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Negative Findings Report Cultural Resource Survey Indian Mesa Wind Conduit Realignment Pecos County, Texas

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Cultural Resource Survey
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Report prepared for

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ABSTRACT

During May of 2018, TAS Inc. conducted a cultural resources survey of proposed electrical conduit realignments on the Indian Mesa Wind Farm located east of Fort Stockton in northeast Pecos County. The project is north of Interstate 10 approximately 6 miles northeast of Bakersfield, on University Lands Block 16; Sections 11-14. The project was sponsored by Permian Environmental Services acting as agents of Indian Mesa Wind Farm, LLC and was authorized by Texas Antiquities Permit 8422 with Dr. Jeff Turpin acting as Principal Investigator. The project entailed the examination of nine conduit realignments within an existing windmill farm. The entire project covered approximately 3.26 linear miles (5258 m) of 100 ft (30 m) wide survey corridor. The realignments approached six previously recorded archeological sites with the nearest (41PC531) located 80 ft (25 m) south of the survey corridor. This area has been altered by previous construction and no trace of the site was found along the proposed realignment.

Only minimal evidence of prehistoric occupation or use was found in the study area. None of the previously recorded archeological sites were encountered along the realignment corridors and no additional work was conducted at any of the purported locations. The only cultural remains found within the survey area were isolated artifacts such as a crude uniface tool, a chert core, a tertiary flake and two modified flake tools. Given the distance between these artifacts and the lack of associated features, they were considered Isolated Finds (IF). The artifacts, along with the more numerous ones found at the recorded sites in the earlier survey, reflect minimal human occupation of the mesa. The artifacts were not diagnostic of a specific time period and contribute little to our understanding of local or regional prehistory. As a result, no National Register of Historic Places (NRHP) or State Antiquities Landmark (SAL) designations were considered. Thus, significant cultural resources will not be affected by corridor realignment.

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INTRODUCTION

During mid-May of 2018, TAS Inc. archeologists Billy Turner and Carrie Davis assessed the potential for cultural resources along nine proposed electrical conduit realignments at the Indian Mesa Wind Farm, located northeast of Fort Stockton in northeast Pecos County (Figs. 1-3). The survey was sponsored by Permian Environmental Services acting as agents for Indian Mesa Wind Farm, LLC and authorized by Texas Antiquities Permit 8422 with Dr. Jeff Turpin acting as Principal Investigator. This cultural resource assessment consisted of an archival search, an intensive pedestrian survey of 3.26 linear miles (5258 m), and preparation of a report suitable for review in accordance with the Texas Historical Commission's Archeological Survey Standards for Texas.

The project was located within an existing wind farm on state lands administered by the University Lands System, specifically in Block 16; Sections 11-14, north of Interstate 10, 5.5 miles northeast of Bakersfield, Texas (Fig 2). An intensive examination of 17,251 ft (5,258 m) of 100 ft (30 m) wide survey corridor covered an Area of Potential Effect (APE) of 39.6 acres. Although the proposed realignments approach six previously recorded archeological sites, only minimal artifacts were found within the APE. These artifacts included isolated stone tools or flakes. Given the distance between these artifacts and their lack of associations with known sites, they were labeled Isolated Finds (IF). Most of the realignment corridors occur within areas that have been previously cleared, disturbing the ground surface. The absence of significant historic or prehistoric remains indicates that significant cultural resources will not be affected by the planned construction.

