Volume 2017 Article 78

2017

Negative Findings Cultural Resource Assessment Canyon Midstream Orange Pipeline Route University Lands Blocks 1 and 6 Reagan County, Texas

Billy D. Turner

Jeff Turpin

Negative Findings Cultural Resource Assessment Canyon Midstream Orange Pipeline Route University Lands Blocks 1 and 6 Reagan County, Texas

Negative Findings
Cultural Resource Assessment

Canyon Midstream
Orange Pipeline Route
University Lands Blocks 1 and 6

Reagan County, Texas

prepared for
Canyon Midstream Partners, LLC
6005 Eastridge Rd.
Suite 110
Odessa, TX 79762
(713) 655-9500

by

Billy D. Turner
Turpin and Sons Inc.
2047 Lakeshore Drive
Canyon Lake, Texas
512-922-7826

Jeff Turpin, Principal Investigator
Technical Report 339
Texas Antiquities Permit 8080

University Lands
The University of Texas System
July 2017

ABSTRACT

In June of 2017, Turpin and Sons Inc. (TAS) archeologists assessed the cultural resource potential of a proposed pipeline right-of-way (ROW) in southern Reagan County, Texas for Canyon Midstream Partners, LLC (Canyon). The Canyon Midstream Orange pipeline project covers a 2-mile (3,220 m) long by 100-ft-wide ROW with an area of potential effect (APE) of 24.25 acres. The survey was located southwest of Big Lake, south of the abandoned community of Texon. The work was carried out under the authority of Texas Antiquities Permit 8080 with Jeff Turpin acting as Principal Investigator. The Orange pipeline survey extended through University Lands Block 1, Section 4, and Block 6, Sections 2, and 3, crossing the midslope and upper valley of a rocky plateau. Modern land use is rangeland that has been disturbed by erosion and past clearing activity. The survey found a solitary dart point and scattered fire-cracked-rock (FCR) south of the current ROW. The FCR has been scattered by past clearing which dispersed the artifacts across a 400-m E/W by 50-m N/S area. The cultural material is south of the current ROW, dispersed between it and a caliche oilfield road. The lack of intact features and the considerable dam age inflicted by modern land use has left little of the site intact. The scattered artifacts were deemed an Isolated Find (IF) and do not warrant protection. The planned construction activity should be allowed to proceed.

Table of Contents

List of Figures

List of Tables

INTRODUCTION

In June of 2017, Turpin and Sons Inc. (TAS) archeologists assessed the cultural resource potential along 2 miles (10,562 ft) of 100-ft-wide right-of-way (ROW) southwest of Big Lake, Texas. The Canyon Midstream Orange pipeline survey was authorized by Texas Antiquities Permit 8080 issued to Canyon Midstream Partners, LLC (Canyon), University Lands, and TAS with Dr. Jeff Turpin, Principal Investigator. Field work was conducted by Billy Turner and Carrie Davis. The 100-ft-wide right-of-way (ROW) defines an Area of Potential Effect (APE) of 24.25 acres.

The proposed pipeline is located southwest of Big Lake, 7.25 miles south of the abandoned community of Texon, in southwest Reagan County (Fig. 1). The route crosses University Lands Block 1, Section 4, and Block 6, Sections 2, and 3 (Fig. 2). The environs are typical West Texas upland with exposed limestone bedrock and shallow sandy clay loam. The area is fallow range land that has been cleared in the past. Low juniper and mesquite trees, broom weed, prickly pear and clump grass cover the rocky terrain. Oilfield activity is widespread with this route connecting an active drilling rig with an existing pipeline. A solitary dart point and scattered fire cracked rock (FCR) were found south of the proposed ROW in an area adjacent to a caliche oilfield road. The artifacts were deemed an Isolated Find (IF). Past clearing has scattered the FCR across an area 400 m E/W by 50 m N/S. No intact features were observed and the scattered artifacts do not warrant avoidance or further work. The planned construction will only affect FCR of uncertain provenience. In the unlikely event that buried artifacts or features are encountered, construction should be halted and a professional archeologist consulted.

