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Intensive Survey Of The Proposed Aragorn Solar Farm On University Lands, Culbertson County, Texas

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Intensive Survey Of The Proposed Aragorn Solar Farm On University Lands, Culbertson County, Texas

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**INTENSIVE SURVEY OF THE PROPOSED
ARAGORN SOLAR FARM ON UNIVERSITY LANDS,
CULBERTSON COUNTY, TEXAS**

Billy D. Turner and Solveig A. Turpin

Texas Antiquities Permit 8374

Principal Investigator Jeff Turpin

TAS, Inc. Technical Report 350

Canyon Lake, Texas

April 2018

Abstract

IP Aragorn LLC plans to develop a solar farm on a 1,765-acre tract on University Lands (UL) in Culberson County, Texas. In March and April 2018, Turpin and Sons Inc. (TAS) assessed the potential for significant cultural resources under the authority of Texas Antiquities Permit 8374 issued to UL, Aragorn and TAS with Jeff Turpin acting as Principal Investigator. The project area is a barren extent of interfluvial gypsum plain between the Rustler Hills on the east and the Delaware Mountains on the west. One previously recorded site, 41CU558, barely extends to the access road on the northeastern end of the tract, with the majority of the cultural remains outside the boundary. Although the Texas Historical Commission had at one time declared the site eligible for the National Register of Historic Places (NRHP), neither the first recording nor two subsequent revisits found anything of significance on the site. One newly recorded site, 41CU862, is a scatter of fire-cracked rock and lithic debris that is equally insignificant with no potential for buried or intact deposits. Neither 41CU862 nor the portion of 41CU558 in the Aragorn tract meet eligibility criteria for listing on the NRHP or merit designation as a State Antiquities Landmark (SAL). No further work nor avoidance measures are recommended in the Aragorn tract.

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Introduction

In the spring of 2018, Turpin and Sons Inc. (TAS) carried out a cultural resource assessment of the proposed site of the Aragorn solar array, which consists of 1,765 acres of upland terrain between the Rustler Hills on the east and the Delaware Mountains on the west (Fig. 1). More specifically, the project area is east of Wild Horse Draw on an upland ridge above the headers to Castile, Horseshoe and Virginia draws within University Lands Block 46 in Culberson County (Fig. 2). The survey was sponsored by IP Aragorn, LLC of San Francisco and authorized by Texas Antiquities Permit 8374 issued to University Lands (UL), Aragorn, and TAS with Jeff Turpin acting as Principal Investigator.

Although there is no federal involvement at this time, the investigations were performed in compliance with the National Historic Preservation Act of 1966 (NHPA), as amended (16 U.S.C. 470 et seq., P.L. 89-665, 80 Stat. 915), and the implementing regulations 36CFR800. The purpose of the survey was to identify potentially significant archeological or historical remains within the tract and 3 mi of access roads, with the end goal of avoidance whenever possible. One previously recorded site, 41CU558, extends a very short distance into the northeastern corner of the tract overlapping the access road that bounds the study area; this lithic scatter was not deemed significant at the time of recording, a finding reiterated here despite a Texas Historical Commission determination of eligibility for the NRHP. One new site, 41CU862, was recorded in the heart of the study area, remote from water or other attractive resources. Neither the newly recorded site 41CU862 nor the small fraction of previously recorded 41CU588 meet criteria for listing on the National Register of Historic Places. No further work or avoidance procedures are recommended.

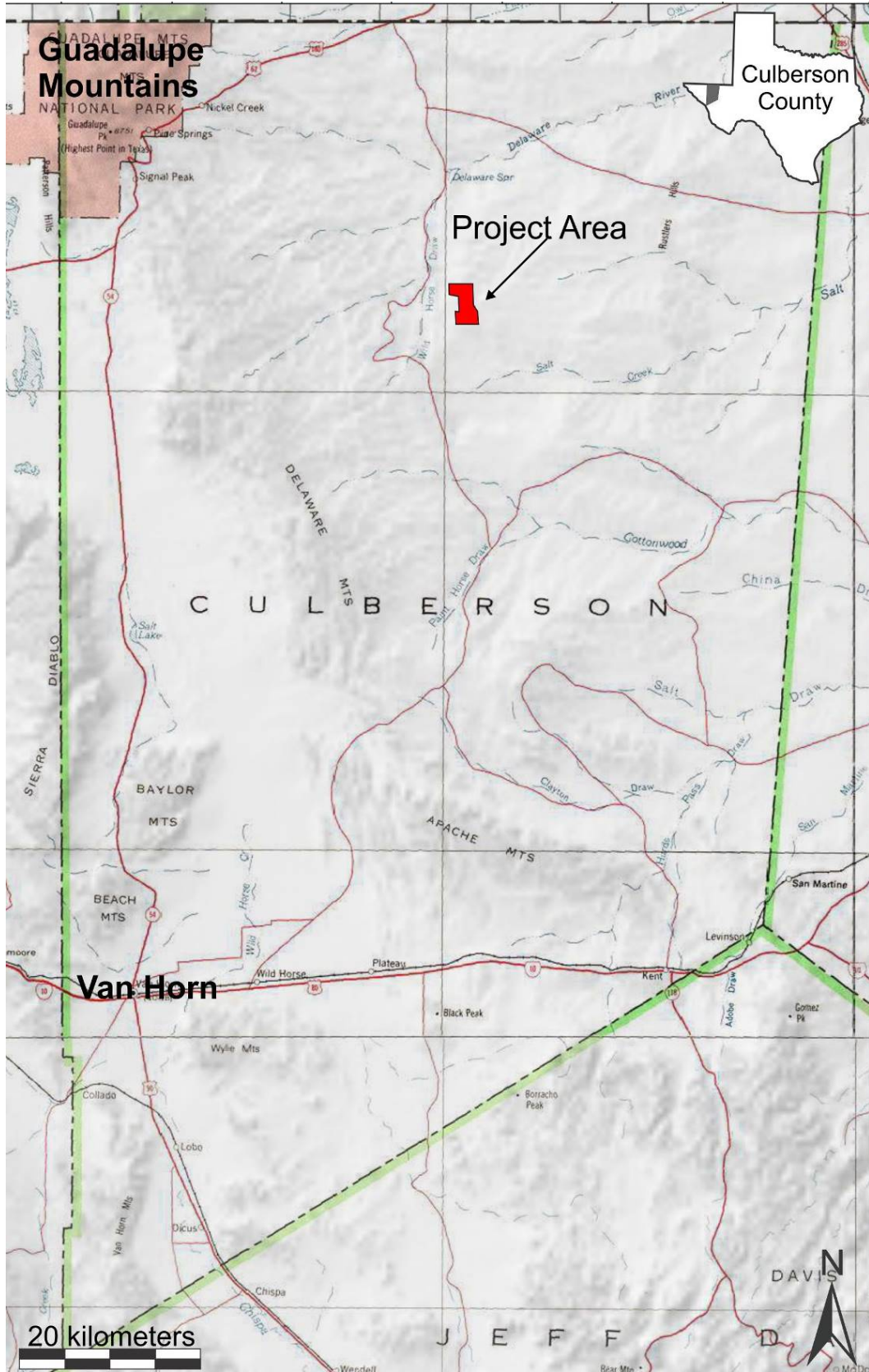


Figure 1. General area location map.