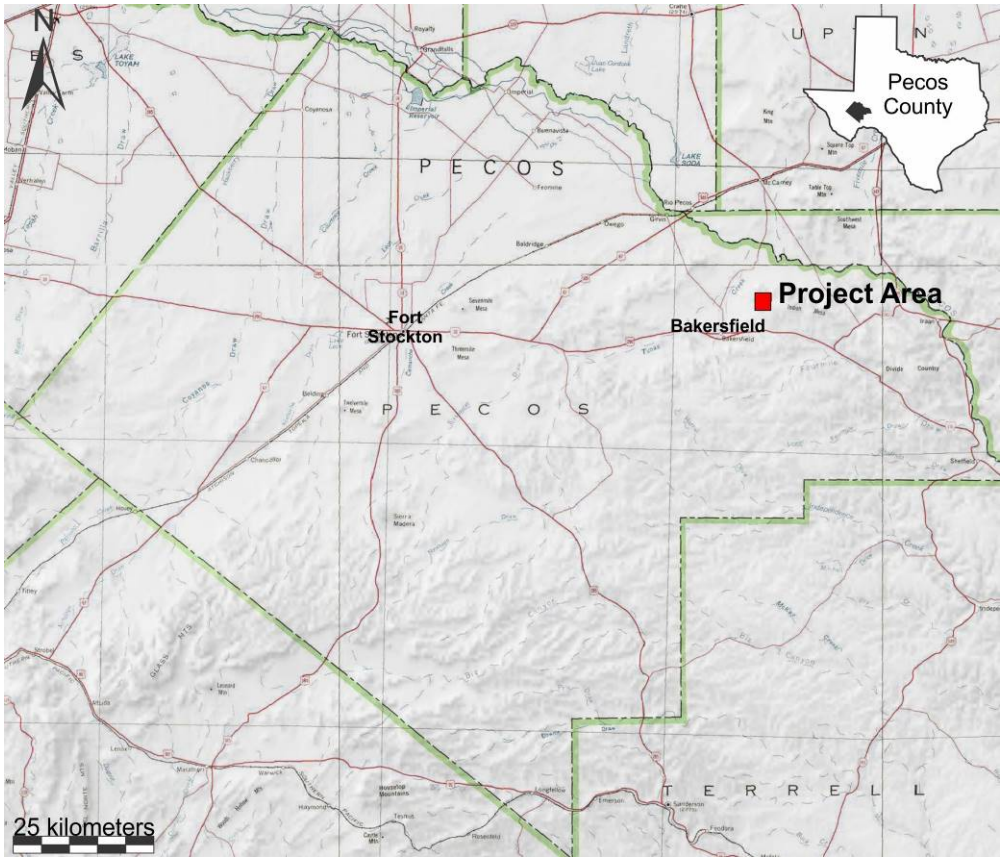

Figure 1. General location of project area (source: National Geographic Topo).

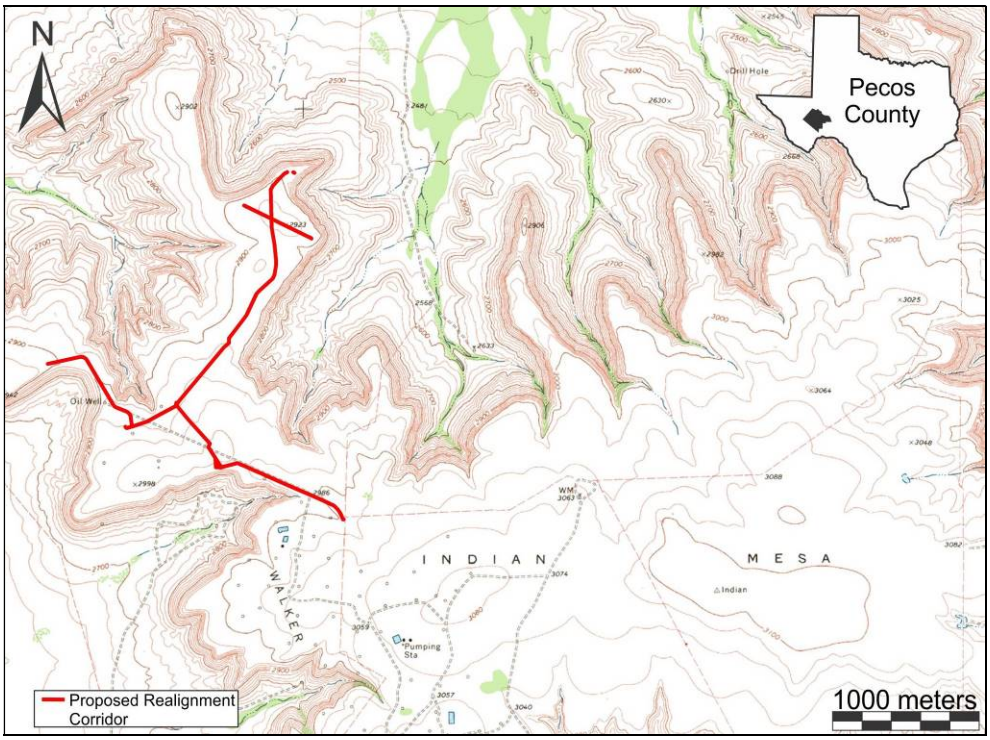

Figure 2. Project location map (source: Terrain Navigator).

