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REDACTION DATE _September 2020_ (IF APPLICABLE)

NOTES:

FILE (PROPERTY) NAME: Lower Pecos Canyonlands

LOCATION (STATE/TERRITORY): TX

LOCATION (COUNTY/PARISH): Val Verde

NRIS#: 71000968

1. NAME AND LOCATION OF PROPERTY

Historic Name: Lower Pecos Canyonlands Archeological District

Other Name/Site Number: (see Table 1)

Street and Number (if applicable)**:** N/A

City/Town: Vicinity of Del Rio, Lower Pecos Region of Texas **County:** Val Verde **State:** Texas

Designated a National Historic Landmark by the Secretary of the Interior
January 13, 2021

2. SIGNIFICANCE DATA

NHL Criteria: Criteria 5 and 6

NHL Criteria Exceptions: N/A

NHL Theme(s):
I. Peopling Places
3. migration from outside and within
4. community and neighborhood
III. Expressing Cultural Values
2. visual and performing arts

Period(s) of Significance: 4200 BP–1000 BP

Significant Person(s) (only Criterion 2)**:** N/A

Cultural Affiliation (only Criterion 6)**:** Middle Archaic (San Felipe Subperiod); Late Archaic (Cibola Subperiod, Flanders Subperiod, Blue Hills Subperiod)

Designer/Creator/Architect/Builder: N/A

Historic Contexts:
I. Cultural Developments: Indigenous American Populations
A. The Earliest Inhabitants
11. Archaic Adaptations of the Plains
B. Precontact (Precontact) Archeology: Topical Facets
10. Precontact (Precontact) Religion, Ideology, and Ceremonialism

Paperwork Reduction Act Statement. We are collecting this information under the authority of the Historic Sites Act of 1935 (16 U.S.C. 461-467) and 36 CFR part 65. Your response is required to obtain or retain a benefit. We will use the information you provide to evaluate properties nominated as National Historic Landmarks. We may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a currently valid OMB control number. OMB has approved this collection of information and assigned Control No. 1024-0276.

Estimated Burden Statement. Public reporting burden is 2 hours for an initial inquiry letter and 344 hours for NPS Form 10-934 (per response), including the time it takes to read, gather and maintain data, review instructions and complete the letter/form. Direct comments regarding this burden estimate, or any aspects of this form, to the Information Collection Clearance Officer, National Park Service, 12201 Sunrise Valley Drive, Mail Stop 242, Reston, VA 20192. Please do not send your form to this address.

3. WITHHOLDING SENSITIVE INFORMATION

Does this nomination contain sensitive information that should be withheld under Section 304 of the National Historic Preservation Act?

_X_ Yes

___ No

4. GEOGRAPHICAL DATA

1. **Acreage of Property:** 1,518.51 acres (see Table 1 for individual site acreage)

2. **UTM system:** NAD83

Table 1. Coordinates for Contributing and Noncontributing Resources for the Lower Pecos Canyonlands Archeological District

Isolated Contributing Sites in the Western Portion of the District (Map 4)					
State ID Number	**Name**	**Zone**	**Easting**	**Northing**	**Acreage**
41VV73	Fate Bell Annex	[redacted]	[redacted]	[redacted]	0.07
41VV74	Fate Bell	[redacted]	[redacted]	[redacted]	2.0
41VV75		[redacted]	[redacted]	[redacted]	0.4
41VV76	Black Cave	[redacted]	[redacted]	[redacted]	0.3
41VV78	Painted Shelter	[redacted]	[redacted]	[redacted]	0.3
41VV82	Coontail Spin	[redacted]	[redacted]	[redacted]	0.1
41VV83	Panther Cave	[redacted]	[redacted]	[redacted]	0.2
41VV87	Perry Calk	[redacted]	[redacted]	[redacted]	0.1
41VV99	Arenosa Shelter	[redacted]	[redacted]	[redacted]	0.07
41VV124	White Shaman	[redacted]	[redacted]	[redacted]	0.06
41VV180	Rattlesnake Canyon	[redacted]	[redacted]	[redacted]	0.02
41VV286	Raymond's Shelter	[redacted]	[redacted]	[redacted]	0.15
41VV408	Hidden Shelter	[redacted]	[redacted]	[redacted]	0.1
41VV576	Jackrabbit Shelter	[redacted]	[redacted]	[redacted]	0.1
41VV584	Jaguar Shelter	[redacted]	[redacted]	[redacted]	0.02
41VV620	Seminole Sink	[redacted]	[redacted]	[redacted]	0.08
Isolated Contributing Sites in the Eastern Portion of the District (Map 5)					
State ID Number	**Name**	**Zone**	**Easting**	**Northing**	**Acreage**
41VV18	Curly Tail Panther	[redacted]	[redacted]	[redacted]	0.01
41VV40	Big Satan	[redacted]	[redacted]	[redacted]	0.2
41VV50	Crab Shelter	[redacted]	[redacted]	[redacted]	2.5
41VV188	Devil's Mouth	[redacted]	[redacted]	[redacted]	0.7
41VV213	Baker Cave	[redacted]	[redacted]	[redacted]	.3
41VV337		[redacted]	[redacted]	[redacted]	0.5
41VV612	Mystic Shelter	[redacted]	[redacted]	[redacted]	0.02

State ID Number	Name	Zone	Easting	Northing	Acreage
41VV696	Cedar Springs	[redacted]			0.2
41VV840	Sunburst Shelter				3.5
41VV888	High Country Shelter				0.01
41VV889	High Country Lonesome				0.02
41VV961	Chimenea Shelter				0.2
41VV1207					6.2
41VV1230	Halo Shelter				0.05
41VV1604	Brazos Fuerte				0.03
Contributing Sites in the Eagle Nest Canyon Site Concentration (Maps 4 and 6) (1,500 acres total for Mile Canyon National Register District)					
State ID Number	**Name**	**Zone**	**Easting**	**Northing**	**Acreage**
41VV164	Kelley Cave	[redacted]			0.08
41VV165	Skiles Shelter				0.06
41VV167	Eagle Cave				0.5
41VV218	Bonfire Shelter				0.3
Noncontributing Sites in the Eagle Nest Canyon Site Concentration (Map 6)					
State ID Number	**Name**	**Zone**	**Easting**	**Northing**	**Acreage**
41VV166		[redacted]			0.1
41VV168	Langtry Rock Midden				0.1
41VV2163	Mile Springs Site				0.1
41VV2168					2.8
41VV2239	Sayles Adobe				0.1

3. Verbal Boundary Description:

The Lower Pecos Canyonlands Archeological District is located in Val Verde County, Texas. The District is comprised of thirty-five contributing sites. Thirty-one of these sites are discontiguous archeological sites and four are located in a single site concentration (Eagle Nest Canyon), which composes the largest area (1,500 acres) and contains five noncontributing archeological sites. The sites are located in rockshelters or terraces of the Rio Grande, Pecos, and Devils Rivers or their tributaries. These discontiguous sites are spread across an area that is some 80 kilometers (km) (50 miles) east-west and 60 km (37 miles) north-south (Maps 1–6).

Given the size of the area where the discontiguous sites are found (4,800 km^2), no polygon is established for the district as a whole. Rather the sites stretch from just north of Del Rio in the southwestern portion of Val Verde County, Texas, to the area of Langtry in western Val Verde County and then due north some 28 km (17 miles) along the Pecos River and its tributaries, then turning east 80 km (50 miles) before dipping south 60 km (37 miles) to the area of Del Rio.

Verbal Boundary Description for the Eagle Nest Canyon Site Concentration (this description is taken from the Mile Canyon National Register Archeological District whose boundaries are the same as this

[redacted]

[redacted]

4. Boundary Justification:

The district encompasses forty sites (thirty-five contributing) that contain intact cultural deposits and Pecos River style rock art that date to the period of significance (4200–1000 years before present). The contributing sites were determined from archeological information (such as site records, reports of subsurface investigations, rock art recordings and documentation, and site visits) that was used to develop a subset of known archeological resources in the Lower Pecos River cultural region that individually contribute to the significance of the district and collectively, represent an outstanding example of the cohesive nature of the region.

5. SIGNIFICANCE STATEMENT AND DISCUSSION

INTRODUCTION: SUMMARY STATEMENT OF SIGNIFICANCE

The Lower Pecos Canyonlands Archeological District is a discontiguous district of 1,518.51 acres[1] that is nationally significant under National Historic Landmark (NHL) Criteria 5 and 6 under the NHL themes "Peopling Places" and "Expressing Cultural Values." The district is comprised of thirty-five precontact contributing sites (see Map 3) and five noncontributing sites.[2] The sites in the district contain a superlative, unbroken record of human occupation spanning at least 11,000 years, represented by extensive open and sheltered archeological deposits and pictographs[3] painted on the walls of rockshelters and overhangs. The sites are within a precontact cultural region that is centered on the area where the Pecos and Devils Rivers flow into the Rio Grande (Maps 1–6).[4]

For nearly a century, archeologists and art historians have recognized the outstanding significance of these sites, their cultural deposits, and their art. Sixteen of the thirty-five contributing sites were listed in the National Register of Historic Places in the 1970s at the national level of significance. The cultural deposits contain remarkably well preserved perishable artifacts that do not commonly persist in archeological deposits. Such deposits can yield far more complete and complex information about the past than sites without this level of preservation. Pecos River style (PRS) rock imagery is unique to this area; it is the most abundant, well-preserved, and complex style in the region, and is among the most significant body of images in North America (Photographs 1–3, Figure 1).[5]

Not only is PRS art one of the oldest dated pictograph styles in North America,[6] a new method to date pictographs was developed and implemented using the organic binders from PRS paintings at sites in the district and is now used worldwide. Researchers (Gebhard 1965; Grieder 1966; Jackson 1938; Kirkland 1938:31–32; Kirkland and Newcomb 1996) have long argued that PRS panels were planned compositions. Kirkland (1938:31) described PRS compositions as "designs so perfectly adapted to their respective areas that to move a single important element would seriously injure their delicate balance and detract from their artistic merit." Recently, the panel at one site in the district was interpreted as a creation myth (Boyd 2016). Panels in other sites in the district may contain other aspects of the cosmology (world view) of the hunter-gatherers who painted them. Based on the present assemblage of radiocarbon dates from the organic binders in the PRS

[1] The acreage figure is based on the physical size of the individual, isolated sites plus the acreage in the Eagle Nest Canyon site concentration as detailed in Section 4 above.