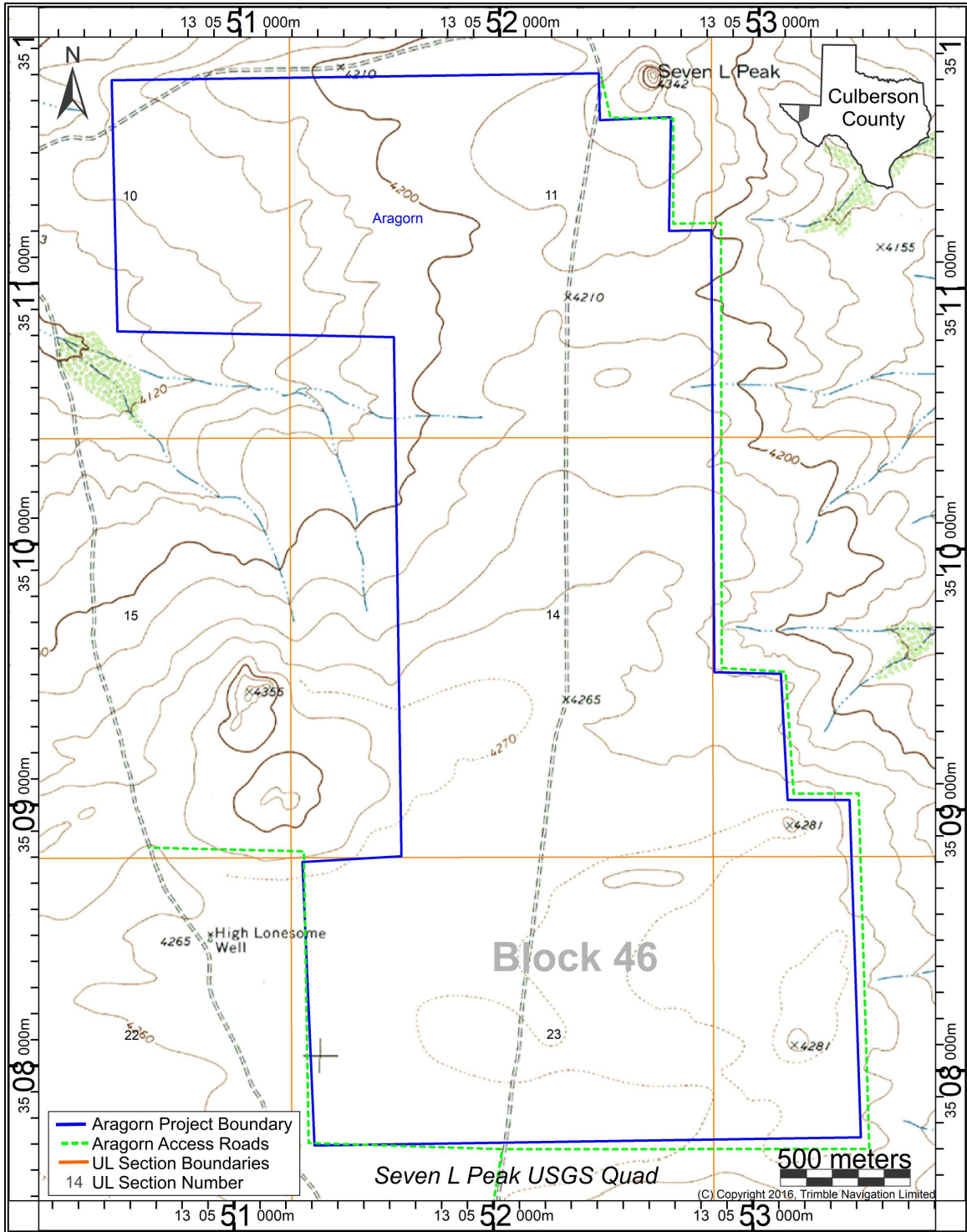


Figure 2. Map of Aragorn tract showing current access roads.

Environmental Context

The plain between the Rustler Hills and the Delaware Mountains is divided into eastern and western environmental zones. The project area is on a ridge which is part of the interfluvial divide between the Pecos and Delaware rivers. The eastern half is mapped as the Castile Formation, gypsum, anhydrite and limestone with alternating laminae of calcite and gypsum (Dietrich et al. 1995). The gypsum flats are bounded on the southeast by Virginia Draw, a tributary to the Pecos River. On the western side, the Rustler Formation is cut by Wild Horse Draw and Chico Draw which coalesce to flow into the Delaware River. A series of north-south trending sandstone ridges there host many of the prehistoric sites, located on the eroded ledges.

Three major promontories, Seven L Peak, Cave Well Peak and High Lonesome are limestone remnants that rise a few hundred feet above the plain and, in the case of Cave Well, eponymous neighboring sinkholes provide alternate sources of water (Fig. 3). Based on the density of cultural material in the vicinity, Seven L Well (which is outside the northwestern corner of the study area) and High Lonesome may once have fulfilled the same need, but the sinkholes there are now plugged with dirt and vegetation (Turpin 2005:34-35). Karst features are common expressions of the local geology; 76 were plotted in the Aragorn tract, but only four were open to the surface (Fig. 4; Turpin 2005:3). The dissolved salts in the sinkhole water affect both taste and digestibility, but Hamilton (2001) demonstrated that the inhabitants of Granado Cave survived drinking this water, while suffering some digestive problems. More palatable water would be temporarily available in tinajas that formed in the sandstone ledges and in playas outside the current survey area, both of which retain rainfall for relatively short periods.

In the northern part of the tract, the local soils are mapped as Hollebeck-Pokorny series, "very shallow and shallow, well drained, soils formed in gypseous residuum weathered from the Castile Formation with alluvial and eolian inputs of silicate material. Hollebeck soils are on low hills and have slopes of 1 to

8 percent” (Clausen 2013:7).” The Pokorny series is very similar: “very shallow and shallow, well drained soils formed in alluvium derived from rock gypsum derived from the Castile and Salado Formations, with alluvial and eolian inputs of silicate minerals. Pokorny soils are on terraces, alluvial flats, and low hills of Pleistocene age. Slopes range from 0 to 8 percent.” In fact, both USGS type locations are nearby on the Seven L Peak quad map.