This cultural resource assessment consisted of an archival search, an intensive pedestrian survey, and preparation of a report suitable for review in accordance with the Texas Historical Commission's Archeological Survey Standards for Texas. Although there is no Federal involvement at this time, the investigations complied with standards and guidelines set forth in 54 U.S.C.

306108 (commonly known as Section 106 of the National Historic Preservation Act).

Figure 1. Overview map of project location (source: National Geographic Topo).

ENVIRONMENTAL SETTING

The ROW crosses rolling desert upland along the midslope and upper valley of a small plateau. Poor soil conservation practices and natural erosion have resulted in the depletion of topsoil across much of the area, with exposed bedrock or gravel visible in most areas. Surface visibility exceeded 80% with rock and gravel the norm (Fig. 3).

The project area is part of the Edwards Plateau Section of the Great Plains Province of the Interior Plains, which is described as mesas, plateaus, and limestone ridges and hills with deep canyons and nearly level to gently sloping valley floors. The Edwards Plateau is an uplifted and elevated region originally formed from marine deposits of sandstone, limestone, shales, and dolomites 100

million years ago during the Cretaceous Period, when this region was covered by a low inland sea (TPWD). This characterization is far too broad to provide a context for prehistoric adaptations in the area crossed by the current project.

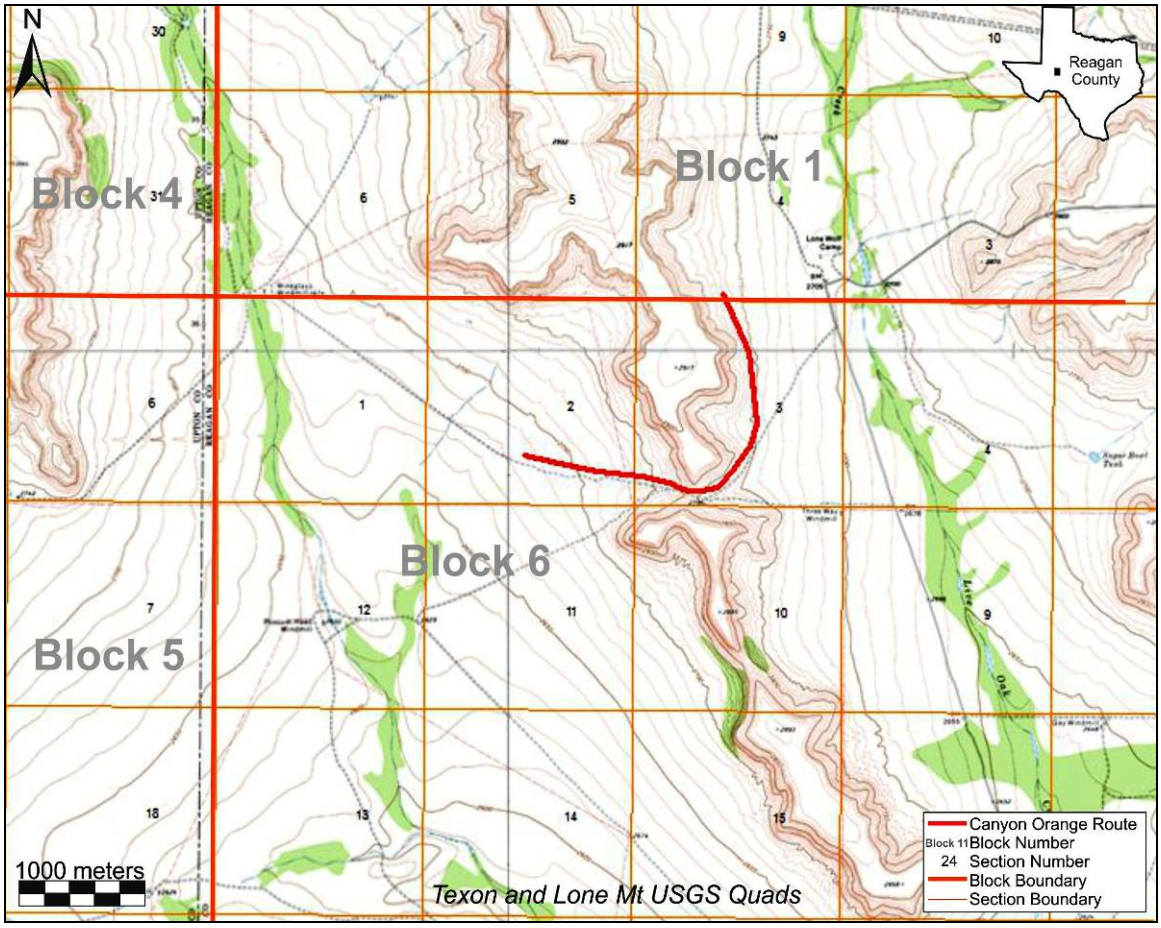

Figure 2. Project Location Map (source: Terrain Navigator).

The proposed ROW crosses a broad expanse of poorly watered gently rolling uplands that has been overtaken by mesquite.

Hydrology

Hydrology is the dominant factor in prehistoric and early historic settlement patterns in the study area. The project crosses rocky terrain on the midslope and upper valley of a small plateau. The nearest water source is Live Oak Creek which flows 900 m east of the eastern section of this route (see Fig. 2). The project is divided in two by the plateau, with the east side draining to Live Oak Creek and the west side to an unnamed tributary to Noelke Creek which is

1.2 miles west of the current route. The tributary joins Noelke Creek approximately 5 miles to the south. Both Noelke and Live Oak creeks drain generally south ca. 32 miles to join the Pecos River.

Figure 3. General environment along Orange route.

Plants and Animals

Vegetation is sparse and, in years with sufficient precipitation, consists of largely of shrubs and short or mid-grasses. The plant community once included juniper, mesquite, lotebush, live oak, Texas oak, sumac, Texas prickly pear, tasajillo, kidneywood, netleaf hackberry, agarita, yucca, sotol, catclaw, Mexican persimmon, various grammas, threeawn, Texas wintergrass, little bluestem, Halls panicum, buffalo grass, cedar sedge, two-leaved senna, mat euphorbia, rabbit tobacco, and hairy tridens. Scrub mesquite and juniper cover the hillsides while low mesquite, prickly pear, cholla, and clump grass have overtaken the valley floor.