[2] The five noncontributing sites consist of three precontact sites of unknown age affiliation, one of possible Late Archaic age but its deposit depth and content are unknown, and one of Middle and Late Archaic age whose deposits have been tested but not yet analyzed or reported. Without more information on their content, they are currently considered noncontributing (see Table 2).

[3] *Pictographs* consist of natural pigments applied either as a powder mixed with liquid (paintings) or directly in a dry state (drawings) to rock surfaces; *petroglyphs* are pecked marks applied directly or indirectly with a hammerstone to rock surfaces or incisions cut into rock surfaces with a sharp implement (Whitley 2011:24–31).

[4] The precontact cultural region extends into Mexico but the sites in this nomination are all in Texas.

[5] PRS murals have been recorded in over 200 rockshelters in Texas (Boyd 2016:21) and Turpin (2010:14) has identified thirty-five in Mexico but believes scores more exist south of the Rio Grande.

[6] At other locations in North America, earlier radiocarbon dates exist for a few sites. These include a radiocarbon age of 5000 BP from a pictograph in the so-called "48th Unnamed Cave" near Knoxville, Tennessee (Creswell 2007; Simek and Cressler 2009), and a radiocarbon age of 9300 BP from a dry cave in the Mojave Desert (Whitley 2000). The date from the Tennessee pictograph is from charcoal which may be compromised by "old wood" issues since other material in the cave is much younger in age. The age of the Mojave sample has been questioned (Beck et al. 1998; Dalton 1998) suggesting more research is needed for confirmation. Nonetheless, if not the earliest dated pictograph imagery, PRS art is the best-dated. At present, thirty-three radiocarbon dates have been obtained for nineteen figures at ten sites scattered across the region (Bates et al. 2015).

paintings, this imagery primarily dates between 4200 ± 90 and 1465 ± 50 radiocarbon years before present (hereafter BP). This time span overlaps the Middle Archaic and Late Archaic periods, representing a long-standing religious tradition that lasted thousands of years. Because radiocarbon dates from cultural deposits show the Late Archaic period continued to 1000 BP, the period of significance for the district is 4200–1000 BP.

Given the attributes of the cultural deposits and the art, the sites in the Lower Pecos Canyonlands Archeological District represent places that hold great promise to augment current knowledge of Archaic spiritual beliefs, boundary signaling, ritual practices, and material culture. They can provide invaluable information on the evolution of the PRS art, the factors that influenced the places chosen for habitation, precontact cultural values, including religious beliefs, and how the hunter-gatherers communicated those values and beliefs, and how they translated those values into their daily lives. Study of these (and other) nationally significant research questions could change our understanding of the complexity and ingenuity of hunter-gatherer lifeways and belief systems during the Middle and Late Archaic periods. This information—both from dirt archeology and rock art—has the potential to significantly increase our understanding of North American prehistory.

Based on this importance, sites with domestic deposits and sites with PRS imagery—some contain both in the same rockshelter—were deliberately selected for inclusion in the district because they are both essential to contextualize each other. As Furst (2006), Kelly (1995), and others point out, hunter-gatherers carry their sacred beliefs with them in all activities. It is for this reason that Whitley (2011:196) argued: "Dirt archaeological research desperately needs rock art…if it is to develop a holistic understanding of precontact cultures. But rock art research also needs what dirt archaeology can offer, because rock art is always contextualized by the larger material cultural record." Loendorf et al. (2013:13) also noted that consideration of the two—the art and the dirt archeology—as a single field of study can significantly enhance our understanding of precontact social and ritual organization. Thus, the thirty-five sites in the Lower Pecos Canyonlands Archeological District represent part of the national experience across 3,000 years of unbroken history and offer a remarkable opportunity to examine: patterns about ritual and sacred practices, as well as daily practices; how children and the elderly were cared for; and other aspects of hunter-gatherer public and private lives. Sites with domestic deposits but lacking rock imagery likewise present a unique opportunity to compare how ritual and daily practices differed, if at all, from locales with domestic deposits and rock imagery.

The rock art panels and the associated suite of precontact sites and features collectively referred to as the Lower Pecos Canyonlands Archeological District constitute the range of resources necessary to illustrate a way of life or culture — a key aspect of significance under Criterion 5. Scattered about the rugged landscape of the region's canyons and terraces, the locations of these sites provide a direct and close link to understand the interactions between the precontact occupants and the natural environment. The contributing sites in the Lower Pecos Canyonlands Archeological District consist of thirty-two rockshelters and overhangs, one sinkhole feature, and two terrace sites (Table 2 contains a list of these sites). Twenty-six sites in the district have yielded, or have the potential to yield, nationally significant data from archeological deposits. Of these, twenty-three are rockshelters; two are terrace sites; and one is a sinkhole feature (vertical shaft tomb) that was used as a precontact cemetery (detailed descriptions of each site can be found in Section 6).

Four of the contributing sites, including Arenosa (41VV99), Devil's Mouth (41VV188), Baker Cave (41VV213), and Seminole Sink (41VV620), have yielded nationally significant data from extensive excavations conducted between 1960 and 1985. The rockshelters known as Arenosa, Devil's Mouth, and Baker Cave, all contained deeply stratified deposits from recurrent occupations. Data yielded from their excavation laid the framework for scholars to create a nuanced chronology for occupations in the Lower Pecos Canyonlands throughout the period of significance. The potential for information from residual site remains, paleoclimate contextual information, and the spatial contexts of their natural formations, all of which may yet

augment past findings, make these sites important contributors to the national significance of the district and form a holistic representation of Lower Pecos Canyonlands culture during the period of significance. Burials from Seminole Sink, a precontact cemetery used repeatedly across a millennium, were removed by careful excavation in 1984. Residual and paleoclimatic contextual information in unexcavated portions of the sinkhole feature, as well as the spatial context of the site's natural formation, may yet provide additional context to understand this rare glimpse into the mortuary practices of the Canyonlands at this persistent place. Collections from portions of these sites are curated at repositories (see Tables 2 and 3) where they are available for study and from which they may yield nationally significant insights beyond those they have already produced.[7] Archeological evidence supports the conclusion that the contributing sites contain deposits and/or imagery dating from 4200–1000 BP. Both the deposits and the imagery have excellent integrity and high research potential to yield new information about the secular and religious lives of people in a now-gone hunter-gatherer society.

Twenty-seven of the rockshelters and overhangs contain PRS art panels. The pictographs consist primarily of anthropomorphs (human-like figures), zoomorphs (stylized animal figures) (Photograph 4), and enigmatic abstract and geometric patterns, painted with red, black, yellow, and white pigment. Eight of these pictograph sites do not contain midden[8] deposits but do contain mortars, cupules, and/or grinding facets in their bedrock floors or in large boulders within the shelter. The panels on the walls of the shelters represent scenes that would have been meaningful to the people living in the Lower Pecos Canyonlands during the period of significance. Dr. Carolyn Boyd, an artist and archeologist, identified patterns in the imagery at the White Shaman site (41VV124)[9] that equate, in stunning detail, to the mythologies of Uto-Aztecan speaking peoples, including the ancient Aztec and the present-day Huichol of Mexico. This paradigm-shifting identification of core Mesoamerican beliefs in the Pecos rock art revealed that a shared ideological universe was already firmly established among foragers living in the Lower Pecos River region as long as four thousand years ago.

To understand the art, Boyd (2016:61) "connect[ed] elements of Huichol myth and ritual with artistic motifs in the White Shaman mural" using linguistic and semiotic frameworks.[10] As one example from her book, five nearly identical anthropomorphs were painted at intervals across the mural (Boyd 2016:61-65). Each is black from the neck down with a red head and extended arms holding objects painted black and tipped red. Ethnographies of Uto-Aztecan speakers allowed her to form hypotheses related to the meaning of this motif. She concluded the five represent primordial ancestors who are representative of the five directions during the

[7] All repositories meet the requirements of 36 CFR 79, Curation of Federally-Owned and Administered Archaeological Collections.

[8] *Midden* refers to the complex residue of waste material that people leave after occupying a space for a period of time. The waste of prehistoric people often contains animal and fish bones, mussel or other shells, human excrement (called coprolites), botanical material, basketry, stone tools and their manufacturing waste. The refuse occurs within complexly stratified (layered) deposits containing hearths, earth oven heating elements, earth oven pits, oven-refuse deposits, hearths, other cooking features, possible storage features, grass sleeping beds, floors/living surfaces, burials, and other features associated with human occupation. Repeated occupation over long periods of time results in thick middens that provide archeologists with data regarding the diet and habits of prehistoric societies.

[9] Throughout this nomination, trinomial designations are given when the name of a site is mentioned the first time in each section; after that mention, the trinomial is not given. Trinomials refer to the state, county, and site in this way: 41 refers to Texas; VV refers to Val Verde County; and the following three-digit number refers to the order in which the individual site was recorded, for example 41VV124 refers to the White Shaman site which was the 124th site recorded in Val Verde County. Sites that do not have names are always referred to by their trinomial. See Table 2 for a list of all trinomials and corresponding site name when applicable.

[10] A linguistic framework traces the ideas and concepts of a people who spoke a language in the distant past with those who speak a daughter language at a later time. Boyd (2016:48) suggests that the people in the Lower Pecos River region spoke an Uto-Aztecan language which has ties to the languages spoken by the later Aztec and Huichol peoples. A semiotic framework studies how a word/color/metaphor/symbol is paired with an object or idea in a specific culture, and all who see/hear the word/color/etc. would understand its meaning.