Figure 3. Seven L Peak rises from the gypsum plain just outside the northeastern corner of the Aragorn survey area.



Figure 4. The opening to one of the larger karst features in the Aragorn lease. No cultural material was seen in the vicinity but it is possible that the cave has scientific value at depth.

The Elcor-Pokorny-Dellahunt series occupies much of the southern half of the lease. The Elcor and Pokorny elements are consistent with the general environment in that they are – as described above – very shallow and shallow soils formed over gypiferous substrate. Dellahunt soils and the mapped Dellahunt-Neimarh-Joberanch series are deeper, well drained, and found in the study area in pockets of alluvial sediments (Clausen 2013). The soils map demonstrates that there are very few isolated patches where cultural material may be shallowly buried, and in general the conditions are not conducive to the preservation of discard patterns.

Texas Parks and Wildlife Department vegetation maps classify Culberson County as Toboso-Black Grama grasslands and Creosote Bush-Mesquite shrub. The gypsum plain is barren so surface visibility is excellent. A preliminary pollen analysis of a sample dated to about 3360 BP at nearby 41CU681 led Albert (2003) to postulate that the prehistoric vegetation context was short-grass prairie. Additional pollen and phytolith analyses done in 2005 indicate that in prehistory the area west of the gypsum plain was grassland, probably more so than today (Turpin 2005:6). Based on only four samples, the climatic trajectory appears to

have been stable, with the possible exception of a more mesic interval ca. 3300 B.P. (Varney and Scott-Cummings 2004), coincident with the time represented in Albert's sample.

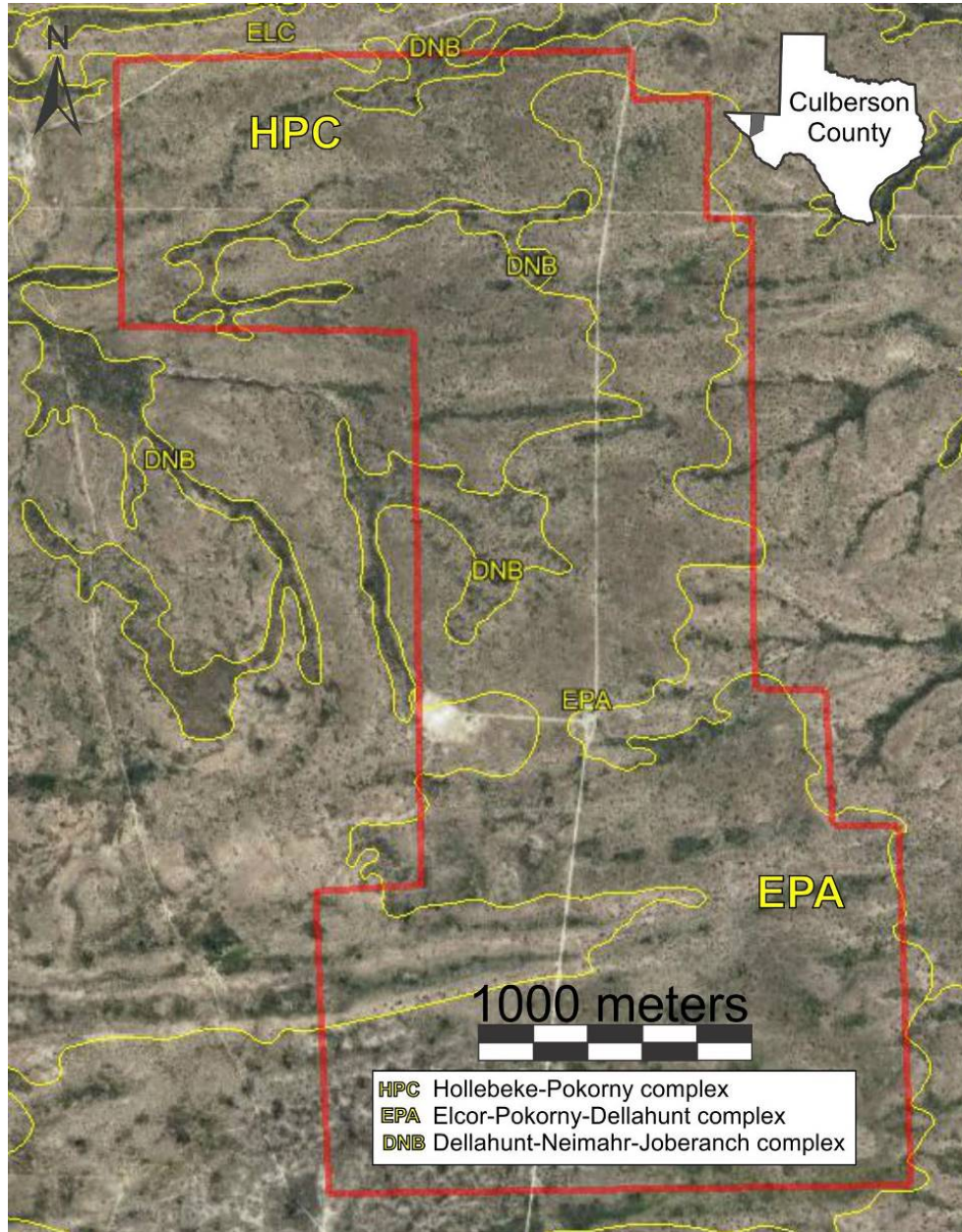


Figure 5. Soil map of survey area.



Figure 6. Sparse vegetation and exposed ground surface in Aragorn lease.

Modern Land Use

Ranching has long been the mainstay of Culberson County. Cattle apparently prosper on gyp water such as that pumped from Cave Well, adjacent to the Aragorn tract. Mineral extraction has played a prominent role in regional economics but the only evidence in the vicinity is the old Michigan Sulfur mine and plant on Virginia Draw and an occasional sulfur prospecting hole, none of which were found in the current survey.

Cultural Context

Culberson County is generally considered part of the Eastern Trans-Pecos in what Mallouf (1985: Fig. 1) called the Northern Sector. The arbitrary line between the Eastern and Western Trans-Pecos cuts diagonally through the county, thus putting the Aragorn tract in a cultural transition zone (Miller and Kenmotsu 2004: Fig. 7.1). The description that best fits the actual environment is probably the Plains section of the Northern Trans-Pecos (Lowry 1999) since the area between the Delaware and Pecos rivers requires a different adaptation strategy than that of the Basin-and-Range topography of the Western Trans-Pecos and the Stockton Plateau to the south (Turpin 2005:7).