Deer and rabbit are the dominant wild species in the region today but archeological and historical evidence indicates that the faunal community was large and diverse prior to the introduction of domesticated animals (Wiedenfeld 2003). The bison kill site in the bed of the Big Lake, 14 miles northeast of the current project, testifies to more benign grassland before 8000 years ago,

followed by a period of severe drought that would have driven herd animals north to the Plains. Pioneers camping on the shores of the Big Lake mentioned a wide variety of long-gone game, including bears, antelope and bison (Turpin et al. 1993, 1997). Although no faunal studies have been done in the immediate vicinity of the study area, it can be assumed that the composition of the faunal community in general was equally fluid and dependant on the vagaries of climate and rainfall.

Soils

Area soils are primarily of the order Aridisoles which are typical of semiarid regions with grassland ecosystems. The soils are made up of calcareous loamy and clayey alluvium derived from limestone. Mapped soils include: Reagan loam, Ector, and Sanderson formations (USDA/NRCS). Generally shallow, well drained and moderately slowly permeable, these soils were formed from loamy residuum marl derived from limestone and alluvial processes. The study area sits in a rocky, gently sloping landscape dominated by exposed limestone. The majority of the route crosses a limestone plateau before dropping into a rocky valley (Fig. 4). Some areas retained a thin cover of light yellowish brown or light grayish brown sandy loam and gravel over limestone.

Climate

Temperature ranges can be extreme, from a record low of -8 degrees to a record high of 109 degrees, with an average of 46.2 degrees F in winter and 79.6 degrees F in summer. The average annual total precipitation is about 19.11 inches. Of this, about 14.76 inches, or 77 percent, usually falls in April through October. The region experiences cyclical periods of rain and drought filling and drying nearby Big Lake. The high dune face on the northern side of the lake resulted from an extremely long dry spell with constant winds from the south-southwest sometime after about 8000 B.P. and was preceded by yet another undated period of dune accretion that has since stabilized (Turpin et al. 1993, 1997). Many of the semi-buried hearth sites recorded during past block surveys

would have been buried by wind-blown sediment during such periods of sparse vegetation and low rainfall.