Huichol peyote pilgrimage. Noting that black is the color of the primordial beginnings of time in the Mesoamerican belief system, and red represents heat and soul, Boyd (2016:63) argues the five have been transformed into ancestors. Their black bodies represent pilgrims "who have returned to their primordial state" and their red heads are repositories of their souls (Boyd 2016:63). Boyd's (2016) continuing detailed analysis of the vivid and very significant mural at the White Shaman site reads that mural, piece by piece, as a creation story (Photograph 7, see Figure 1). The national significance of this interpretation is expressed on the jacket cover of the White Shaman book by Thomas Guderjan, who is a Mayan scholar: "Boyd uses Mesoamerican ethnohistoric data and pan-Mesoamerican concepts to interpret what others have regarded as uninterpretable." Previously, the PRS murals had been admired (Jackson 1938; Kirkland and Newcomb 1997, among others), and some individual motifs at various sites interpreted (Boyd 2003; Harrison 2004; Turpin 1994), but her methodology has led Boyd and the researchers on her staff to argue that the mural at White Shaman and at other sites in the Lower Pecos Canyonlands represent the oldest "books" in North America. As such, these panels have the tremendous potential to provide insights into the people's cultural values, myths, and their world view. Eventually, the panels may communicate their views on the peopling of the Lower Pecos Canyonlands.

Based on past research on the art and the domestic deposits, the Lower Pecos Canyonlands Archeological District exhibits a firm cohesiveness that indicates the region was the domain of a single socio-political unit. This cohesiveness, together with the combination of the imagery and the rich, intact deposits that relate to a single socio-political unit makes the Lower Pecos sites nationally significant.

Table 2. Contributing and Noncontributing Resources for the Lower Pecos Canyonlands Archeological District

Isolated Contributing Sites in the Western Portion of the District (Map 4)			
State ID Number/Name(s)	**Resource Description**	**Precontact Period or Year Built (how dated)**	**Contributing Status/Previous NR Number***
41VV73/Fate Bell Annex (Jackson's #82, Kirkland's Seminole Canyon #3)	Shelter with PRS rock art and some residue of original midden	Middle or Late Archaic or both (B)	Contributing/ 71000960 & 85003181
41VV74/Fate Bell (Jackson's #82, Kirkland's Seminole Canyon #4)	Shelter with PRS art and deeply stratified midden; [redacted] perishables, stone tools, and other artifacts in excavations. Previously excavated collection(s) at Texas Archeological Research Laboratory (TARL).	Middle Archaic, Late Archaic, Late Prehistoric (A, C, F)	Contributing/ 71000960 & 85003181
41VV75 (Jackson's #83, Jackson and Pearce's #2)	Shelter with PRS and Red Linear art and a deeply stratified midden; [redacted] perishables, stone tools and other artifacts in excavations. Previously excavated collection(s) at TARL.	Middle Archaic, Late Archaic, Late Prehistoric (A, D, F)	Contributing/ 71000960 & 85003181
41VV76/Black Cave and Annex (Jackson's #88, Kirkland's Black Cave)	Shelter and 2 alcoves with PRS and Red Linear art; perishables, stone tools, and other artifacts in excavations. Previously excavated collection(s) at TARL.	Middle Archaic, Late Archaic, Late Prehistoric (A, D)	Contributing/ 71000960 & 85003181

State ID Number/Name(s)	Resource Description	Precontact Period or Year Built (how dated)	Contributing Status/Previous NR Number*
41VV78/Painted Shelter (Jackson's #90, Kirkland's Painted Rock Shelter)	Shelter adjacent to permanent spring with PRS, Red Linear, Red Monochrome, and possibly Historic art	Middle or Late Archaic or both, Late Prehistoric, Historic (B)	Contributing/ 71000960 & 85003181
41VV82/Coontail Spin	[redacted] stone tools, perishables, and other artifacts in excavations. Previously excavated collection(s) at TARL.	Middle Archaic, Late Archaic (C, E, F)	Contributing/ 71000960 & 85003181
41VV83/Panther Cave (Jackson's #84)	Shelter and 2 alcoves with PRS and Red Linear art and with 1m deep deposits	Middle or Late Archaic or both (B)	Contributing/ 71000960 & 85003181
41VV87/Perry Calk	[redacted] grinding facets; midden in main shelter contains stratified deposits and features; pigment at mouth of one cave. Previously excavated collection(s) at TARL.	Middle and Late Archaic, Late Prehistoric (C, E, F)	Contributing
41VV99/Arenosa	Shelter and terrace site with deeply stratified deposits 14.5m thick. Previously excavated collection(s) at TARL.	Paleoindian, Early Archaic, Middle Archaic, Late Archaic, Late Prehistoric (C, E)	Contributing/ 71000966
41VV124/White Shaman (Parson's Jefferson Davis)	Shelter with PRS and Red Linear art with bedrock mortars and grinding stones in the shelter and flakes and burned rock on the talus	Late Archaic (D)	Contributing/ 71000966
41VV180/Rattlesnake Canyon site (Jackson's #73A; Kirkland's Rattlesnake Canyon #1)	PRS pictograph site with ca. 1m deep midden deposits and grinding surfaces. Previously excavated collection(s) at Amistad National Recreation Area.	Middle or Late Archaic art or both (B)	Contributing/ 71000968
41VV286/Raymond's Shelter	Shelter with PRS art and deep (3m) midden deposits. Previously excavated collections at Witte Memorial Museum and TARL.	Middle Archaic, Late Archaic (A)	Contributing
41VV408/Hidden Shelter	Shelter partially hidden by rock fall from above with PRS and Red Linear art; stone tools in excavations.	Middle Archaic (A, C)	Contributing/ 71000960 & 85003181
41VV576/Jackrabbit Shelter	Shelter with PRS art, natural fissures, and a 30cm midden with artifacts	Middle Archaic (A, D)	Contributing

State ID Number/Name(s)	Resource Description	Precontact Period or Year Built (how dated)	Contributing Status/Previous NR Number*
41VV584/Jaguar Shelter (Kirkland's Brown's Ranch)	Shelter with PRS art with mortar holes and some material culture on floor and a talus with deposits; art is hidden, not created for mass consumption	Middle and Late Archaic (A)	Contributing
41VV620/Seminole Sink	Sink hole [redacted] Previously excavated collection(s) at TARL.	Middle Archaic, Late Archaic, Late Prehistoric (C, F)	Contributing/ 71000960 & 85003181

Isolated Contributing Sites in the Eastern Portion of the LPC District (Map 5)

State ID Number/Name(s)	Resource Description	Precontact Period or Year Built (how dated)	Contributing Status/Previous NR Number*
41VV18/Curly Tail Panther (Jackson's #99)	Series of small, shallow alcoves in cliff above the Devil's River with PRS and Red Linear art	Middle or Late Archaic or both (B)	Contributing
41VV188/Devil's Mouth site	Deeply stratified terrace of over 9m depth, features and artifacts in cultural levels. Previously excavated collection(s) at TARL.	Paleoindian, Early Archaic, Middle Archaic, Late Prehistoric (C, E)	Contributing
41VV40 (possibly Jackson's #100)	Large shelter with PRS art and a shallow midden of dark ashy soil	Middle or Late Archaic or both (B)	Contributing
41VV50/Crab Shelter	Shelter with PRS art covering the length of the back wall and cupules in the floor; a solution cavity on the wall has sooting and battering around it; deposits in talus contained a Langtry dart point	Middle Archaic, Late Archaic (A, D)	Contributing
41VV213/Baker Cave	Solution cavity in Edwards Limestone with deeply stratified deposits; excavations yielded [redacted] features, lithics, perishables, painted pebbles, bone, seeds, wood and shell artifacts; Previously excavated collections at TARL and the Center for Archaeological Research.	Late Paleoindian, Middle Archaic, Late Archaic, Late Prehistoric (C, E, F)	Contributing
41VV337	Large shelter with PRS art solution cavities in the back wall that are rimmed with pigment; deeply stratified deposits and mortar holes; dart points collected from the surface	Middle Archaic, Late Archaic	Contributing

State ID Number/Name(s)	Resource Description	Precontact Period or Year Built (how dated)	Contributing Status/Previous NR Number*
41VV612/Mystic Shelter	3 shelters at the confluence of a small tributary with the Devil's River, tiered one above the other with PRS and Red Liner art in the middle shelter	Middle Archaic (D)	Contributing
41VV696/Cedar Springs	Shelter close to drainage floor and near the Devil's River; PRS art within the shelter	Middle Archaic (D)	Contributing
41VV840/Sunburst Shelter	Shelter adjacent to a pour off with a spring-fed pool containing PRS art; the shelter is shallow and contains a series of solution cavities; a shallow midden is present	Middle or Late Archaic or both (B)	Contributing
41VV888/ High Country Shelter	Overhang with PRS and Red Linear art	Middle or Late Archaic or both (A)	Contributing
41VV889/High Lonesome Shelter	Shelter adjacent to 41VV888 with shallow deposits and PRS art	Middle or Late Archaic or both (A)	Contributing
41VV961/Chimenea Shelter	Shelter with several alcoves, one of which may be a vent to the surface above the site; contains PRS art and stratified deposits and cultural materials on the talus; excavations yielded lithic tools, faunal material (mammal, reptilian, fish, and bird), and shell. Previously excavated collection(s) at TARL.	Middle Archaic, Late Archaic (A)	Contributing
41VV1207	Hearthfield with tabular sandstone used to create the hearths; rock rings and rock oven features identified. Previously excavated collections at TARL and Amistad National Recreation Area.	Middle and Late Archaic (E)	Contributing
41VV1230/Halo Shelter	Shelter with PRS art overlying Red Linear art and deep deposits; FCR, flakes, cores, scrapers, 1 boulder with petroglyph and grinding facets noted	Middle or Late Archaic or both (B)	Contributing
41VV1604/Brazos Fuerte	Shallow overhang on dramatic cliff face with PRS and Red Linear art; lithic flakes and FCR noted on surface of shelter	Middle or Late Archaic or both (B)	Contributing
Contributing Sites in the Eagle Nest Canyon Site Concentration (Map 6)			