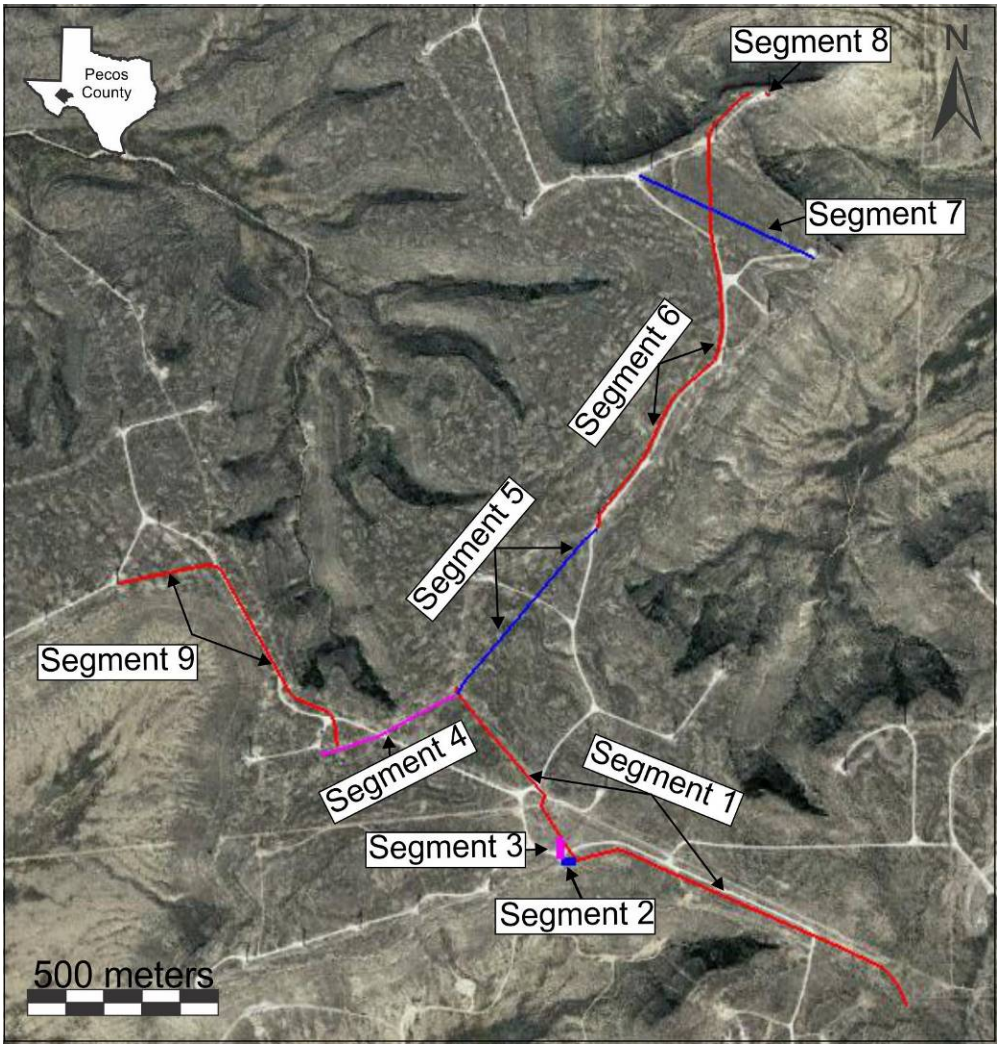

Figure 3. Aerial showing realignments along existing roads (source: Google Earth Image 2-22-17).

ENVIRONMENTAL CONTEXT

The context of the surveyed area is typical West Texas uplands with a thin layer of silty loam and gravel over limestone bedrock. The area is a barren upland mesa top with low desert vegetation including mesquite, acacia, lechuguilla, and prickly pear (Fig. 4). The area is part of in the eastern Trans Pecos Natural Region, just west of the Edwards Plateau Section of the Great Plains Province of the Interior Plains (Fig. 5). The Edwards Plateau is an uplifted and elevated expanse originally formed 100 million years ago from marine deposits of sandstone, limestone, shales, and dolomites during the Cretaceous Period when the region was covered by a shallow sea. The western portion remains a relatively flat elevated plateau whereas the eastern portion, known as

the Hill Country, is deeply eroded (TPWD). The project area is atop a large mesa characterized by gently rolling terrain where shallow soil covers limestone bedrock.