The local chronology divides prehistory into Paleoindian (10,000-6,500 BC), Archaic (Early 6500-3000 BC; Middle 3000-1000 BC; Late 1000 BC-900 A.D.), Late Prehistoric (A.D. 900-1550) and Historic periods (Miller and Kenmotsu 2004). This survey produced no evidence that might contribute to the refinement of the chronology but information from adjacent areas indicates that the region was occupied throughout prehistory. All the projectile point styles that might have served as temporal diagnostics are isolated finds of dart points that testify only to an Archaic presence in the Aragorn tract (Fig. 7). The Eastern Trans-Pecos typological sequence is generally poorly defined compared to adjacent regions, but Mallouf (2013) has recently described three arrow point styles and resurrected one dart point style. Hueco dart points are wide-bladed, barbed, with expanding stems, and are estimated to date between 1000 B.C. and A.D. 700 (Mallouf 2013:207-209; see also Perttula and Kenmotsu 2004: Fig. 7.22).). The four isolated finds from the Aragorn lease vaguely match this description but since all of them are broken, and missing diagnostic features, their precise information content is limited (Fig. 7).

Limited testing of nearby 41CU681, Area B, produced four radiocarbon dates that span the transition from the Middle to Late Archaic periods. Area C is Late Prehistoric in age based on the recovery of arrow points and pottery fragments and two radiocarbon dates. The most famous sites in Culberson County are Late Prehistoric occupation/mortuary remains found in dry sinkholes (Hamilton 2001; Ward 1992). Based on his analysis of cultural remains from Granado Cave, Hamilton defined what he called the Castile Culture, which occupied the time range from A.D. 200 to A.D. 1400.

Previous Investigations

The Texas Historic Commission's central data base for Culberson County has over 850 recorded archeological sites, over 70 associated abstracts, 10 State Antiquities Landmarks (SAL), and 10 sites listed for inclusion on the National Register of Historic Places (NRHP) (Atlas). The majority of the SALs are prehistoric and include camps, burials, and rock art sites, while the National Register Properties are a mix of historic and prehistoric sites. McKittrick Canyon

Archeological District, Guadalupe Mountains National Park is the only NRHP District in the county.

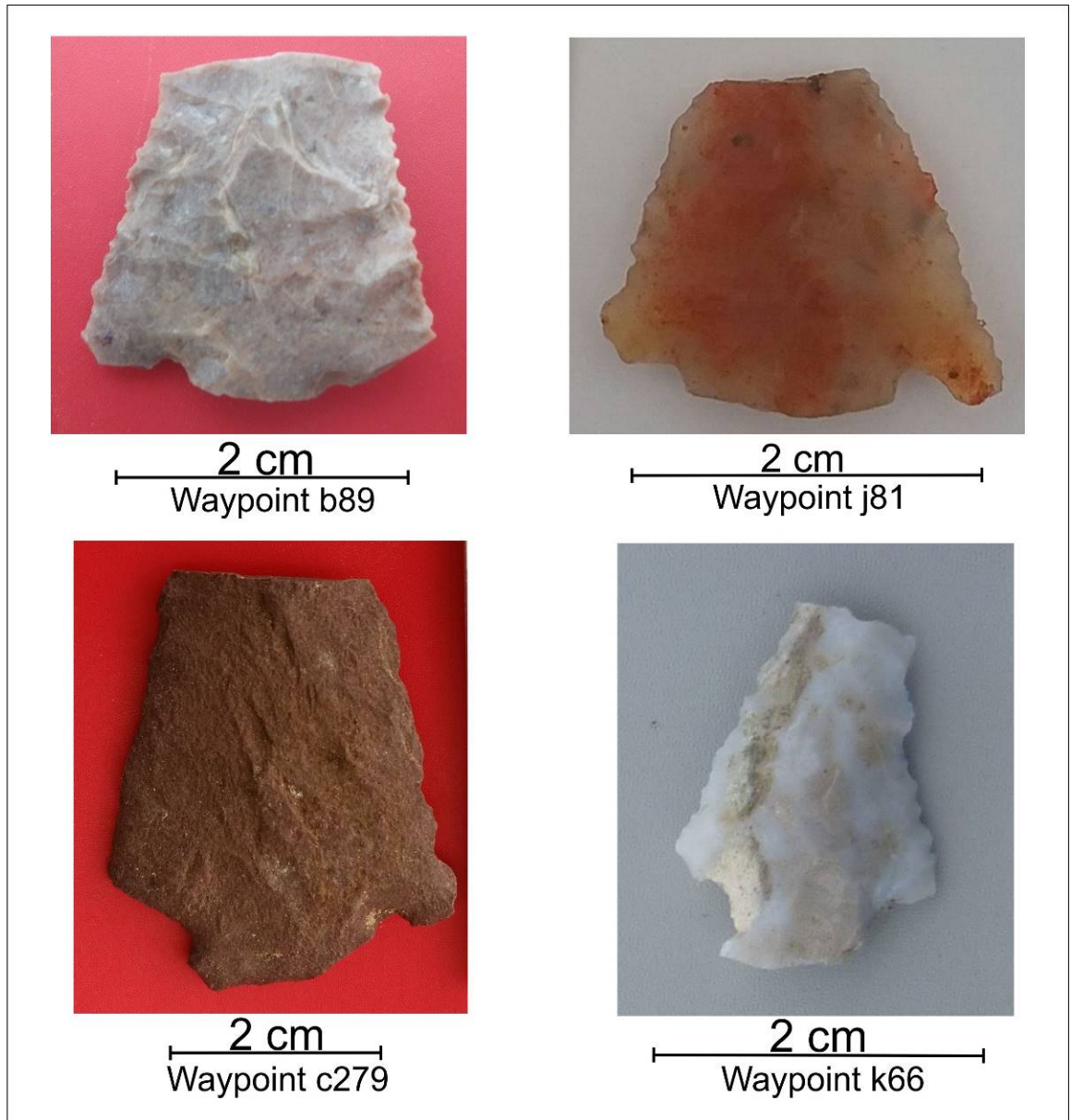


Figure 7. Isolated occurrences of battered dart points from the surface of the Aragorn tract.

