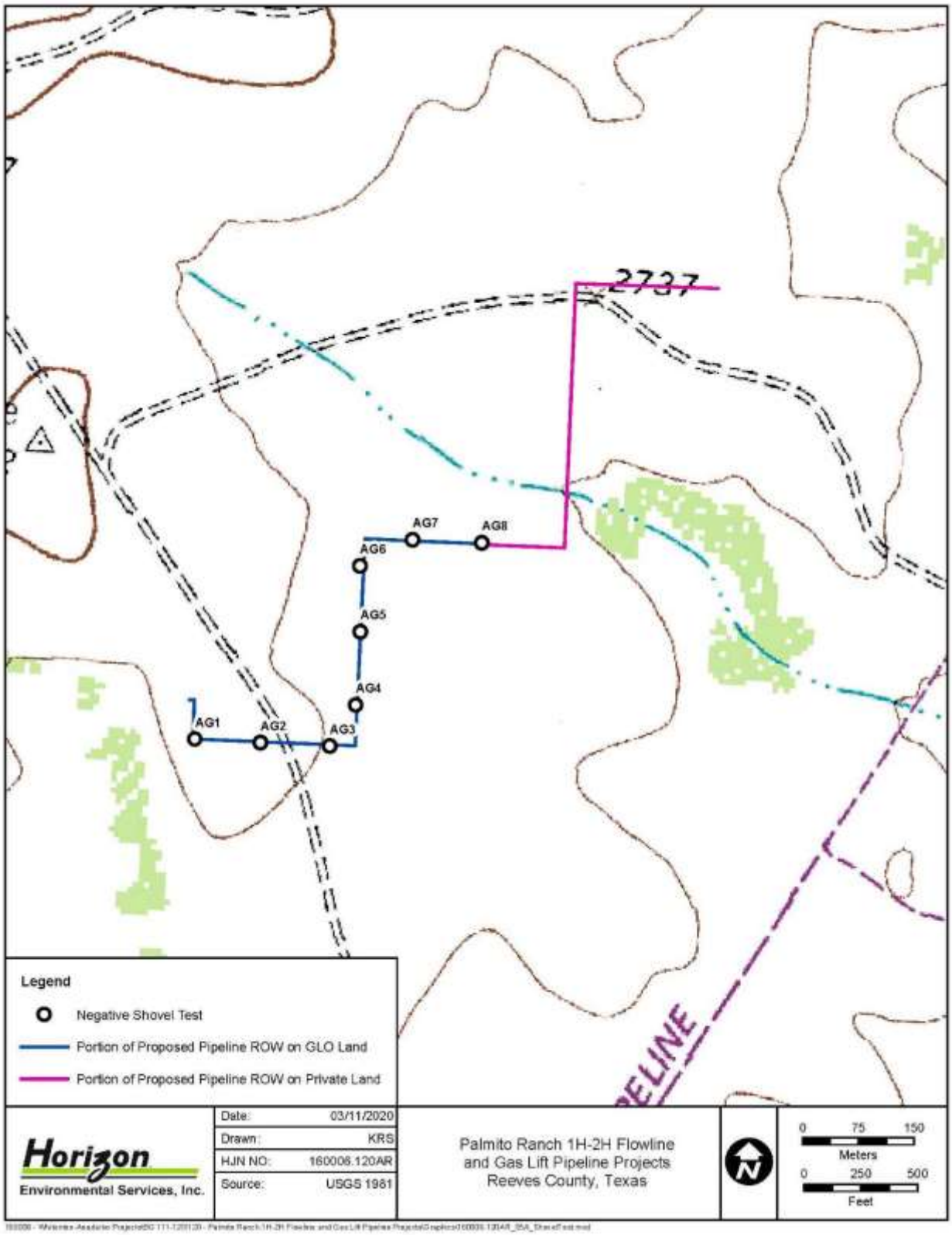

Figure 7. Shovel test locations within the Project Area

Figure 8. Typical shovel test within Project Area

Table 2. Shovel Test Data

ST No.	UTM Coordinates[1]		Depth (cmbs)	Soils	Artifacts	Reason for Termination
	Easting	Northing				
AG1	633949	3496234	0-25	7.5YR 4/4 silty loam; gravel and cobbles 30% (may be partially brought in)	None	Dense cobbles
AG2	634036	3496234	0-30	7.5YR 4/4 silty loam; gravel and cobbles 25%	None	Degrading bedrock
AG3	634129	3496235	0-35	7.5YR 4/4 silty loam; gravel and cobbles 20%	None	
			35-40	10YR 7/3 silt; caliche cobbles 10%	None	Caliche cobbles
AG4	634161	3496291	0-40	7.5YR 4/4 silty loam; gravel and cobbles 20%	None	
			40-45	10YR 7/3 silt; caliche cobbles 10%	None	Caliche cobbles
AG5	634161	3496390	0-35	7.5YR 4/6 loam; gravel 10-15%	None	Degrading bedrock
AG6	634156	349478	0-40	7.5YR 4/6 loam; gravel 20%	None	Degrading bedrock
AG7	634225	3496517	0-35	7.5YR 4/6 loam; caliche 5%	None	
			35-40	10YR 7/3 compact silt; caliche 5%	None	Degrading bedrock
AG8	634318	3496518	0-30	7.5YR 4/6 loam	None	
			30-35	10YR 6/3 silt; caliche gravel 5%	None	Degrading bedrock

[1] All UTM coordinates are located in Zone 14 and utilize the North American Datum of 1983 (NAD 83).

cmbs = Centimeters below surface ST = Shovel test UTM = Universal Transverse Mercator

Results

The cultural resources survey of the Project Area resulted in entirely negative findings. No cultural materials were observed on the surface of the Project Area or within any of the 8 excavated shovel tests. Shovel tests revealed shallow deposits of brown (7.5YR 4/4) or strong brown (7.5YR 4/6) loam overlying degrading limestone bedrock that was typically encountered between 11.8 and 15.7 inches (30.0 and 40.0 centimeters [cm]) below surface (see Figure 8). In some instances, a second soil horizon of pale brown (10YR 6/3) was encountered before bedrock. As noted above, all excavated shovel tests produced negative results for subsurface cultural deposits.