State ID Number/Name(s)	Resource Description	Precontact Period or Year Built (how dated)	Contributing Status/Previous NR Number*
41VV164/Kelley Cave (Sayles' Langtry, Kirkland's Langtry 2, Martin's Little Shelter, Mear's Mile Canyon)	Shelter with PRS art and deeply stratified deposits; features, mortars, cupules, stone tools, other artifacts in excavations. Previously excavated collections at TARL and Ancient Southwest Texas (ASWT).	Early Archaic, Middle Archaic, Late Archaic, Late Prehistoric (A, C)	Contributing/ 70000773
41VV165/Skiles Shelter (Kirkland's Langtry #4)	Shelter divided into 2 alcoves with PRS art in western alcove along with 1m deep stratified deposits; FCR, stone tools, and perishables in excavations. Previously excavated collections at TARL and ASWT.	Middle Archaic, Late Archaic, Late Prehistoric (A, C)	Contributing/ 70000773
41VV167/Eagle Cave (Sayles Langtry B, Jackson's #76, Kirkland's Langtry #1)	Shelter with PRS art and large, deeply stratified midden; [redacted] modern bison, perishables, painted pebbles, stone tools, other artifacts in excavations. Previously excavated collections at TARL and ASWT.	Paleoindian, Early Archaic, Middle Archaic, Late Archaic (A, C, D, F, G)	Contributing/ 70000773
41VV218/Bonfire Shelter	Shelter with massive roof fall at the dripline; *bison antiquus*, modern bison, stone tools, perishables from excavations. Previously excavated collection(s) at TARL.	Paleoindian, Late Paleoindian, Middle Archaic, Late Archaic (C, E, G)	Contributing/ 70000773

Noncontributing Sites in the Eagle Nest Canyon Site Concentration (Map 6)

State ID Number/Name(s)	Resource Description	Precontact Period or Year Built (how dated)	Contributing Status/Previous NR Number*
41VV166	Overhang with shallow midden; stone tools; grinding stone	Unknown	Noncontributing
41VV168/Langtry Rock Midden	Burned rock midden on top of bluff; lithics.	Unknown	Noncontributing
41VV2163, Mile Springs Site	Shelter with earth oven and talus; one dart point, lithics	Late Archaic (E)	Noncontributing
41VV2168	Lithic scatter on ridgetop bedrock; lithics	Unknown	Noncontributing
41VV2239/Sayles Adobe	Buried deposit on alluvial terrace; burned rock, stone tools	Middle Archaic, Late Archaic (C, E)	Noncontributing

*The sixteen properties that were previously listed on the National Register (individually or as contributing properties in a district) were listed at the national level of significance.

A. PRS & points date the site
B. PRS dates the site
C. C14 on deposits dates the site
D. C14 on pictographs dates the site

E. Points date the site
F. [redacted]
G. Modern bison bones

Table 3. List of Repositories Holding Collections from Sites in the Lower Pecos Canyonlands Archeological District

Repository	Location	Comment
Amistad National Recreation Area (NPS)	Del Rio, Texas	Collections mostly consist of records
Texas Archeological Research Laboratory (TARL), The University of Texas at Austin	Austin, Texas	Holds the largest quantity of materials for the district's sites
Center for Archeological Research (CAR), The University of Texas at San Antonio	San Antonio, Texas	
Ancient Southwest Texas (ASWT), Texas State University	San Marcos, Texas	
The Witte Memorial Museum	San Antonio, Texas	

Criterion 5

The thirty-five contributing sites in the Lower Pecos Canyonlands Archeological District represent outstanding archeological examples from which scholars can reconstruct the way of life of a hunter-gatherer society that endured for 3000 years. The outstanding qualities of the district cannot be adequately represented by a single site. Collectively, they are nationally significant under Criterion 5 and the NHL themes of Peopling Places and Expressing Cultural Values as integral parts of an exceptional culture dating to the Middle and Late Archaic periods (4200–1000 BP), the period of significance for the district. Analyses of the data from domestic deposits and the rock art murals together are essential to understanding the broad patterns of Archaic hunter-gatherer lifeways, mobility and migration patterns, and cultural and spiritual values during the period when PRS imagery arose, was repeatedly painted in multiple shelters across the region, and, ultimately, was abandoned or the people left. Thus, a range of site types are necessary to understand the way of life of the hunter-gatherers who occupied the Lower Pecos River region. The district includes a range of site types (rockshelters, terrace sites, and a sinkhole feature), and these sites exhibit a broad geographic distribution across the district (see Maps 2–6) to assist in understanding how the art and the domestic features functioned together to support a culture that endured for three millennia. Except for the Eagle Nest Canyon site concentration, most sites are separated from one another, sometimes by tens of kilometers.

The sites with intact middens dating to the Middle and Late Archaic are two meters or more in thickness and reflect the theme Peopling Places. Previous excavations at these sites (Photographs 8–9) have yielded an unusually wide array of perishable artifacts displaying an immense range of forms and functions, fashioned from a limited number of plant species. The diversity of plants recovered from the deposits has been and is being used to inform our understanding of hunter-gatherer economy, ritual, and medicine. The deposits also contain evidence of the baking of agave, sotol, and prickly pear in earth ovens (Photograph 15), [redacted] how periodic floods interfaced with human occupations in the region, and other cultural activities (Meyer 2016). These rich deposits and the collections (including artifacts, field notes, maps, photos, and other curated materials) from prior excavations provide an unparalleled opportunity to examine the broad patterns of hunter-

gatherer mobility and migration, hunter-gatherer land tenure in ethnic homelands, and community structure—all issues of concern for the theme of Peopling Places.

The district also reflects the theme Expressing Cultural Values through the vibrant and dramatic PRS polychrome art that dates to the same time periods and is present in many contributing rockshelters and overhangs. PRS imagery is considered religious art (see Boyd 2003, 2016; Gebhard 1966; Turpin 1994, 2004, among others), and, as discussed above, recent formal analysis of one PRS mural concludes that it represents a creation myth (Boyd 2016). That analysis demonstrated that the panels were "compositionally intricate, highly patterned, and rule-governed visual texts" that can be interpreted using ethnography and semiotics (Boyd 2016:21). Their execution was carefully planned. The large murals often required construction of scaffolding or ladders to paint figures six or more meters tall, and collection of the materials for paints and painting tools. For example, the effort to paint the 8-meter long White Shaman mural or the 32-meter long Rattlesnake Canyon (41VV180) mural could have taken place as a ritual or ceremonial event that lasted several days under the direction of an elder or shaman and their helpers. The care and the planning that resulted in the final composition illustrate the importance and value of these murals to the people who occupied the Lower Pecos River region.

Taken together, the thirty-five contributing sites illustrate how hunter-gatherers of the Lower Pecos Canyonlands interacted with their changing environments. Comprised of rockshelters, terrace sites, and a cemetery, the district reflects a range of activities from utilitarian functions to ceremonial events and expressions of socio-political cohesion. The distribution of these sites across the canyonlands and throughout millennia help to address how this complex community developed over time. Location of PRS imagery, habitation, or both appear to have been deliberate. Most shelters with pictographs in the region have wide openings where their murals could be seen across the canyon. Public displays of PRS art in these wide-mouthed shelters may have communicated a territorial boundary to those traveling through the Canyonlands (Turpin 1988). Future studies of the district as a whole have the potential to expand our understanding of regional settlement patterns and investigate whether the Lower Pecos Canyonlands, with its volume of PRS murals, was a pilgrimage destination from other regions.

In sum, the suite of sites in the Lower Pecos Canyonlands Archeological District collectively represents outstanding examples of a now-gone ancient precontact culture. The data from the domestic deposits coupled with the planned compositions on the rock walls will allow scholars to reconstruct the secular and religious way of life of these people.

Criterion 6

Under Criterion 6, the district is nationally significant for its archeological potential in the area of precontact archeology. Excavations in the region have generally revealed several significant aspects of the precontact occupation and archeology of the region. The first is that Native Americans arrived at approximately 11,000 years ago. Excavations at Bonfire Shelter (41VV218, a contributing site) solidified this fact and boosted Bonfire to national prominence as a significant Paleoindian site (Black 2001). Among the sites in the district, deposits represent 3000 years of an unbroken sequence of history that have yielded, and are likely to continue to yield, nationally significant information of major scientific importance, information that would enrich and deepen our understanding of Archaic hunter-gatherers and the ways they interacted with the physical and human environments (Photographs 3, 5, 6). The deposits are expected to yield data significantly affecting theories about how and why, and if, boundaries were established during the Archaic; how land tenure was negotiated; how and if the social organization changed with less mobility; how resources were shared (or not), both within the cultural region and with neighboring regions; and the social, economic, and ecological factors that were

involved in choosing places on the landscape for imagery or habitation, or both. Investigation of these and other nationally significant research issues could challenge current theories of the complexity of hunter-gatherer lifeways during the Middle and Late Archaic across North America. The potential information yield of the district's sites is nearly unmatched because both the domestic deposits and the PRS art can and have been reliably dated by radiometric analysis. Moreover, outside of the Lower Pecos Canyonlands, there are few places in North America with the exceptional preservation needed to address these issues.

The deposits and associated features found within the middens at these sites also contain significant information relevant to the NHL theme Expressing Cultural Values. This significance is indicated by the recovery of artifacts such as ochre and limonite bars at Fate Bell (41VV74) that would have been used to prepare paint for use on shelter walls, painted pebbles that appear to have held particular value, [redacted]

The NHL theme Peopling Places is recognized at the sites in the district through archeological evidence of intact deposits, which show continued use of the Lower Pecos Canyonlands for thousands of years. The contributing sites also meet the NHL theme Expressing Cultural Values because their cultural deposits and art painted on the walls could help to reconstruct the social organization, land tenure, and ritual practices of these hunter-gatherers. As discussed in greater detail in the cultural history below, the first people in the Lower Pecos River region were probably numerically few and highly mobile hunters of large game. By the second half of the Middle Archaic period (San Felipe Subperiod, 4100–3200 BP), however, the climate was warmer and far more arid (Turpin and Eling 2014). Large game animals, specifically bison, migrated north and the people occupying the Canyonlands came to rely on an extraordinarily diverse array of small game, fish, snakes, lizards, and birds for meat while also consuming many kinds of plants (notably prickly pear stems, fruits and seeds, lechuguilla and sotol bulbs, persimmons, hackberries, grapes, and onions) (Williams-Dean 1978). These hunter-gatherers left evidence of a wide-spread occupation of the region in both rockshelters and open sites.