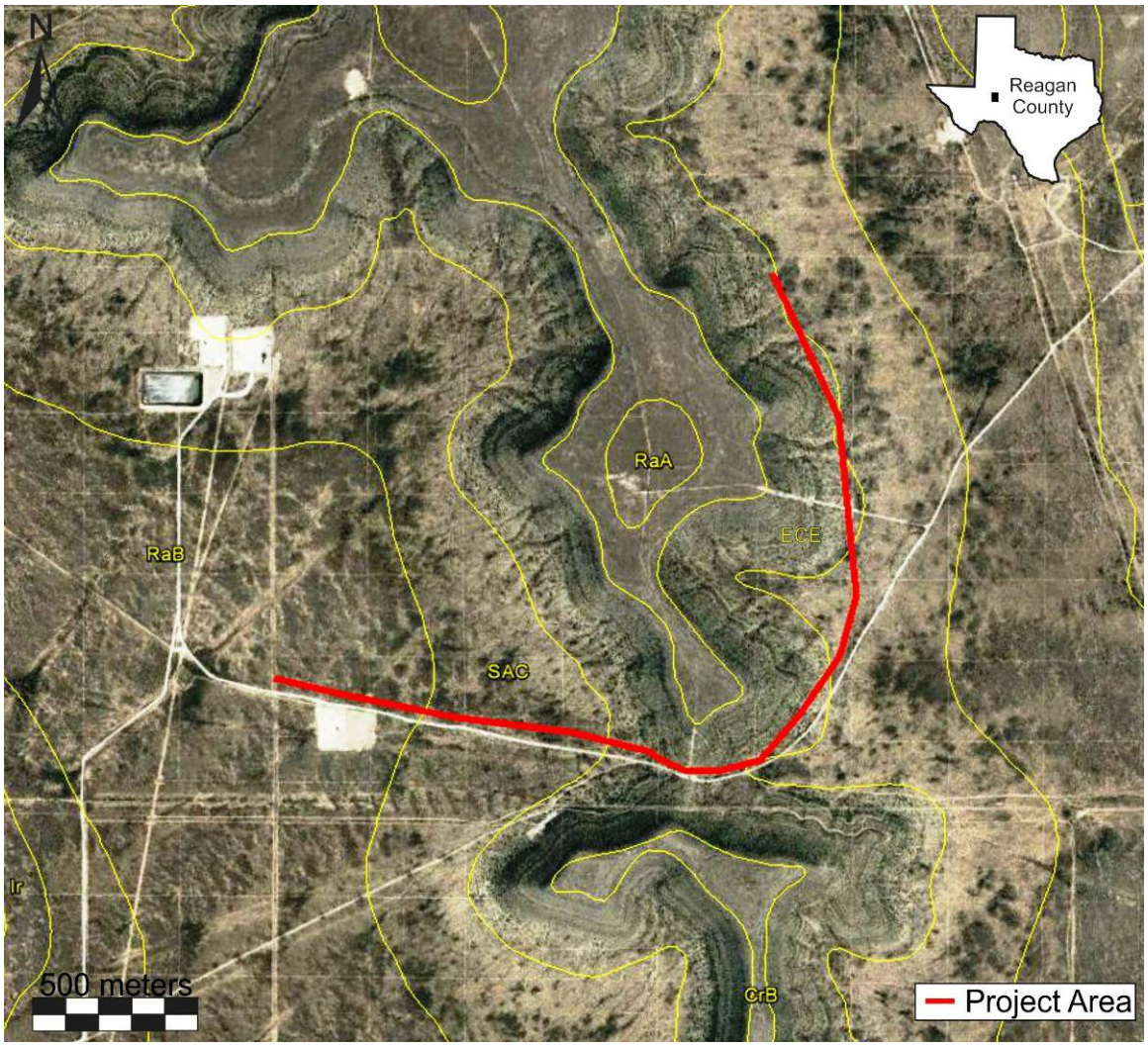

Figure 4. Mapped soils across survey area (source: NRCS / Google Earth image 2/22/2017).