Vegetation throughout the Project Area generally consisted of patchy creosote bushes and occasional prickly pear cacti. However, vegetation was thicker on the northeastern end of the Project Area and included mesquite trees, sparse grasses, and several species of cacti. Ground surface visibility was 80-90% throughout most of the Project Area but decreased to 50% in the more vegetated northeastern end.

Despite significant oil and gas development in the surrounding area, the Project Area was mostly undisturbed. The only noted disturbances were where the proposed ROW intersected with a gravel road, an existing pipeline corridor, and a powerline corridor. Overall, approximately 80% of the Project Area was intact.

Recommendations

Based on the negative survey results, it is Horizon's opinion that the construction of the Palmito Ranch 1H-2H Flowline and Gas Lift Pipeline Projects will have no adverse effect on significant cultural resources designated as or considered eligible for designation as SALs. Horizon therefore recommends that Anadarko be allowed to proceed with the development of the Project Area relative to the jurisdiction of the ACT. However, in the unlikely event that any cultural materials (including human remains or burial features) are inadvertently discovered at any point during construction, use, or ongoing maintenance within the limits of the proposed undertaking, even in previously surveyed areas, all work at the location of the discovery should cease immediately, and the THC and GLO should be notified of the discovery.

On behalf of Anadarko and Whitenton, Horizon is seeking documented consultation with your office in compliance with the ACT. Should you concur with Horizon's findings and recommendations, please sign below and return. Again, this letter serves as an interim report for consultation purposes. The results of these investigations will eventually be incorporated into a formal report that includes the results of all cultural resources investigations conducted under TAC annual permit number 9226 during the 2020 calendar year. Subsequent to the approval of the formal report, Horizon will also prepare all specimens, artifacts, materials, samples, and original field notes, maps, drawings, and photographs for curation at the Texas Archeological Research Laboratory (TARL) in accordance with the TAC Permit-Terms and Conditions and Texas Administrative Code Title 13, Part 2, Chapter 26.C.26.17.

If you have any questions, please do not hesitate to call or email me.

Sincerely,
For Horizon Environmental Services, Inc.

Russ Brownlow, MA, RPA
President

_____
Concurrence / Date

References

(ESRI) Environmental Systems Research Institute

2017 Digital topographic quadrangles and orthographic photography sourced by Esri for ArcGIS Online, <arcgis.com>. Accessed 6 March 2020.

(NPS) National Park Service

2020 National Register of Historic Places Google Earth Map Layer – South Region. <http://nrhp.focus.nps.gov/natreg/docs/Google_Earth_Layers.html>. Accessed 7 March 2020.

(NRCS) US Department of Agriculture, Natural Resources Conservation Service

1980 Soil Survey of Reeves County, Texas. <http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/texas/TX389/0/Reeves.pdf>. Accessed 9 March 2020.

2019 Soil Survey Geographic (SSURGO) Database for Reeves County, Texas.

(OSM) OpenStreetMap Contributors

2020 *Open Street Map*. <http://www.openstreetmap.org>. Available under the Open Data Commons Open Database License (www.opendatacommons.org/licenses/odbl). Accessed 6 March 2020.

(THC) Texas Historical Commission

2020 Texas Archeological Sites Atlas Restricted Database. <https://atlas.thc.state.tx.gov>. Accessed 7 March 2020.

(USGS) US Geological Survey

1981 7.5-minute series topographic map, Sand Lake, Texas, quadrangle.

Russ Brownlow

From: noreply@thc.state.tx.us
Sent: Thursday, April 2, 2020 3:24 PM
To: Russ Brownlow; reviews@thc.state.tx.us
Subject: Project Review: 202009752

[EXTERNAL EMAIL]

TEXAS HISTORICAL COMMISSION
real places telling real stories

Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
Permit 9226
THC Tracking #202009752
Palmito Ranch 1H-2H Flowline and Gas Lift Pipeline Projects
West Texas
Mentone,TX

Dear Russ Brownlow:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the Executive Director of the Texas Historical Commission (THC), pursuant to review under the Antiquities Code of Texas.

The review staff led by Drew Sitters and Caitlin Brashear has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- No historic properties are present or affected by the project as proposed. However, if historic properties are discovered or unanticipated effects on historic properties are found, work should cease in the immediate area; work can continue where no historic properties are present. Please contact the THC's History Programs Division at 512-463-5853 to consult on further actions that may be necessary to protect historic properties.

Archeology Comments

- No effect on archeological sites. However, if buried cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.
- THC/SHPO concurs with information provided.
- No sites recorded.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: drew.sitters@thc.texas.gov, caitlin.brashear@thc.texas.gov

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit http://thc.texas.gov/etrac-system.

Sincerely,

For Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.