Twenty-seven shelters and overhangs in the Lower Pecos Canyonlands Archeological District contain PRS imagery. The art on these walls is thought to represent myths of the belief systems of the inhabitants of the shelters. The anthropomorphs in the murals are central figures, and they represent ancestral deities, heroes, and other characters from myths. The PRS anthropomorphs have also been interpreted to represent shamans (Turpin 2004:270), a type of religious practitioner found in hunting and gathering societies around the world.

The religious context in which PRS art was produced matches the findings of rock art scholars in western North America (Sundstrum 2006:51; Whitley and Clottes 2007). Whitley (2011a:196) states that "shamanism was pervasive throughout the Americas" and closely associated with hunter-gatherers and their rock art. In most areas of the western United States, however, including the American Southwest, the artistic manifestation of this shamanism differs markedly from the PRS panels despite the fact that both have religious underpinnings.

Because the American Southwest's rock art is not monolithic and there are many different stylistic and other differences across that region (Schaafsma 1980), the following discussion contrasts the PRS art with that of the Jornada Mogollon, a cultural region in the easternmost portion of the Southwest with the closest proximity to the Lower Pecos Canyonlands. As discussed above, the PRS murals were painted as planned compositions by hunter-gatherers, likely over a number of days. They exhibit a visually distinct style that is instantly recognizable, with characteristic formalized, recurring, and rule-governed motifs that appear purposefully arranged. Contrasting the qualities of Southwestern rock art with the PRS panels helps to illustrate the importance of the PRS art and how the murals' rule-governed motifs and purposeful arrangements exhibit stories deeply rooted in the ideological universe of the region's hunter-gatherers.

In the Jornada Mogollon region, Archaic period rock art consists of abstract motifs that generally show geometric forms such as grids, zigzags, dots, and spirals reminiscent of the entoptic forms seen during trance experiences and later painted or pecked on rock surfaces as part of a religious and/or social event (Lewis-Williams and Dowson 1989).[11] This abstract imagery is known as the Desert Abstract style (Schaafsma 1980:43). Art in this style, was either painted or pecked, and is found on rock faces in open sites as well as in rock shelters or overhangs (Miller et al. 2012). The Desert Abstract was not restricted to the Jornada Mogollon region as it is found across much of the Southwest, the Texas Big Bend region, and northern Chihuahua and Coahuila, Mexico (Miller and Kenmotsu 2004; Schaafsma 1980; Turpin 2010).

The geometric imagery of the Desert Abstract gave way to representational art as the people in the Jornada Mogollon began to cultivate corn and other crops around 2000 BP Loendorf and his colleagues (2013) note a nascent period of emerging representational art that continued to about 900 BP. Miller et al. (2012:211), following Douglas (1996:14), conclude that during this period of emergence the full underlying religious ideology of this art was present and practiced by social groups throughout the region, but in a more restricted set of sacred locations such as grottos and dark zones of caves. For the ensuing three hundred years (to 600 BP), goggle-eyed images, masks, rain clouds, and other signature images of what is known as the Jornada style are prominently displayed in the rock art of the region, but also engraved on shell, polychrome vessels, and other decorated artifacts (Miller 2009). Miller argues that this fluorescence of Jornada style iconography in the rock art (i.e., at sacred places, on artifacts, and in ritual contexts at pueblo settlements) was related to a greater degree of social and political complexity in the region. After 600 BP, the Puebloan occupation of the Jornada Mogollon region ceased, as did the art.

The art in the Jornada Mogollon differs from that in the Lower Pecos Canyonlands in several respects. Stylistically, the Desert Archaic art of the Jornada Mogollon has little in common with PRS art, other than that some Desert Archaic images are painted in polychrome and both artistic traditions exhibit their respective religious systems. Nonetheless, these are different religious systems, manifested differently in rock imagery and with characteristically different figures, motifs, compositions, pallet, and execution. One distinctive difference is that the figures in the Jornada Mogollon art often overlap and are thought to represent return visits over many centuries (Kenmotsu et al. 2012; Loendorf et al. 2013). This quality is distinct from the complex, planned compositions seen in the PRS art. A further distinction can be seen in the rock art sites on Fort Bliss, a 1.2 million acre training facility where intense archeological surveys have been undertaken since the 1970s, some designed specifically to identify rock art. The quantitative difference—the number of Archaic rock imagery sites in each region—is stark. Despite the intensive surveys, less than fifty rock art sites were identified on that facility by 2012 (Kenmotsu et al. 2012), and not all of them date to the Archaic period.[12] In comparison, the area of the Lower Pecos Canyonlands is much larger than Fort Bliss, and most survey efforts in the Canyonlands have been at a reconnaissance rather than intensive level. Nevertheless, 235 PRS rock imagery sites are known. This numeric distinction suggests that the religious systems operating in the two regions were quite different.

In some respects, the PRS art appears to have a little more in common with the more recent Jornada style art than with the Archaic art of the Jornada Mogollon region. The PRS art remained visually quite distinct from all of its neighbors, again differing in motifs, figures, composition, and execution. The Jornada style is thought to represent efforts both to encourage the rain and thank the spirits for bringing it (Loendorf et al. 2012; Miller

[11] The patterns are explained by the neurophysiological model formulated by Lewis Williams and Dowson (1989). All humans share the same neurophysiological systems. In altered states of consciousness—which can be triggered by drugs, migraines, fasting, fatigue, and other causes—we see these dots, zigzags, and other geometric patterns.

[12] By 2012, over 19,000 sites had been recorded on the Fort Bliss installation (Kenmotsu et al. 2012:171).

2009; Schaafsma 1980; Sutherland 1996). Similar interpretations have been attributed to murals on kiva walls throughout the broader Southwest (Anschuetz 2007; Crotty 1995; Fowles 2009; Hays-Gilpin and Hill 1999; Schaafsma 2009). One well known site with Jornada style masks is Hueco Tanks (41EP2) located just east of El Paso. Some of those masks mimic figures on murals found in kivas in the northern Rio Grande (Schaafsma 1980:211). Since plaster with fragments of painting on them has been recovered from some pueblos in the Jornada Mogollon region, Schaafsma (1980) suggests that murals may have been painted in those structures too. Thus, in terms of planning and design, the murals in both regions hint at parallels. Yet, while both the Jornada Mogollon and the Lower Pecos Canyonlands regions may possess murals, many stark differences exist. Mask motifs are absent from the PRS compositions, and the Jornada Style does not share the characteristic graphic vocabulary and composition of PRS motifs.

Jornada style rock art was also commonly created away from occupation sites. At Hueco Tanks, for example, residue of habitation is present in this large site, but the images of masks are scattered in overhangs, and small grottos across the site. In contrast, PRS art is frequently in the same shelters with deep domestic deposits such as Fate Bell indicating the people in the Lower Pecos Canyonlands lived in the shadow of their sacred art. Additionally, many Jornada figures in panels overlap each other and appear to have been left during repeated visits over several hundred years, contrasting with the imagery in the Lower Pecos Canyonlands. As well, the PRS art began approximately 2,000 years before the early Jornada style imagery. And, importantly, these PRS compositions were planned, executed, and revered by a hunter-gatherer society rather than a more developed society with established agricultural communities.

Recognition of the latter points—the early date of the PRS murals, their planned, complex compositions, and the fact that they were undertaken by hunter-gatherers—represent a significant methodological and theoretical strength of the Lower Pecos Canyonlands Archeological District for current and future research. Francis (2005:190) points out that for too long researchers of the rock art of hunter-gatherers in North America interpreted their art using "common explanations…centered on hunting or hunting magic. Certain animals are depicted because they were the primary prey species, or the scene represents sympathetic magic prior to the hunt." Under that model, many of the panels of PRS art in the Lower Pecos Canyonlands, with their deer impaled with spears, panthers, and other zoomorphs, could also be interpreted as hunting scenes with the anthropomorphs as the shamans seeking the magic that ensured the success of the hunt. Such an interpretation would be misleading. Francis (2005), Whitley (2011a), Loendorf et al. (2005), Conkey (2001), and others have emphatically stated that ethnography must be a vital part of all rock art research, especially for researching the rock art of hunter-gatherers. This is precisely the type of research done recently for the White Shaman mural (Boyd 2016). Through ethnographic research, Boyd argues the panel illustrates a complex, rich cosmology detailing the birth of the sun and life as the people of the Lower Pecos Canyonlands understood it, not a simple scene of the hunt. The same state-of-the-art methodology—using ethnography, linguistics, and semiotics—can be employed with other murals in the district to understand the mythology and cosmos of a hunter-gatherer society and at the same time examine the daily practices of the people who lived in these rockshelters beneath their sacred murals. Few areas in the United States can offer this type of data to better understand our past. The Lower Pecos Canyonlands is a place that can fill this void.

In sum, professional archeological investigations have demonstrated an unbroken sequence of occupation in the intact shelter deposits of the Lower Pecos Canyonlands Archeological District, which has the potential to yield unparalleled information. This information includes the intersection of daily economic activities with the ceremonial production of the PRS imagery, which created a permanent record for future use and reference; how and when interaction with outside groups occurred; what impact such interaction caused within this society; ritual practice during the period of significance; how land tenure was negotiated; and how migration and other aspects of the past caused changes in their lives and beliefs. Stratigraphic, ethnographic, and artistic analyses of

the panels themselves have provided evidence that the panels contain mythological narratives or sacred stories central to the people's belief systems and cultural values (Boyd 2016). Future study of these panels and their domestic deposits has outstanding potential to yield nationally important insights into the cultural values the people in the Lower Pecos Canyonlands possessed, the challenges they were presented with in their daily lives, and the avenues they took to resolve such challenges.

PRIOR RECOGNITION OF SIGNIFICANCE

The area's stunning rock art and the deep, stratified middens with their perishable artifacts were initially recognized as significant in the early twentieth century (Black 2013; Jackson 1938; Kirkland and Newcomb 1997; Sayles 1936). Formal acknowledgment of their scientific and aesthetic importance came when many were listed in the National Register of Historic Places (National Register) in 1970-1971 at the national level of significance. Of the thirty-five contributing sites included in this Lower Pecos Canyonlands Archeological district, sixteen were individually listed in the National Register or included as contributing properties in one of three large precontact National Register districts. One of the sixteen, the Rattlesnake Canyon site (41VV180), was individually listed. Nine of the contributing sites in the Lower Pecos Canyonlands Archeological District are contributing sites in the Seminole Canyon National Register district, four sites are contributing sites in the Mile Canyon National Register district,[13] and two sites are contributing sites in the Lower Pecos Canyon National Register district.[14] These National Register districts focused on the archeological significance and potential of the cultural deposits in the rockshelters and open sites within their boundaries. Excavations undertaken at most sites prior to impoundment of Amistad Reservoir revealed intact, stratified cultural components dating over the last 11,000 years. The high research values of the collections from 14 meters of stratified deposits at Arenosa Shelter and the equally deep Devil's Mouth terrace site, along with the collections and remaining deposits at Bonfire Shelter—the southernmost and oldest bison jump site in North America—were recognized and those three sites quickly became well known nationally.