CULTURAL CONTEXT

Reagan County is in a transitional zone between three defined cultural areas: the Southern Plains on the north, the Eastern Trans-Pecos, and the Lower Pecos to the west and east, respectively. The many studies in Reagan County have shown that the most applicable chronology is that of the Lower Pecos, where radiocarbon analyses have refined the sequence (Table). For the

purposes of this report, however, only the major divisions are relevant since no temporal diagnostics were found.

Table. Time periods in prehistory.

Period	Subperiod	Radiocarbon Years (BP)	Trans-Pecos
Paleoindian		<12,000-9,800	<12,000-8500
	Aurora	14,500-11,900	
	Bonfire	10,700-9,800	
Late Paleoindian		9,400-9,000	
	Oriente	9,400-8,800	
Early Archaic		9,000-6,000	8,500-1,000
	Viejo	8,900-6,500	
Middle Archaic		6,000-3,000	
	Eagle Nest	5,500-4,100	
	San Felipe	4,100-3,200	
Late Archaic		3,000-1,000	
	Cibola	3,150-2,300	
	Flanders	2,300??	
	Blue Hills	2,300-1,300	
Late Prehistoric		1,000-350	
	Flecha	1,320-450	
	Infierno (phase)	450-250	
Historic		350-0	

Over 400 sites have been recorded in Reagan County, spanning the entire range of prehistory (Atlas). The Big Lake playa attracted hunters from the Paleoindian through Historic periods. Projectile points in private collections include Folsom, Plainview, Midland, and Milnesand specimens from the western end of the lake, and excavations in the bed of the lake produced the remains of a small herd of bison driven into the mud and dispatched during the period of downsizing from mega- to modern bison around 8000 years ago (Turpin et al. 1993, 1997). Archaic and Late Prehistoric burned rock middens and hearths line the lake and its major feeder, Big Lake Draw (Turpin 1994). Most of the prehistoric sites in the area cannot be dated but the few with temporally diagnostic projectile points are Middle and Late Archaic in age. The Late

Prehistoric presence is evidenced by a large Toyah phase component in the dunes at the western end of Big Lake (41RG26).

The history of the early frontier is apparent in the ruins of Camp Grierson (41RG3), a military outpost of Fort Concho built in 1878 around a secluded spring that effectively shortened the road to Fort Lancaster (Riemenschneider and Turpin 1998). The only designated State Antiquities Landmarks in this county are the Reagan County Courthouse in Stiles, Texas and a firing range associated with Camp Grierson on property managed by University Lands (41RG77; Turpin and Riemenschneider 2001). Although none of these sites are near the current project, they demonstrate the long duration of occupation attributable to the draw of the Big Lake.

Previous Investigations

The vicinity of the current project has seen minimal previous archeological investigation. In 2012, TAS Inc. conducted the Pioneer Block and the Central and South Big Lake Seismic Surveys in the immediate area (Burgess and Turpin 2013) and the EP Waterline survey adjacent to the south in June of 2017 (Turner 2017). SWCA carried out a survey of the Grierson Springs System Pipeline west of the current project in 2015 (Atlas). The Pioneer seismic survey recorded a historic trash scatter, 41RG178, 120 m south of the current project. The site is well outside the current APE.

METHODS

Prior to field work, the county site files and maps on the Texas Historical Commission's (THC) Archeological Site Atlas (Atlas) were searched for previously recorded site locations and references to archeological surveys undertaken in the vicinity of the proposed pipeline. Pedestrian survey was carried out by two archeologists walking single file in alternating transects following a provided centerline. The project consisted of an intense pedestrian survey of 2 miles of 100-ft-wide ROW for a total of 24.25 acres surveyed. Over 80% surface visibility and lack of topsoil negated the need to dig shovel tests. No artifacts were collected.