Pecos County is in the Eastern Trans-Pecos region, a northern extension of the Chihuahua Desert (Blair 1950:105) in a physiographic zone that is most distinctive for its variability. Pecos County is large, covering over 4,740 square miles. This vast expanse encompasses habitats that range from level or undulating grasslands in the north to mountain ranges that are extensions of the Sierra Madre. The eastern section of the county is part of the Edwards Plateau resource area, topographically expressed as rolling plains interrupted by steep-walled mesas. The northwestern part is an extensive semi-arid desert that gives way in the southwestern corner to the Glass Mountains. The terrain generally dips east toward the Pecos River, the only major watercourse in the county. The elevation ranges from about 2,200 feet near the Pecos River to about 5,200 feet in the mountains. The study area is in the northeast part of the county in the zone characterized by high mesas and rolling hills, with elevations ranging from 2860 – 3000 ft amsl.

Figure 4. General environment across survey area.

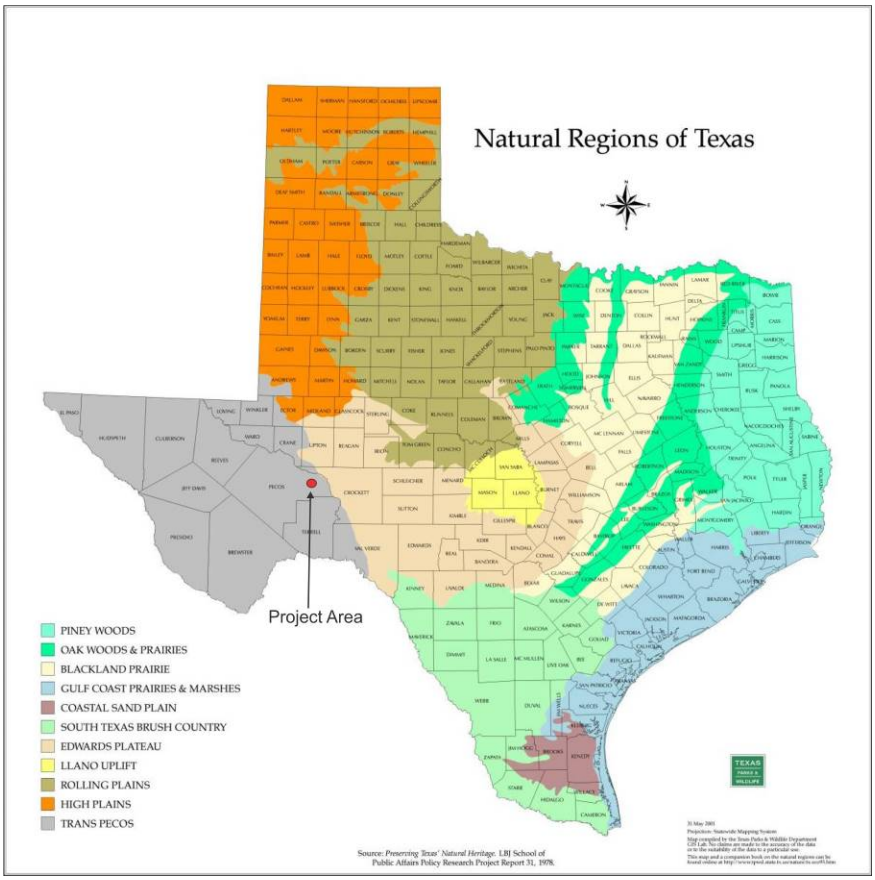

Figure 5. Natural region of the project area (source: Texas Parks and Wildlife).