The cultural resource surveys carried out near the study area tend to be linear in anticipation of the construction of pipelines and transmission lines (Dixon 1995, Plog et al. 1989) or for other related research criteria (Maslyk and Prewitt 1999). In 2003, University Lands commissioned a reconnaissance level inventory of the prehistoric and historic sites in Block 46 in Culberson County

(Turpin 2005). Fifty-three sites were recorded and eight known sites were reassessed, resulting in the consolidation of five of them into two entities. The artifacts ranged in age from Late Paleoindian to Historic, the latter consisting of two abandoned rock houses, a black powder rifle barrel, and a series of redoubts atop Cave Well Peak. Water undoubtedly influenced the settlement pattern detected in this survey—with open camps lining the draws and overlooking the numerous playas—as well as a predilection for sandstone ledges with their eroded nooks, crannies and tinajas (Turpin 2005:iii). None of those attractive features are available in the Aragon tract.

To the north, a transect survey of 583 acres in anticipation of the Salt Creek seismic project revisited six of the known sites recorded by the UL survey and added five more to the county's inventory (McCormick and Boggess 2017). Their site forms are not on the Atlas and their abstract on file with the THC provides no details about their new recordings. None of the sites impinge on the Aragon lease.

Methods

Prior to the inception of field work, the archeological site files and maps at the Texas Historical Commission's Archeological Sites Atlas database (Atlas) were examined to identify the nearest previously recorded archeological sites and extent of previous archeological surveys in the area. The field work was carried out by Billy Turner, Carrie Davis, Terry Burgess, Kathleen Burgess, Jessica Kenmore and Jeff Turpin.

The project area is an upland divide between the Wild Horse Draw and Virginia Draw drainage basins. The area was relatively level with low ripple valleys running east/west across the mesa. The project was surveyed in 30 m spaced transects working primarily in an east/west trajectory. Parallel transects were walked along given compass bearings using handheld GPS units. A total of 150 miles was walked, resulting in over 140 linear passes across the 1,765 acres surveyed.

All cultural artifact locations were recorded with handheld GPS units and plotted on topographic maps (see Fig. 12 and Appendix I). Most of the artifacts

were widely scattered. Only two areas contained significant clusters of artifacts. One resulted in the expansion of previously recorded site 41CU558 south of Seven L Peak. The other was given the new site designation of 41CU682. The remaining artifacts were labeled isolated finds since there were never more than five artifacts within a 10 m area.

The majority of the ground surface consisted of exposed gypsum and limestone bedrock. The 80%+ surface visibility generally negated the need to dig many shovel tests. Shovel tests, typically 30 cm in diameter and up to 50 cm deep, were placed in the vicinity of artifact clusters where testable soils were present. These scant areas of soil have been highly disturbed by decades of bioturbation, with rabbits and rodents taking advantage of these scarce potential habitats. 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. The site information has been filed with the Atlas, and all documentation will be curated at the Centennial Museum, The University of Texas at El Paso.

Results of the Survey

Archeological survey of 1,765 acres of upland plain on University Lands in Culberson County was carried out in anticipation of installation of a solar array. One previously recorded site impinges on an access road in the northeastern corner of the tract. 41CU558 is a diffuse scatter of burned rock and lithic debris that has been recorded and revisited three times, and on all occasions was found lacking in significance despite the THC's finding it eligible for the NRHP. One new site, also a dispersed scatter of fire-cracked rock and debitage, was recorded as 41CU862. The majority of artifacts identified through this survey were widely scattered individual objects that were classified as Isolated Finds (IF). Over 150 IF's were dispersed across the 1700+ acres, but most were solitary flakes, crude stone tools or small scatters of diffuse FCR, probably indicative of prehistoric transit through the area to or from the more hospitable fluvial valleys to east and west.

Previously Recorded 41CU558

This site was classified as a lithic procurement locality when recorded by Espey Huston and Associates in 1995, during a transmission line survey for the Texas Windpower Project (Dixon 1995). Twenty-four sites were recorded during the project. One of them, 41CU558, was revisited in 2005 (Turpin 2005) and again this year. Dixon described 41CU558 as a sparse lithic scatter atop Seven L Peak, a limestone remnant that rises some 60 ft above the interfluvium between Wild Horse Draw and a number of minor drainages. The 2005 survey observed the sparse scatter atop the hill and added a corona of FCR and lithic debitage around the base of the hill. The current investigation found flakes, cores, crude tools, and a small dispersed hearth near the southern base of the peak. The hearth has been scoured, leaving a 1 m diameter cluster of burned limestone resting on gypsum (Fig. 8). A few undistinguished artifacts fringe the planned access road that defines the perimeter of the Aragorn tract (Fig. 9), consisting of sparsely scattered fire-cracked rock and lithic debris. All of these artifacts have been displaced by erosion and none require avoidance. The original recorders and revisitors thought the site lacked significance but the THC demurred, finding it eligible for the NRHP (Atlas). The 2018 survey only expanded the boundaries of the scatter but did not uncover any information that altered the Dixon's or Turpin's previous conclusions that the site was not NRHP eligible. Thus no further work or avoidance procedures are recommended for the area of 41CU558 that infringes on the study area.

41CU682

Only one new site was recorded in the Aragorn tract. 41CU682 is a 60-m diameter scatter of lithic debris and fire-cracked rock on the level caliche uplands northeast of High Lonesome windmill. The soil here is typical gravelly caliche which belongs in the Elcor series as defined by the USDA (Clausen 2013). The Elcor series is found on hills and side slopes in karst country, where it formed in gypseous residuum weathered from rock gypsum of the Castile Formation. All of the artifacts were surface finds and have been scattered by erosion. The area contained exposed gypsum and limestone with no topsoil. A shovel test was

attempted and found compacted gypsum to a depth of 20 cmbs over limestone bedrock (Fig. 10).



Figure 8. Dispersed hearth outside of project area at 41CU558.

The site is near the center of an upland divide between the Wild Horse Draw basin to the west and the Virginia Draw basin to the east. There is no discernable water in the vicinity, and no apparent reason for this location to be used as a camp. The site contained a broken stone tool and scattered flakes and FCR (Fig. 11). The stone tool was a broken quartzite uniface. The lithic scatter consisted of 21 large quartzite tertiary flakes from the same parent material found in a 5 m diameter area. The proximity of the artifacts suggest that the location was either used as a knapping station or that this was a tool kit of preforms that was discarded. The lack of primary and secondary flakes suggests the latter. Two chert flakes and an expedient tool/utilized flake made up the rest of the

inventory. The site has no potential for buried material and fails to meet any criteria for listing on the NRHP or designation as a SAL.