RESULTS OF THE SURVEY

Survey of 2 miles (3,220 m) of proposed 100-ft-wide ROW across University Lands Block 1, Section 4, and Block 6, Sections 2, and 3 crossed open, rocky terrain that has been modified through clearing and oilfield activity. The planned pipeline will connect an active drilling rig in the northeast with the Grierson Springs Pipeline in the west. The survey crossed an arid upland midslope and upper valley floor. This area has been used as rangeland and has been altered by past brush clearing, leaving low mesquite trees and displaced limestone rock and gravel. The predominant natural feature is a small plateau that divides the project. The current route crosses the plateau through a small pass parallel to an oilfield road. The survey found a stone tool and a very dispersed scatter of FCR. The artifacts were designated an Isolated Find (IF) based on the lack of discernable features or lithics and the extremely scattered nature of the artifacts. The scatter included approximately 20 pieces of burned rock of dubious origin spread across a 400 m E/W by 50 m N/S area south of the current ROW. The area has been cleared in the past further dispersed the FCR (Fig. 5). The solitary stone tool, a lanceolate dart point similar to the Pandora style, was found 2 m north of the road (Fig. 6). The style dates to the Middle to Late Archaic Period (2500 B.C. - 300 B.C.) (Turner and Hester 1999). The 7 cm long by 3 cm wide triangular, unstemmed point was bifacially flaked with a slightly rounded base. It is possible that the tool was a hafted knife as opposed to a dart point. The tool was made of low grade mottled brown, reddish brown and gray chert. The lack of lithic debris in the area suggests that the tool was made somewhere else. The scattered FCR at the location was primarily medium-sized pieces of burned limestone averaging less than 5 cm in diameter. Most of them were south of the current ROW, between it and an existing oilfield road (Fig. 7). The dearth of topsoil eliminates the potential for buried deposits and the surface is so modified that no further work is warranted. No other evidence of historic or prehistoric use or occupancy was found in the APE, so significant cultural resources will not be adversely affected by the installation of the Orange pipeline.