Hydrology

The project area is dry desert upland. The nearest water source is Tunas Creek, which is 5.3 km (3.3 miles) northwest of the project area. The region drains generally northeast toward the Pecos River, which is joined by Tunas Creek 9.1 km (5.6 miles) north/northwest. The fragile desert nature of the region is demonstrated by the number of springs that have gone dry since irrigation farming accelerated in the mid-1940's (Brune 1981:356). The most notable is Comanche Springs in Fort Stockton. The spring once produced 60 million gallons a day but ceased flowing in 1952 (Rives 1980:01). Brune (1981:356) describes a prehistoric Pecos River fed by numerous springs and marshy rush-lined streams that supported a vast array of animals as recently as the late 19th century. The springs listed by Brune (1981) have all gone dry. Recent work at Diamond Y Springs, 10 miles north of Ft. Stockton, has produced a reconstruction of environmental conditions over the past 7000 years (Hoyt 2000) that likens the

area to a prairie with extensive grasslands sweeping west from the Pecos River, interrupted by marshes and riparian growth at the many springs. Now, under average rainfall conditions, the dominant vegetation is grass, forbs and low thorny scrub, such as cholla, prickly pear, coyotillo, yucca and creosote (Texas Parks and Wildlife Vegetation Map). The Indian Mesa Wind Farm is on a gently rolling mesa top with no internal drainages or water sources. The most reliable sources prehistorically were probably tinajas at the base of the pour-offs of intermittent drainages, thus accounting in part for the use of the rims above them for camping and processing sites.

Soils

Area soils are primarily of the order Aridisols, which are typical of semiarid regions with grassland ecosystems. Mapped soils are Ector-Upton Association (USDA/NRCS). The Ector series consists of very shallow to shallow, well-drained soils above slowly permeable limestone bedrock. They were formed from calcareous loamy residuum derived from limestone, predominantly from the Cretaceous age, but some are of Permian or Pennsylvanian age. These gently sloping to very steep soils occur on ridges on dissected plateaus. Upton series soils formed in gravelly, calcareous loamy slope alluvium and/or colluvium derived from limestone and marl found on foot slopes or fans of ridges on dissected plateaus (USDA/NRCS). The area was predominantly exposed limestone, but the northern part contained a thin layer of gravely soil. Three shovel tests in this area found 10YR 5/3 brown sandy loam and gravel to a depth of 5 centimeters below surface (cmbs) over limestone bedrock (Fig. 6).

Figure 6. Shovel test in northern part of survey area.

Plants and Animals

Vegetation is sparse and, in years with sufficient precipitation, consists of a plant community of shrubs and short or mid grasses. The plant community of Pecos County once included juniper, mesquite, lotebush, live oak, Texas oak, sumac, Texas prickly pear, tasajillo, kidneywood, netleaf hackberry, agarito, yucca, sotol, catclaw, Mexican persimmon, various gramas, threeawn, Texas wintergrass, little bluestem, Halls panicum, buffalo grass, cedar sedge, two-leaved senna, mat euphorbia, rabbit tobacco and hairy tridens. Scrub mesquite has infested the project area, to the detriment of native vegetation. Blacktailed jackrabbits (*Lepus californicus*) are the dominant wild species in the region today but archeological and historical evidence indicate that the faunal community was large and diverse prior to the introduction of domesticated animals. The bison kill site in the bed of the Big Lake 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 (Turpin et al. 1997). Pioneers camping on the shores of the Big Lake mention a wide variety of long-gone game, including bears, antelope and bison (Prine 1920). 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. The study area is an active wind farm that sees a lot of human traffic which has apparently scared off most of the wildlife since none was observed.

CULTURAL CONTEXT

The project area is within a large transitional zone between three defined cultural areas: the High Plains to the north, the Edwards Plateau to the east and the Trans Pecos to the west, near the convergence of the Trans Pecos and the Edwards Plateau. Both areas are arid and settlement patterns tended to follow water. The many studies in Pecos County have shown that the most applicable chronology is that of the Lower Pecos where radiocarbon analyses have refined the sequence (Table 1). For the purposes of this report, however, only the major divisions are relevant since no temporal diagnostics were found.

Archeological research began in earnest prior to the construction of Interstate 10 when the Texas Highway Department and the Texas Archeological Society conducted an intensive survey of one canyon system, Muskhog Canyon, southeast of Indian Mesa. Test excavations followed and included two sites in Pecos County, the Rams Head site and Squawteat Peak, as well as a number of sites in Crockett County.

In the intervening years, the site inventory has increased to over 800 records due to numerous pipeline and seismic surveys as well as inventories of publicly owned land managed by the University System. Most recently, wind and solar farms have contributed yet another suite of sites from different environmental zones (Atlas). Specifically, the Indian Mesa development was first investigated in 2000 (Turpin 2001). The sites recorded during this early phase of work on the mesa were primarily burned rock middens, hearths, and lithic scatters – all types now known extensively throughout the county.