The National Register nominations also recognized the rock art's research potential as: "no less important than the physical cultural debris within the sites…. [T]he heavy concentration of Indian rock art in this [Lower Pecos Canyon district] is distinct….The sophisticated and varied Pecos River style pictographs are a monument to these imaginative people. Seldom do archeologists have such an opportunity to view the dreams, aspirations, and deeds of ancient peoples as depicted by themselves" (Bell and Prewitt 1970). Although lacking a means to directly date the imagery in 1970, Bell and Prewitt (building on the arguments of earlier researchers) speculated that the PRS art was approximately 5000 years old based on anthropomorphs holding spears with atlatls and darts. Today, with improved technology, the style is known to date from 4200–1465 BP.

Twelve contributing sites in the Lower Pecos Canyonlands Archeological District are designated as State Archeological Landmarks (SAL) under the Texas Antiquities Code. These designations both acknowledge their significance and afford them additional protection under state law. The State can only designate SALs on private land with the written permission of the owner. Eleven of the SALs are on public land and one is privately owned.

[13] Mile Canyon is another name for Eagle Nest Canyon. The Eagle Nest Canyon Concentration in this nomination adopts the boundaries of the Mile Canyon National Register district.

[14] The remaining 20 sites in this NHL district were either not recorded at the time these districts were developed or they were outside of the areas investigated prior to the impoundment of Amistad Reservoir.

CONTEMPORARY NATIVE AMERICAN ETHNOHISTORICAL INFORMATION

The information presented in this section derives from Spanish and later English documents that were reviewed by Kenmotsu and Wade (2002) as part of a Native American affiliation study for Amistad National Recreation Area. Among other things, that study demonstrated that few Euro-Americans ventured into the region prior to the late 1800s. Thus, the number of documents that mention indigenous people living in the Lower Pecos Canyonlands is limited. Nonetheless, several provide population estimates indicating that in the seventeenth century, when the Spanish were establishing settlements in northern Mexico, the Lower Pecos Canyonlands were sparsely populated (Kenmotsu 1994; Kenmotsu and Wade 2002). The relatively sparse population estimates stand in stark contrast to data derived from the region's large concentration of rockshelters, dating to the Middle and Late Archaic periods (4200–1000 BP), which contain pictographs, cultural deposits, or both. While it is presumed that the hunter-gatherers occupying the region in the precontact era did not reside in the shelters year-round, the deposits related to the Middle and Late Archaic components are often two or more meters thick and illustrate repeated return to these shelters (Greer n.d.; Turpin 2004). Clearly, significant demographic changes occurred in the Canyonlands from the precontact to the ethnographic past. Despite the time disconnect between the district's sites, dating no later than 1000 BP, and the seventeenth century (350 BP), ethnohistorical information can provide insights useful for understanding prehistory of an area and its inhabitants (Whitley 2011). For example, the resources needed for tools, clothing, and subsistence were not dramatically different by 350 BP, the beginning of the Historic period. The environmental challenges in both time periods were also similar. In addition, it is possible that the people living in the region 300 years ago were genetically related to the groups who occupied the Lower Pecos River region in 1000 BP, and it is possible they intermarried with later Native American groups (discussed below). Therefore, information from ethnohistorical materials has the potential to improve our understanding of earlier precontact eras and possibly provide insights into the demographic changes. The ability to explain these changes and their implications for socio-political relations is a tremendous strength of the Lower Pecos Canyonlands Archeological District.

Information presented in the Spanish documents suggests that the people residing in the region in 1590 lived in small hunter-gatherer camps along the Pecos River and presumably near other water sources in the region. By the 1670s, Spanish priests documented these hunter-gatherer groups moving north and south of the Rio Grande in the vicinity of today's Del Rio, Texas, and vying for access to buffalo and, at times, access to large prickly pear cactus patches (Kenmotsu and Wade 2002:26-29). Several sites[15] in the region dating to this time contain steeply-beveled end scrapers, generally believed to be part of hide-processing tool kits associated with hunting larger game (Howard 2016), which support the archival documentation. The number of individuals in each of these groups is generally believed to have been between 100 and 500 (Kenmotsu and Wade 2002:26). Named groups included the Ervipiame, Guesiquesale, Catujano, and Sana, among others.

By 1750, groups on both sides of the Rio Grande were seeking alliances with each other or with larger groups from the north, including the Comanche, Apache, Kiowa, and Tonkawa. These four tribes today and the Kickapoo Traditional Tribe of Texas still retain affiliations with the Lower Pecos Canyonlands. Three of the tribes currently reside in Oklahoma (i.e., Comanche, Kiowa, and Tonkawa); the Mescalero Apache reside in New Mexico; and, the Kickapoo have a reservation in Texas. Each has a unique history in the Lower Pecos River region.[16]

[15] None of these are contributing sites to this nomination.

[16] Each of the five tribes has been contacted by the National Park Service about the Lower Pecos Canyonlands Archeological District. To date, the Comanche Nation is the only tribe to have responded and their letter supports this nomination.

Athapascan-speakers, the Apache migrated south out of Canada and the northern Plains during the Late Precontact period (1000–450 BP). In 1601, Oñate (1871) mentioned their presence on the Southern Plains of New Mexico and Texas where they remained until pushed south by the Comanche and others. Spanish documents describe the Apache as hunter-gatherers with a focus on buffalo hunting and well adapted to the horse by the early eighteenth century. The first documented report of the historical presence of the Apache in the Lower Pecos Canyonlands was in 1729 when Spanish scouts found them hunting buffalo just south of the mouth of the Pecos in what is today the northern state of Coahuila, Mexico (Kenmotsu and Wade 2002:78). Within a few decades, they were named in Spanish documents as the Mescalero and Lipan Apache. Their presence along both sides of the Rio Grande continued through 1881. Documents also mention that these Apaches returned to the same two locations each year to grow crops of corn and beans (Winfrey and Day 1995, Vol. 3:184-189). One locale was on the Pecos River northwest of the Lower Pecos Canyonlands; the other was northeast of the region on the Nueces River. Some may have settled in northern Mexico in the late nineteenth century. The Lipan, in particular, maintained a group presence east of the Pecos River in Texas and in the northern part of the state of Coahuila, Mexico, until they were moved to the Mescalero Apache reservation in New Mexico (Kenmotsu and Wade 2002:80-81).

Spanish documents mention movement of the Comanche into the Panhandle of Texas and eastern New Mexico in the early 1700s, displacing the Apache. The Comanche lived in large, multi-family groups or bands loosely associated with specific areas of the land over which they ranged (Kavanagh 1996). Membership in each band, however, often changed. Individuals, nuclear families, or extended families would split from the larger group as a result of internal rivalry. Some of these larger groups claimed the area just north of the Lower Pecos River region as early as the 1740s and remained there for nearly a century. Some portion of these larger groups, typically along with their Kiowa allies, traveled frequently as mounted raiders through the Lower Pecos River region on forays for buffalo, cattle, or horses from Spanish ranches in northern Mexico that they would carry or herd to northern Texas or Oklahoma. Two rockshelters in the Lower Pecos River region—one north of the Rio Grande and one south of it—contain rock art of Comanche or Kiowa warriors carrying out these forays; in one they were in a battle with Mexican soldiers (Jordan 2015). Once forced onto reservations in Oklahoma in the 1870s, there is only sporadic documentation of the Comanche's return to the region, some of it related to their use of peyote that is native to the Lower Pecos Canyonlands (Kenmotsu and Wade 2002:85-89).

The Kiowa were a northern Plains tribe that moved south into what is present day Oklahoma in the 1700s (Mayhall 1971:14). Like other Plains tribes, they were semi-nomadic, moving in relatively large groups and frequently in the company of one or more tribes with whom they were allied. At the close of the eighteenth century, they formed an alliance with the Comanche in what is today Texas. In the alliance, they agreed to remain in Oklahoma, but by the 1820s they were raiding into Texas and eventually joined the Comanche to raid into today's northern Mexico. Like the Comanche, the Kiowa use peyote and their travel to the Lower Pecos Canyonlands to collect it has been documented.

The Tonkawa Tribe migrated from northern Oklahoma, where they had lived in large villages, to northern Texas in the late eighteenth century (Newcomb 1993). De Mezieres, a Frenchman who visited them in the 1770s, described them as hunter-gatherers who hunted buffalo and deer for meat and skin for trading. About this time, the Tonkawa absorbed several Native American groups from Texas including the Ervipiame and Sana; both were documented in the area around the mouth of the Pecos River in the seventeenth century. Each was incorporated as a separate matrilineal clan of the Tonkawa. With the increase in Euro-American settlement in the eastern portions of Texas during the nineteenth century, the Tonkawa were pushed south to the Nueces River northeast of the Lower Pecos Canyonlands. There, they allied themselves with the Mescalero and Lipan Apache and were known to have traveled through the Lower Pecos River region to hunt.

The Kickapoo also had a presence in the Lower Pecos River region, but, in contrast to the other four groups, their history with the area is distinct. Algonquian-speaking, their ancestral lands were in the area of the Great Lakes (Wright 1986). Although they hunted buffalo on the northern Plains, they were agriculturalists who ceded their lands in 1819 and moved to modern Oklahoma. In the 1850s, some Kickapoo who had lived in east Texas for a decade followed a leader known as Wild Cat with the Seminole Maroons[17] from Oklahoma to travel to Mexico through the region (Mulroy 1993). Mexican owners of large ranches in Coahuila encouraged them to settle on a reservation in Mexico in exchange for aiding the ranchers to counteract the Comanche and Kiowa raids. Many Kickapoo eventually returned to Oklahoma, but after the Civil War, some returned to the Mexican state of Coahuila. Those Kickapoo have traditionally traveled from Musquiz, Mexico to their reservation in Texas near Eagle Pass (east of the Lower Pecos), to the Kickapoo reservation in Oklahoma, and back to Mexico.