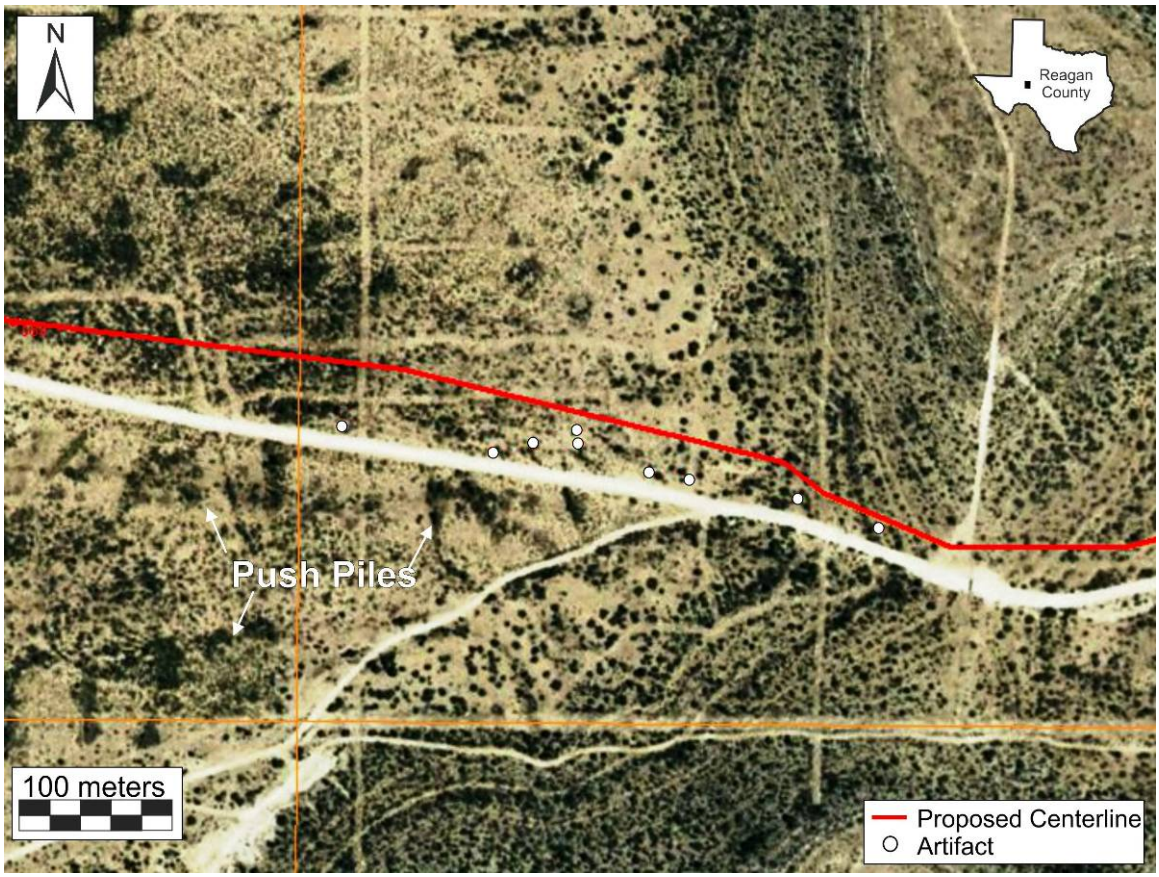

Figure 5. Aerial showing disturbance around IF1 (source: Terrain Navigator).

Figure 6. Isolated dart point.

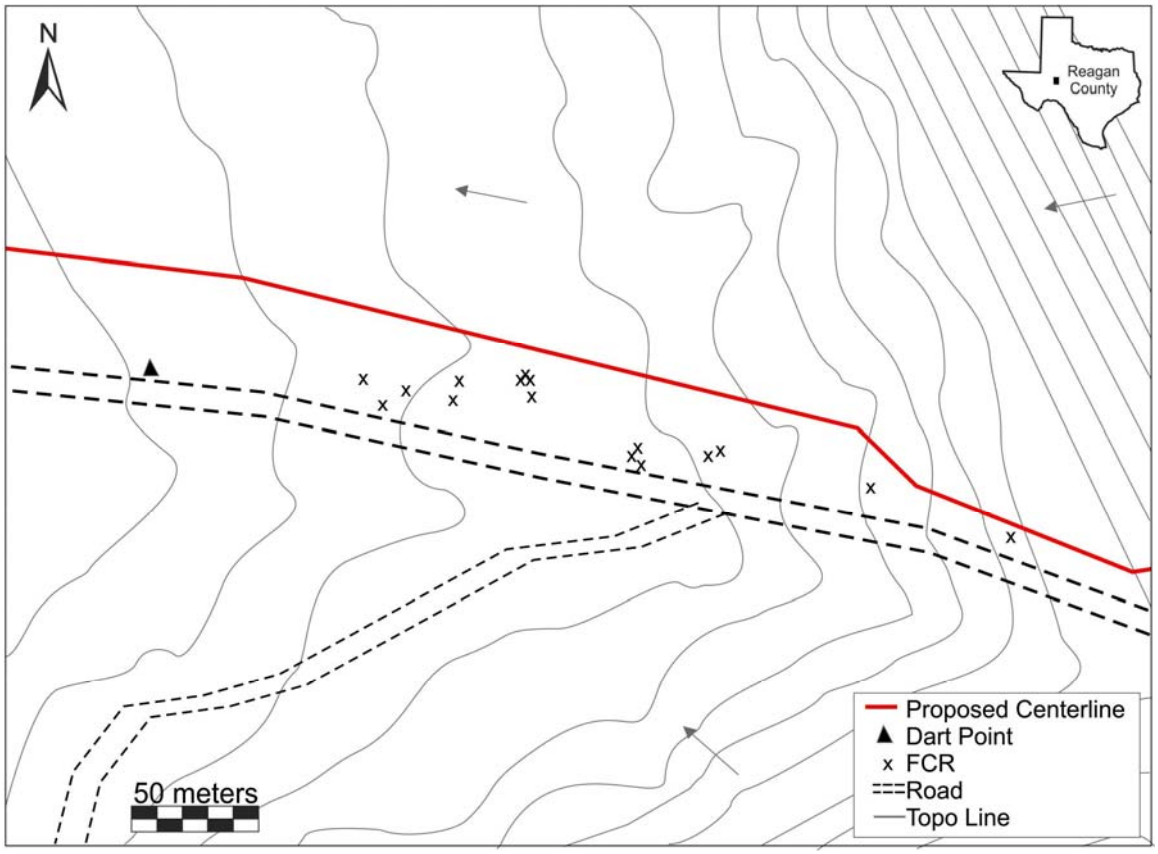

Figure 7. IF1 location map.