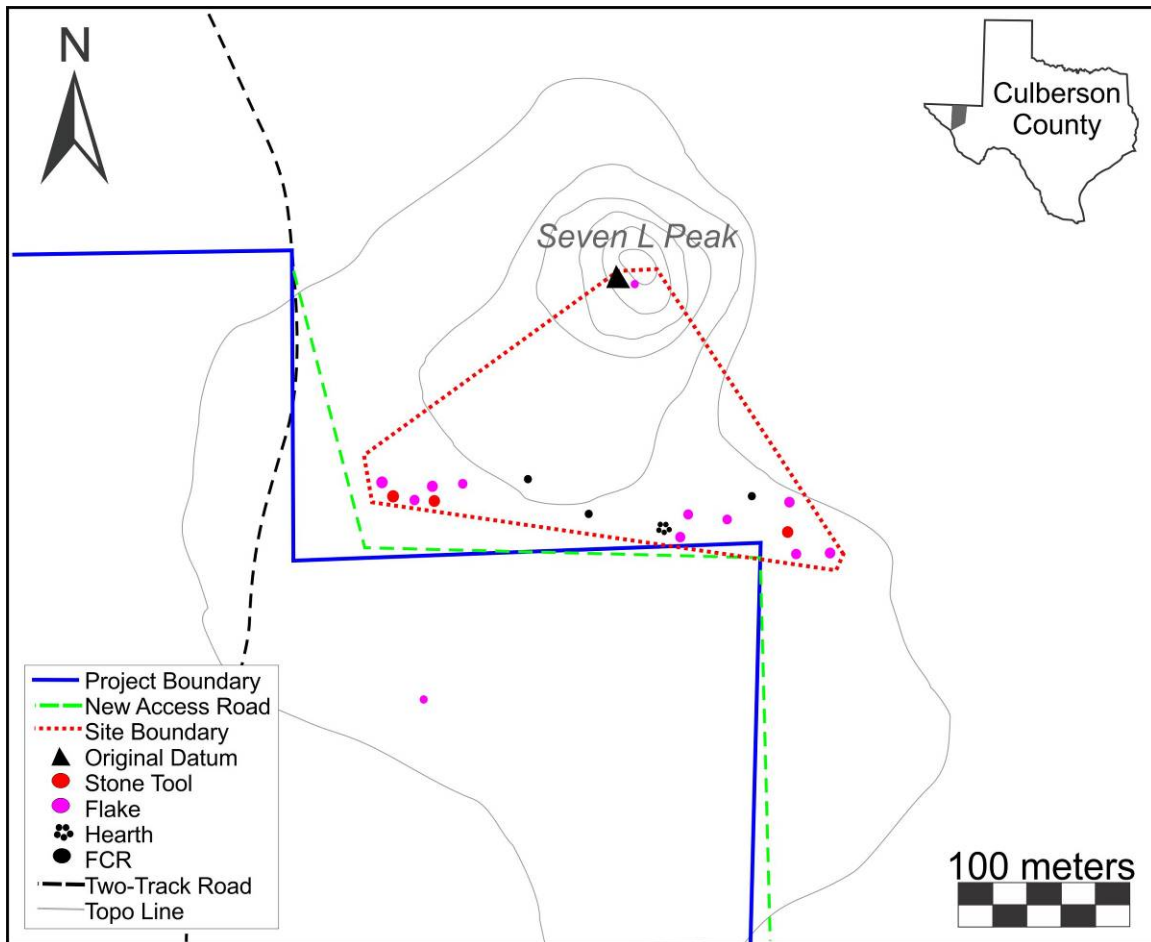


Figure 9. Expanded site boundary of 41CU558 overlaps the NE corner of the study area.

Isolated Finds

Based on site count alone, the tract appears to have held no attractive resources that might have drawn the prehistoric hunters and gathers to establish long-term camps in the Aragorn lease. However, the number of IFs, although less than one per every ten acres, suggests considerable aboriginal traffic through the area between the creeks. The IFs consisted of four dart points (see Fig. 7), 30 instances of fire-cracked rock, 86 flakes, and 34 crude biface or uniface tools (see Fig. 12 and Appendix I). The list and locations of the IFS will be curated with the project documentation at the Centennial Museum at UTEP.



Figure 10. Shovel test in compacted gypsum at 41CU682.