Although the contemporary Native American information is too limited for a robust ethnographic profile of the Native Americans of the Lower Pecos Canyonlands during historic times, the recent interpretation that the PRS murals may relate to the later Nahua (Aztec) and other Mesoamerican myths (Boyd 2016) suggests that the sites in the district have considerable potential to provide a great amount of information about the people in the Lower Pecos River region for a period where current ethnographic information is lacking. That is, the date when the people who painted the murals on the shelter walls left the region is not known. However, the painting of a creation myth that is matched in close detail by a later Nahua creation story suggests that some may have moved south, or at least that the painters of the PRS murals shared a cultural system more closely aligned with that of groups in Mexico than with the later Plains peoples who moved into the area from the North during historic times. With new technologies, the limitations on the ethnographic profile could be lifted. DNA studies, formal art analyses of additional PRS murals, developing ethnographic analogies, and other analyses may expand the ethnographic profile and the migration patterns that led to it.

CULTURAL OVERVIEW

The Lower Pecos River region contains a remarkable record of human occupation across the last 11,000 to 12,000 years (Table 4). Several contributing sites in this district (i.e., Arenosa, Eagle Cave [41VV167], Devil's Mouth, Baker Cave and Coontail Spin [41VV82]) contain deposits that document occupations throughout most of this range of time (Photograph 10, Figure 2). The time depth of recurrent human habitation in these dry shelters with their excellent preservation affords a superb opportunity to understand changes among the precontact hunter-gatherer societies in the southernmost part of the Southern Plains. When data from the deposits is combined with analyses of the PRS imagery on the walls of the region's many shelters, insights into the ritual lives of these groups and their views of the cosmos—how the world was created, how life began, and how life was supposed to be lived—enrich and deepen our understanding of Archaic hunter-gatherers and the ways they interacted with their physical and human environments.

The Lower Pecos River region (see Map 2) is the smallest cultural region that has been defined in Texas, but it is one of the most precisely dated. In the 1960s, archeologists with the University of Texas (UT) took advantage of newly established radiocarbon laboratories to develop the regional chronology (Turpin 1991). Many of these dates have now been calibrated (Whelan and Black 2008) and many more dates from Hinds and Baker caves, Eagle Nest Canyon, and several other regional sites have refined that chronology (see Figure 2). The Native American record in the Lower Pecos River region is conventionally divided into five major periods: Paleoindian, Early Archaic, Middle Archaic, Late Archaic, Late Precontact, and Historic (see Table 4). Shorter

[17] The Seminole Maroons are also known as the Black Seminoles (Mulroy 1993:1).

periods, called "subperiods" that are based on calibrated radiocarbon assays, subdivide the broader periods. The cultural overview below is adapted from Shafer (2013) and Turpin (2004).

Early Paleoindian Period, Aurora Subperiod (>11,500 BP):
During this subperiod, the Lower Pecos River region was a parkland savannah with pinyon pines and junipers in a grassy landscape. Evidence of human occupation of the Lower Pecos Canyonlands during the subperiod is possible but unconfirmed. Pleistocene fauna is present in Bone Bed 1 at Bonfire Shelter (41VV218) and some argue they were butchered by humans. One other small shelter in the region also had scattered bones of burned horse, camel, bison, and bear. Other evidence comes from recent work at Eagle Cave (41VV167), a contributing site located in the same canyon as Bonfire Shelter, where fragmented mammoth bones were associated with lithic debitage and expedient stone tools (Koenig et al. 2016). Radiocarbon assays place the bones of each site in the Aurora Subperiod but the absence of stone tools or other evidence of human presence at the first two sites and the need to complete the analysis of the materials from Eagle Cave leaves the issue unresolved.

Early Paleoindian Period, Clovis Subperiod (11,500–10,800 BP):
As with the Aurora Subperiod, firm evidence of human occupation of the Lower Pecos River region during the Clovis Subperiod is unconfirmed. A few Clovis points have been found on the surface in the region. Clovis occupations have been recorded to the north, northwest, east, and northeast of the Lower Pecos River region, but despite hints of Clovis-age deposits and a possible Clovis point fragment in Eagle Nest Canyon, convincing Clovis occupation has not been documented in the region. DNA of haplogroup B or C, the haplogroups of the earliest migrants to enter the Americas, was found in three Late Archaic coprolites from Hinds Cave (a noncontributing site in the region), indicating an affinity with these early populations (Bryant 2013; Riley 2010). However, much more DNA research would be needed to determine if the ancestors of the three individuals stayed in the region or migrated in at a later date; some of that research could be undertaken at Eagle Cave which has coprolites from the period of significance and a possible Clovis component. Given the Clovis occupation of a rockshelter a scant 100 miles to the east, it is possible that the lack of evidence locally is partly due to the few systematic archeological surveys in the region.

Middle Paleoindian Period, Bonfire Subperiod (10,800–9,400 BP):
The evidence of human use of the Lower Pecos Canyonlands in the Bonfire Subperiod is unequivocal. Bone Bed 2 at Bonfire Shelter contains the remains of an estimated 120 *Bison antiquus*[18] that were stampeded over the cliff above the shelter where they were butchered (Dibble 1965; Prewitt 2013). Radiocarbon dates, Folsom and Plainview dart points, and scraping and butchering tools recovered in situ with the butchered remains corroborate the coordinated killing and butchering of the animals. Plainview dart points, a diagnostic time marker for this period, have also been recovered at the contributing sites of Coontail Spin (41VV82) and Devil's Mouth (41VV188) suggesting the widespread use of the region by these early groups.

Late Paleoindian Period, Oriente Subperiod (9,400–8,900 BP):
Evidence of this subperiod seems to indicate the hunter-gatherers of the region were migrating into the Lower Pecos Canyonlands with the intention of more permanent occupation. Baker and Eagle caves have evidence of baking pits (earth ovens) that were reused by the hunter-gatherers multiple times over the next several thousands of years, grass bedding areas, latrines, and other features which suggest stays of several weeks or a season. During this subperiod, the climate was more arid, mega-fauna from earlier periods were gone, subsistence centered on small game (rabbits, rats, snakes, squirrels, and lizards), and the fiber industry (i.e., manufacture of baskets, rope, sandals, and other woven artifacts) was underway. A broader array of sites

[18] *Bison antiquus* is the species of bison present when the first migrants entered the Americas. Quite large, they evolved into a smaller species, *Bison bison,* which was present in North America by 5000–10000 years ago (Lott 2002).

across the region provide evidence of a greater human permanence in the region, including at Devil's Mouth, Baker Cave, Arenosa, Eagle Cave, and others. All contain radiocarbon dates and diagnostic points of this time frame.

Early Archaic Period, Viejo Subperiod (8,900–5,500 BP):
This long period was also marked by the increasing aridity that began in the earlier Oriente Subperiod. Occupation in contributing rockshelters such as Black Cave (41VV76), Baker Cave, Kelley Cave (41VV164), Eagle Cave, and Arenosa Shelter experienced increasing use as evidenced by thicker deposits left by multiple hunter-gatherer occupations. Seminole Sink, [redacted] was used for the first time during this subperiod. The perishable industry may have begun earlier, but in this period there is more abundant evidence of the use of leaves and fibers from desert succulent plants (especially yucca, sotol, and lechuguilla)—a use that continued for thousands of years. Early human use of another desert plant native to this region—peyote—is evidenced by site 41VV115 and dates to around 5500 BP. Peyote "buttons" (as the small cactus is called) are drawn in the PRS murals that first appear around 4200 BP (Boyd 2003).

Middle Archaic Period, Eagle Nest Subperiod (5,500–4,100 BP):
The Eagle Nest Subperiod was a period of cultural changes amidst a continuation of the dry, hot climate. The changes suggest to some (Shafer 2013:69) that a new population entered the Lower Pecos River region. Others (Turpin 2004) believe the changes indicate that the region's populations were beginning to distinguish themselves from groups outside the Canyonlands. One change was the appearance of Pandale dart points, a beveled dart point that is distinct from earlier forms and has a restricted geographic distribution. Another change was the introduction of a new style of sandal manufacture. Since sandal production and dart point manufacture are learned behaviors passed from parents to children or among adults (McBrinn 2005), the new styles suggest that at least some new people were migrating to the Lower Pecos and marrying local groups.

Middle Archaic Period, San Felipe Subperiod (4,100–3,200 BP):
Warm, dry climatic conditions continued in the San Felipe Subperiod, which roughly coincides with the beginning of the period of significance for this district. The number of open and shelter sites with evidence of occupation are much greater during this period in comparison to earlier periods. Researchers again differ on the reasons for this expansion. Turpin (2004) argues that people concentrated along the region's rivers as upland water diminished. Dering (1999) disagrees, saying the desert succulents were routinely exhausted by labor-intensive earth-oven baking, in turn causing higher mobility on the landscape (Photographs 11-12). Shafer (2013) notes that either is plausible, but also says the trend may indicate in-migration of other populations seeking relief from drought and heat.

Regardless of which model is chosen, all researchers agree that it is in this period when the Pecos River style polychrome art began to be painted on shelter walls. Moreover, the current evidence does not show the art radiating out from a central area to the remainder of the region. Instead, radiocarbon-dated pigment binders from contributing shelters across the region—Mystic (41VV612) and Cedar Springs (41VV696) shelters on the Devil's River, 41VV75 in Seminole Canyon, and Jackrabbit Shelter (41VV576) on the Pecos River (see Map 3)—date to the earliest centuries of the San Felipe Subperiod (e.g., 4200–3000 BP; Bates et al 2015), suggesting that the antecedents to the rituals and narratives represented by the art lie deeper in time (Photograph 13). Turpin (2010) notes that while the murals at sites south of the Rio Grande in Coahuila are unmistakably PRS art, murals more distant from the Rio Grande tend to have murals with little super-positioning, fewer atlatls or darts, and other distinctions; as well, shelters with PRS imagery that are more distant from the river often lack deposits. Such distinctions suggest that the shelters may not have been used as frequently as those to the north, but the underlying reasons for these differences merit much more research to understand.