CONCLUSIONS

Survey of an APE totaling 24.25 acres of University Lands produced no new site recordings. The route crosses north of an Isolated Find that included a solitary dart point and FCR scattered across a 400 m E/W by 50 m N/S area between the ROW and an oilfield road, in an area has been cleared in the past. Considerable disturbances to the fallow rangeland environment have been caued by brush clearing, erosional control measures, and road and pipeline construction. No new evidence of historic or prehistoric occupation or use was found along the surveyed route. Therefore, cultural resources will not be adversely affected by the installation of the Canyon Midstream Orange pipeline through this segment of University Lands.

REFERENCES CITED

Atlas (Texas Archeological Site Data Base)
http://nueces.thc.state.tx.us/. (accessed 06/16/2017).

Atlas-County
2017 Texas Archeological Sites Atlas. "Reagan County"
http://atlas.thc.state.tx.us/shell-county.htm/. (accessed 06/16/2017).

Brune, Gunnar
1981 *Springs of Texas*. Privately Printed.

Burgess, Terry and Solveig A. Turpin
2013 *A Reconnaissance Survey of University Lands Seismic Development Blocks: Pioneer, East Crockett, Central and South Big Lake. Crockett, Irion, Reagan and Upton Counties, Texas*. Turpin and Sons Cultural Resources Report 35, Canyon Lake, Texas.

Handbook of Texas, on-line
2017 http://www.tshaonline.org/handbook/online/articles/hnb32. (accessed: 06/26/2017)

NRCS/USDA
2017 National Resource Conservation Service/ US Department of Agriculture. http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm. (accessed: 06/26/2017)

Riemenschneider, Larry and Solveig A. Turpin
1998 Larry Riemenschneider) Grierson Springs: A Military Outpost of Fort Concho 1878-1882. *Journal of Big Bend Studies* 10:89-143. Sul Ross State University, Alpine, Texas.

TPWD
Texas Parks and Wildlife Department
http://www.tpwd.state.tx.us/landwater/land/habitats/cross_timbers/ecoregions/edwards_plateau.phtml (accessed 06/26/2017).

Turner, Billy D.
2017 *Cultural Resource Assessment EP Waterline, University Lands Blocks 1, 5, 6, and 8, Reagan County, Texas*. Turpin and Sons Inc. Canyon Lake, Texas.

Turner, Ellen S. and Thomas R. Hester
1999 *A Field Guide to Stone Artifacts of Texas Indians*. Gulf Publishing Co, Houston.

Turpin, Solveig A.
1994 *A Reconnaissance of Big Lake Draw: Implications for Prehistoric Playa Utilization, Reagan County, Texas*. Texas Archeological Research Laboratory Technical Series 40. The University of Texas at Austin.

Turpin, Solveig A. and Larry Riemenschneider
2001 Firing at Blank Range: Cavalry Maneuvers at Grierson's Gulch, 41RG77. *Journal of Big Bend Studies* 13:107-120.

Turpin, Solveig A., Leland C. Bement and Herbert H. Eling, Jr.
1993 Big Lake (41RG13): A Playa Bison Kill in West Texas. *Current Research in the Pleistocene* 9:45-46. Orono, Maine,

1997 Stuck In the Muck: A West Texas Playa Bison Kill. *Plains Anthropologist* 42(159), Memoir 29:119-133.

Wiedenfeld, Clarence C.
2003 *Soil Survey of Reagan and Upton Counties, Texas*. Natural Resource Conservation Service, USDA.