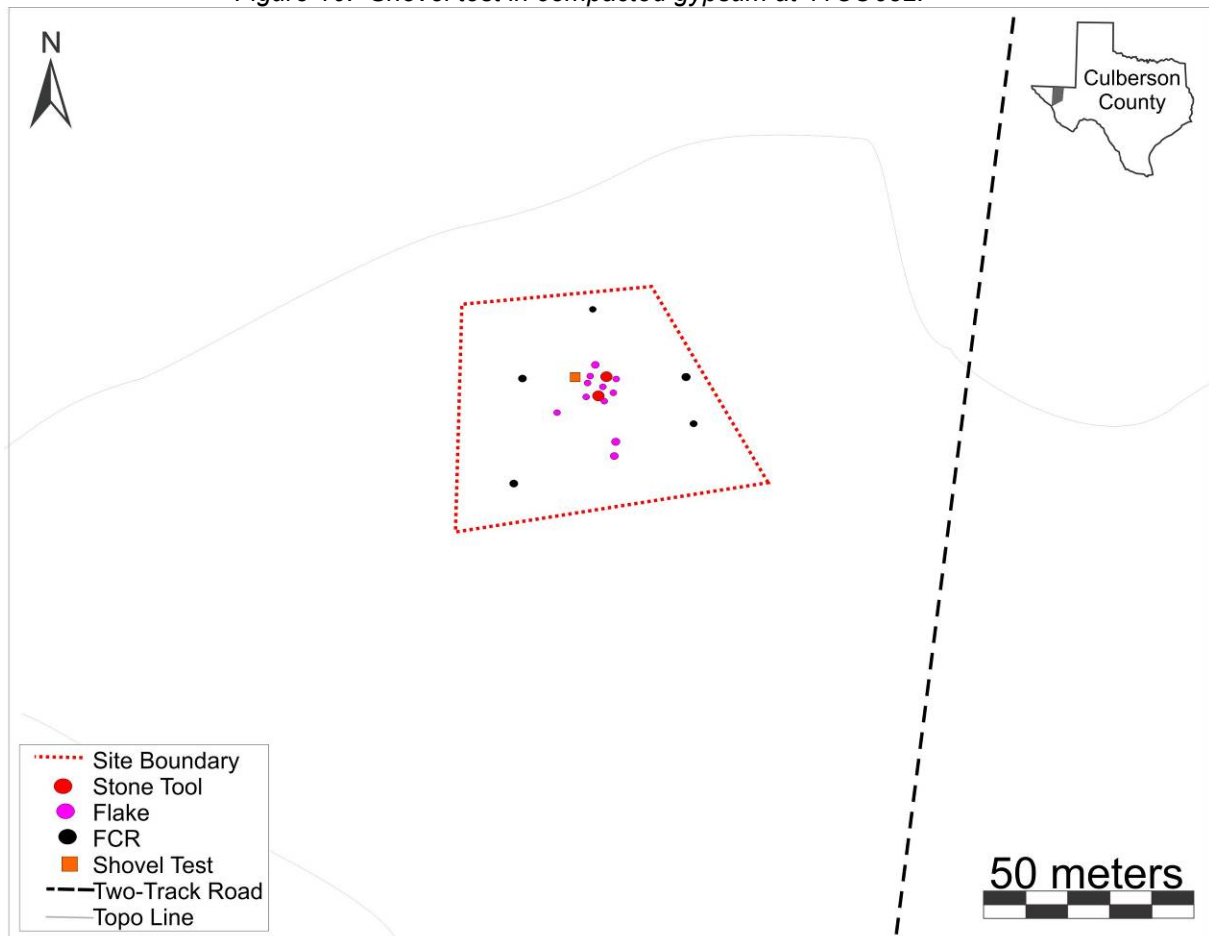


Figure 11. 41CU682 site map with artifact distribution.

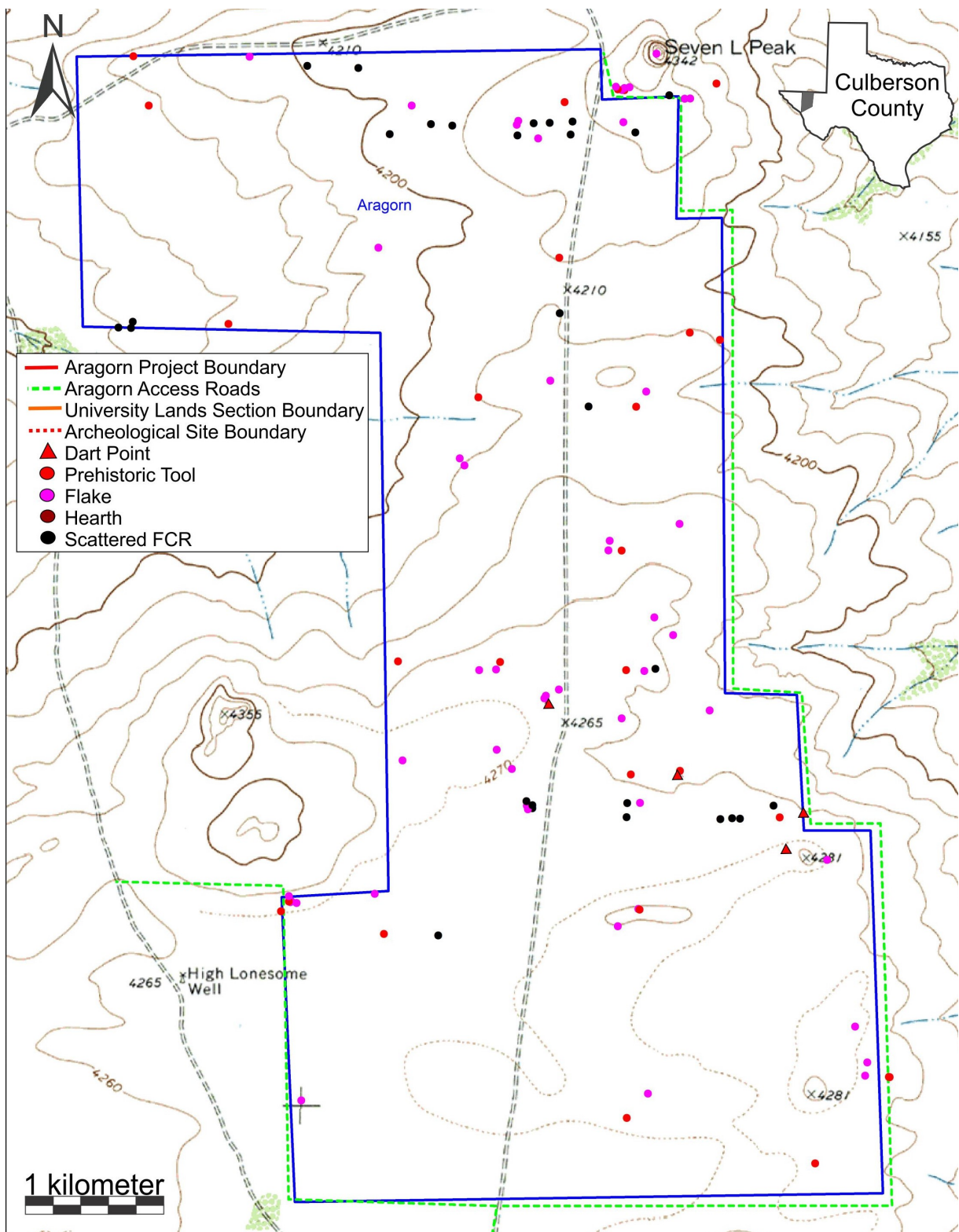


Figure 12. Map of Isolated Finds distribution.

Summary and Recommendations

Survey of 1,765 acres of upland gypsum plain produced only one new site recording. One known site, 41CU558, was revisited but only a very small scatter of peripheral cultural material approaches the access road on the far northeastern perimeter of the tract. Another small scatter of lithic debris and FCR was given the designation 41CU682. The site is primarily a cluster of quartzite flakes from the same source material. Extensive traffic through the study area is suggested by the 150 isolated finds, including four projectile points, marked by the survey crew. The project area is on an upland divide between two broad drainage valleys, Wild Horse Draw to the west and Virginia Draw to the east. The widely scattered artifacts and poor water quality suggest that the divide was used only sporadically and was not the location of large, permanent camps or habitation sites. The landscape was also dotted with karst features of which four had openings large enough to admit a person. None of them bore evidence of occupation around the access points or in the visible extent of the interior but that does not rule out features of scientific interest at depth. The locations were plotted and provided to the sponsor and UL with the recommendation that speleologists be invited to further explore their potential.

The two sites in or adjacent to the lease are diffuse surface scatters of burned rock and lithic debris with no potential for buried deposits. No temporally or functionally significant artifacts or features contribute to a better understanding of the age or function of the camps. Neither the newly recorded site nor the small section of the previously recorded site meet criteria for listing on the NRHP or merit designation as a SAL. No additional archeological inquiry or special avoidance procedures are recommended in the Aragorn tract.