Table 1. 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	

METHODS

Prior to field work, the county site files and maps on the Texas Historical Commission's (THC) Archeological Site Atlas were searched for previously recorded site locations and references to archeological surveys undertaken near the current project. There are six previously recorded archeological sites in the area (41PC494-96, 41PC498, 41PC530-31). Pedestrian survey was conducted in alternate transects following a given centerline. Each survey transect was 30 m wide and covered a segment of the 3.26 miles of proposed realignments (see Fig. 3). The surface was predominantly exposed limestone, but some areas in the north contained a thin layer of gravely sandy loam. Shovel tests were dug where soil was present. Matrix was sifted through ¼-inch wire mesh screen. Bedrock truncated shovel tests. Shovel test and surface observation locations

were recorded with handheld GPS units and transferred to topographic maps. No artifacts were collected.

SURVEY RESULTS

The Indian Mesa Wind project plans to realign several electric conduits and power cables within an existing wind farm. Most of these realignments occur along existing roads and corridors that have been cleared or altered in the past (see Fig. 3). There are nine planned realignments which cover a total distance of 3.26 miles (Table 2). The area was originally surveyed in 2000 by Borderlands Archeological Research Unit of The University of Texas, at which time seven archeological sites were found. Six of the sites are in the vicinity, but none are crossed by the planned realignments (Appendix I). The nearest is 41PC531 which is located south of the southeast segment of this project. The site contained semi-buried hearths, lithic debris and a Middle Archaic Langtry dart point. The majority of the features and lithics are in the southeast portion of the site,well away from the current APE. The site was considered to have been almost completely eradicated by energy extraction activities and no further investigation was recommended (Turpin 2001). The realignment near the site parallels an existing ranch road north of the northern site boundary through an area that has formerly been bulldozed. No artifacts or indications of the site were identified. The remainder of the previously recorded sites were well outside of the current APE and no associated artifacts were found. Four locations with isolated artifacts were noted. Most were located on exposed bedrock, but IF-3 lay on a thin layer of brown sandy loam and gravel. Three shovel tests were attempted in the vicinity with two finding brown sandy loam and gravel to a depth of 5 cmbs over limestone bedrock (see Fig. 5) and the third having exposed bedrock at the surface. The tests were placed along the proposed realignment route in the vicinity of IF-3 and spaced at 15 m intervals.

Table 2. List of proposed Indian Mesa realignments.

Number	Length	Recovery	Comments
1	4962 ft	IF-1	Parallels road and existing conduit corridor. East end is north of 41CU531.
2	134 ft	None	Parallels road through existing clearing.
3	178 ft	None	Parallels road through existing clearing.
4	1270 ft	None	Parallels an existing conduit corridor/clearing
5	1847 ft	IF-2	Previously undisturbed area – no previous construction has been done in the area.
6	4355	None	Parallels existing road staying west.
ix	1695 ft	IF-3	Previously undisturbed area – no previous construction has been done in the area.
8	33 ft	None	Within cleared wind mill pad.
9	2777 ft	IF-4	Majority parallels existing road, with 855 ft of the northern section crossing undisturbed area.

Isolated Finds

This assessment found scattered isolated artifacts in four locations, with no noticeable associations or context. The artifacts consisted of crude stone tools or flakes (Table 2). Most artifacts were modified flakes, but a small, oval uniface scraper and a chert core were found within 15 m of each other at IF-3 (Fig. 7). The artifacts were widely scattered and considered Isolated Finds (IF). IF-1 was located 85 m northwest of 41PC531, the remaining artifacts were scattered across the mesa and not near any recorded archeological sites (Fig. 8). The artifacts are crude, expedient tools that offer no increase in the knowledge base for prehistoric habitation of the area. None of the artifacts warrant inclusion on the NRHP or SAL.

Table 3. Isolated Finds.

Number	Type	Comments
IF-1	Utilized Flake	A 6 cm long x 2 cm wide light brown tertiary flake with utilized edges. This long, wedge-shaped flake had minor flake chipping on the lateral edges.
IF-2	Scraper	This 5 cm long x 1.5 cm wide light brown tertiary flake is long and wedge-shaped with a utilized distal end that appears to have been used as a crude scraper.
IF-3	Scraper-Core	A light brown oval uniface scraper with cortex measuring 5 cm long x 3 cm wide x 1 cm thick. A red chert core was found 15 m to the east (Fig. 7).
IF-4	Flake	Large light rose colored tertiary flake. 3.5 cm long x 2 cm wide x .5 cm thick.