Appendix. Artifact Inventory

Site / IF	WAYPOINT #	NOTES
IF	c160	4 secondary flakes: white/grey, lt brown, red w/grey, & dark brown
IF	c163	Small (approx. 1 inch) preform: white w/some red speckles.
IF	c167	Small FCR scatter. 5 very small pieces.
IF	c168	Small FCR scatter.
IF	c171	FCR (burned rock) scatter; small black pieces
IF	c172	FCR scatter; small black, grey, & black w/red pieces
IF	c173	same as 172
IF	c174	1 grey secondary flake. Some FCR by it. Lots of small FCR scattered over area.
IF	c175	FCR, burnt sandstone, some small pieces burnt caliche.
IF	c176	FCR scatter; small black pieces
IF	c187	4 small pieces FCR
IF	c188	FCR scatter, 15+ 25 m area
IF	c190	more FCR
IF	c191	FCR scatter
IF	c194	FCR scatter, continues downhill 35m E
IF	c195	FCR
IF	c199	large worked quartzite flake
IF	c208	large quartzite scraper, located near a cluster of animal burrows. Some FCR nearby.
IF	c209	scattered FCR
IF	c213	quartzite outcrop with FCR.
IF	c218	medial biface frag, approximately 1 inch. Cream w/dark rose. Some small black FCR nearby.
IF	c223	FCR scatter, >12m
IF	c225	expedient tool, w/cortex. Orange/cream/tan color. Lots of small FCR in surrounding area.
IF	c239	white and cream secondary flake
IF	c240	proximal uniface tip. Area between WP 239-WP240 littered with small black, grey, and black w/red FCR.
IF	c242	quartzite flake. small FCR.
IF	c245	possible preform. Not chert. Feels grainy, maybe another type of quartzite?
IF	c246	possible crude uniface. Quartzite/sandstone feel to it.
IF	c249	tested core. Mottled brown chert.
IF	c250	primary flake, dark grey. Some sm FCR.
IF	c251	preform flake? Bottom is shaped. Slate grey/black. Possibly dolomite material.
IF	c252	large red/brown flake. Quartzite? 10m E was the distal end of a uniface tool. Dark grey material w/some cortex.
IF	c253	scattered FCR
CU682	c261	lithic scatter. 23 flakes. Utilized flakes, broken uniface, expedient tools. very large tool, chopper-like. Caramel/brown and pink w/red chert.

CU682	c262	1 pc FCR
CU682	c263	2 quartzite flakes. 3 pcs FCR.
CU682	c264	FCR
CU682	c265	FCR
IF	c270	uniface tool.
IF	c274	FCR scatter
IF	c275	FCR scatter @ top of rise.
IF	c276	more FCR
IF	c277	black (dolomite) shatter.
IF	c278	brown/red quartzite flake AND very crude broken uniface, dark grey w/red specks.
IF	c279	dart point frag. Prob'ly washed downhill. Quartzite? Dolomite? Dark red/brown.
IF	c281	some FCR scatter
IF	c282	large quartzite flake, some FCR.
IF	c283	FCR
IF	c290	flake, grey/white chert
IF	c295	1-piece FCR
IF	c296	crude chopper, light brown
IF	c318	uniface frag. Brownish-red.
IF	c332	utilized flake, a few FCR.
IF	c333	chert flake, lg quartzite flake.
IF	c334	tertiary, sparkly grey flake and more FCR.
IF	c338	FCR, chert scraper.
IF	c339	more FCR scatter. Broken biface, dark grey chert.
IF	c340	10 pcs minimally scattered FCR. Tool--quartzite uniface scraper.
IF	c341	yellow-brown low-grade chert flake (solidified sandstone w/chert).
IF	c342	more FCR scatter.
IF	b18	uniface tool - quartzite scraper
IF	b22	modified flake / uniface scraper
IF	b89	dart point medial frag
IF	b261	large quartzite tertiary flake
IF	j11	1 secondary flake: approx. 1 cm, white/grey
IF	j31	scattered FCR west of road
IF	j34	quartzite secondary flake
IF	j38	utilized flake / crude tool
IF	j54	quartzite secondary flake
IF	j73	pink chert secondary flake
IF	j76	brown and gray chert secondary flake
IF	j79	brown quartzite biface frag
IF	j80	dart pont frag - pinkish cream chert
IF	j81	brown quartzite biface frag
IF	j91	light brown chert secondary flake
IF	j92	brown quartzite biface frag

IF	j117	brown quartzite uniface frag
IF	kb005	crude quartzite tool, sparce fcr
CU558	kb007	150+ fcr hearth in 1m-no topsoil
CU558	kb029	crude quartzite tool
IF	kb052	grey quartzite core
IF	kb055	quartzite flake utilized
IF	kb066	point @edge of wellpad
IF	kb067	orange flake
IF	kb068	br quartzite flake
IF	kb069	black chert w/red inclusions - poss crude tool
IF	kb071	br quartzite flake
IF	kb074	br quartzite flake
IF	kb100	sml tan chert tert
IF	TB004	nice very lt brown secondary chert flake
IF	TB005	quartzite end scraper
IF	TB011	quartzite flake w/worked edge
IF	TB012	whitish chert tertiary flake
IF	TB026	lt gray tertiary flake
IF	TB030	quartzite scraper
CU558	TB031	tertiary chert flake very lt gray w/darker veins
CU558	TB032	quartzite flake
CU558	TB033	dark gray chert core, fair quality
CU558	TB034	lt gray H-T chert tertiary of good material
CU558	TB035	quartzite flake
CU558	TB036	chert tool, possible spoke shave
CU558	TB037	quartzite flake
IF	TB060	gray chert secondary flake
IF	TB072	lg quartzite flake
IF	TB091	very lt gray chert sec flake
IF	TB102	quartzite uniface scraper
IF	TB109	black chert tertiary flake
IF	TB110	very dark gray chert piece, poor quality
IF	TB111	quartzite uniface scraper
IF	TB112	utilized sec flake of orange mat'l
IF	TB114	utilized flake of deep red mat'l
IF	TB115	broken chert tool, 1 worked edge
IF	TB116	quartzite utilized flake
IF	TB134	lg quartzite flake tool, ~4 cm
IF	TB144	brown quartzite flake tool
IF	TB145	lg 4.5 cm quartzite scraper
IF	TB146	1 quartzite chopper, 1 quartzite scraper, 1 quartzite scraper/chopper, 3 dark gray chert flakes (low quality), 1 small scraper of gray chert, 1 quartzite tertiary flake * artifacts are likely a modern collectors pile.
IF	TB152	chert piece with one worked edge
IF	TB166	broken lt gray chert flake

IF	TB167	crude uniface tool of orange chert
IF	TB168	biface scraper of poor quality gray chert

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