Figure 3. Isolated core and uniface scraper at IF-3.

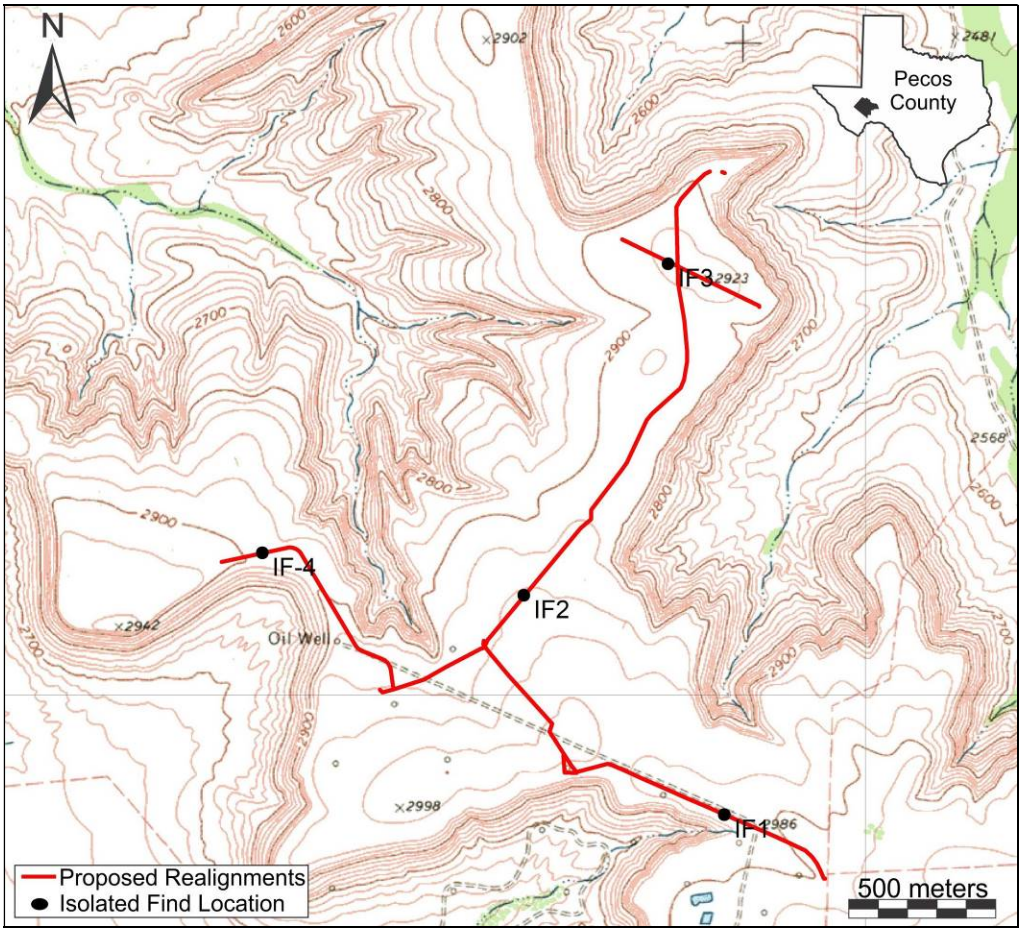

Figure 4. Isolated Finds location map.

CONCLUSIONS

At the request of Permian Environmental Services, 3.26 miles of proposed electrical conduit realignments were examined for cultural resources. The survey took place within an existing wind farm on a broad mesa top with predominantly exposed limestone. Most of the realignments occur in areas that have seen previous disturbance and parallel existing roads or conduit corridors. There are six previously recorded archeological sites in the vicinity of this project. None of the sites were encroached upon and no associated artifacts were noted. Examination of 39.6 acres of APE found four locations with isolated artifacts. The IF's consist of expedient stone tools or flakes and offer no new insights into prehistoric occupation of the area. As no significant historic or prehistoric artifacts or features were identified, it is assumed that the planned project will have no effect on the cultural resources of the region. It is recommended that the project be allowed to proceed.

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