The PRS imagery is only one of four other art categories found in the Lower Pecos River region. The other styles are Red Linear, Red Monochrome, and Bold Line Geometric, along with Historic period rock art, all originally thought to be later in time. Recent analyses of the stratigraphy of PRS and Red Linear at twelve sites containing both styles revealed that Red Linear elements often *underlie* PRS elements and have never been found overlying PRS elements, indicating it is coeval with or earlier than PRS art (Boyd et al. 2013). Mystic Shelter (Photograph 14) is one of those sites where Red Linear figures are stratigraphically below PRS figures and a dated PRS fragment from that shelter dated to approximately 3900 BP (Rowe 2000). Thus, Red Linear art—a style characterized by Turpin (1984) as made up of small stick figures of humans, deer, and other animals engaged in energetic activities—was also in vogue during the San Felipe Subperiod or preceded it. If it preceded PRS art, then Red Linear may be the oldest known style of rock imagery in the region. In the coming years, two trajectories of research need to be pursued with Red Linear art. One would be to identify fragments of Red Linear art that can be subjected to AMS radiocarbon dating in order to address the relationship between the two styles. The other would be to analyze panels of Red Linear art as Boyd has done with the White Shaman mural to seek a better understanding of their narratives, something that is not possible with current data. Nonetheless, research on the Red Linear panels to date (Turpin 1990:381) suggests these panels may communicate gender roles. Gender role is certainly a significant topic of research for hunter-gatherer societies. Absent further research, Red Linear panels cannot answer the nationally significant questions that the PRS can address such as the world view of these hunter-gatherers.

Shelters with PRS murals that also contain intact middens typically have large quantities of the dart points (i.e., Val Verde, Langtry, and Arenosa) diagnostic of the San Felipe Subperiod. Excavations in these sites reveal some internal partitioning of shelter space. Grass beds are inferred to represent places to sleep. Coprolites are often confined to a specific area in the shelters and some of these latrines were surrounded by stakes (Word and Douglas 1970; Alexander 1974; Maslowski 1978). Plant baking areas (often called earth ovens) show evidence of re-use for thousands of years (Rodriguez 2015, Photograph 15) with superimposed central pits (Hester 2013). Radiocarbon dates from perishable artifacts and features in the middens support the conclusion that they contain components dating to the San Felipe Subperiod.

In sum, during the San Felipe Subperiod the population living in the Lower Pecos Canyonlands increased over levels in earlier periods and sophisticated, complex panels of PRS art (and Red Linear) began to be painted on shelter walls. New dart point styles were also manufactured that tend to be concentrated within the region. The geographic distribution of the dart styles and the polychrome murals distinguish the Canyonlands from surrounding regions.

Late Archaic Period, Cibola Subperiod (3200–2,300 BP):

This subperiod was named the Cibola Subperiod after an inferred mesic period thought to have begun around 3200 years ago resulting in grasslands that encouraged bison to range into the region once again; the Spanish word for bison is “cíbolo.” Bison remains have been found at several regional sites with components dating to this subperiod. Most notable is Bone Bed 3 at Bonfire Shelter (Photographs 16–17) with evidence of as many as 800 *Bison bison* (bison) driven off the cliff above in small batches by humans, then slaughtered and butchered. It is hypothesized that weeks or months later the rotting flesh and bones at Bonfire were ignited by spontaneous combustion in an intense fire (Dibble 1965). Small quantities of bone from bison have also been recovered from several other contributing sites, including Perry Calk (41VV87), Arenosa Shelter, and Eagle Cave. Dart points diagnostic during this Subperiod (Montell, Castroville, and Marshall) differ from the San Felipe Subperiod. Since these styles have a wide distribution outside of the Lower Pecos Region, it has been argued (Shafer 2013) that they were made by hunters from adjacent regions in the Southern Plains or perhaps by local residents who learned of the styles from hunters from outside regions.

Most other material culture from the Cibola Subperiod resembles that of the Middle Archaic San Felipe Subperiod. In this regard, PRS art has also been radiocarbon dated to this period. Not only is PRS art present in many shelters, its presence indicates a continuation of painting narratives that explained or reminded people of their heritage and worldview or cosmos. The persistence of PRS art in the region indicates that, while migrant hunters may have intruded into the region following the bison, they did not replace the local population or the local cosmology.

Late Archaic Period, Flanders Subperiod (ca. 2300 BP):
The evidence for the Flanders Subperiod as a stand-alone chronological period is equivocal and may be better subsumed under the Cibola Subperiod (Turpin 2004). The single diagnostic artifact of the subperiod is the Shumla dart point, a heat-treated point with a narrow stem and a geographic distribution north of the Rio Grande largely confined to the Lower Pecos River region. Heat-treating of chert was not previously common north of the Rio Grande, but it was practiced in Coahuila where some Shumla-like dart points from Mexico date to 3100 BP. Other aspects of the archeological record, including the production of PRS art, remain the same as in the Cibola Subperiod with one exception. Turpin (2004) argues that a noncontributing petroglyph site known as Lewis Canyon (41VV236) may partly date to this subperiod because it contains a pecked dart point that has some resemblance to a Shumla dart point.

Late Archaic Period, Blue Hills Subperiod (2300–1000 BP):
The Blue Hills Subperiod is the final chronological period of the Archaic and of the Lower Pecos Canyonlands Archeological District's period of significance. It began as the climate again turned drier and warmer—similar to the climate in the San Felipe Subperiod. As it did so, bison receded north. Manufacture of Shumla dart points continued and Ensor, Frio, and Paisano dart points also appeared, recovered from Blue Hills components. Ensor and Frio are commonly found in sites across Central Texas that date to the same time frame, while Paisano dart points are more common in the Big Bend region. Other than a shift in projectile point styles, there is little notable change in material culture from preceding periods although the quantity of open sites in the uplands dating to this subperiod is higher than in earlier periods. The production of fiber-based products from the Blue Hills Subperiod is somewhat more elaborate [redacted]

Production of PRS art also continued unabated in this subperiod. Radiocarbon-dated paints from several shelters with art of these styles have returned dates from this period. The White Shaman site is among those with paint dating to the Blue Hills Subperiod. The four samples dated from the site came from four upside down anthropomorphs and their dates average around 2000 BP (Boyd 2016). When first dated, they were rejected as too young. However, six dates of organic binders of paint from other shelters, including the San Vicente shelter in Coahuila and the contributing Black Cave Annex (41VV76), also yielded ages in the Blue Hills Subperiod. Bates and her colleagues (2015:12) states that those dates were initially "considered unreliable due to younger results outside the expected age range for the style, *even though there was no laboratory reason to do so"* (emphasis added). Thus, the younger than expected ages are now being accepted as within the period that PRS art was actively being painted on shelter walls.

Not only was PRS art still being painted on shelter walls, but the messages the murals conveyed appear similar to messages conveyed two thousand years earlier. Boyd's (2003) study of the mural at White Shaman confirms the presence crenelated arches with openings, anthropomorphs (some impaled with spears and two with antlered head dresses), deer, and other elements. These same elements, including impalement with spears and antlered head dresses, are also found on the murals at Mystic Shelter and Cedar Springs (Boyd 2003:42) whose paints

have been dated to 3900 and 3000 BP, respectively, further indication that the prevailing cosmology and ritual traditions in the Lower Pecos Canyonlands endured for 3000 years.

Late Prehistoric Period, Flecha Subperiod (1000–450 BP):
Archeological understanding of this 600-year period remains limited because the upper layers in almost all shelters have been looted or disturbed by goats or other animals. Where Flecha components were identified in shelter middens, they consisted of only a thin veneer above Archaic period deposits. Given these data limitations, it is not surprising that Turpin (2004:274) argues that the period is marked by changes "in artifact types, site types, settlement patterns, exploitation strategies, rock art styles, and mortuary patterns" while Shafer (2013:83) finds "no evidence of any major qualitative shift in the way of life" over the preceding periods. It is known, however, that around 1000 BP the Southern Plains, including the Lower Pecos River region, gradually experienced a climatic shift to a cooler, wetter regime that lasted beyond the Late Prehistoric period. As grasslands were restored, bison gradually ranged into the region.

It is during this period when local people adopted the bow and arrow, resulting in a change in hunting strategies whether the hunt was for small mammals, white-tailed deer, or bison. None of the styles of arrow points found in the region are unique to it. One (Perdiz) has a broad geographic distribution across Texas while the other two (Toyah and Livermore) have a more limited distribution that generally is confined to areas west of the Lower Pecos River region and northern Mexico (Turner et al. 2001). Small amounts of ceramics have been recovered from the Devil's Mouth, and other sites, but very little pottery was made in the Lower Pecos compared to all adjacent regions north of the Rio Grande. Subsistence practices still evidenced a reliance on desert succulents and small mammals, but steeply-beveled end scrapers for hide processing activities suggest that local groups hunted large mammals (deer, bison) when they could. With the cooler climate, people made greater use of the uplands and ring middens (crescentic accumulations of burned rock) were left there. Archaic burial practices of bundled interment in shelter middens also continued. Turpin argues that rock cairns that dot some uplands were burial features, but the only one excavated to date had no human remains.

One thing that clearly changed during this subperiod was the rock art. No longer was PRS art painted on shelter walls. Beginning around 1100 BP,[19] life-sized, frontally posed human figures and realistic animals were painted in red on walls and overhangs in isolated panels. Known as the Red Monochrome style, women appear wearing skirts while men are often depicted with bows and arrows, some pierced by spears or arrows, suggesting that conflict with outside groups may have been known during the subperiod. Like other rock art, these panels likely have a spiritual component, but their scenes do not evoke the ritual quality that is immediately sensed with PRS art.

Another rock art style has also been attributed to the Late Prehistoric period: Bold Line Geometric (Turpin 1986). The style, as its name implies, consists of geometric lines in zigzag patterns sometimes with small human and insect-like shapes. Despite its attribution as a style painted in the Late Prehistoric, no radiocarbon dating of Bold Line Geometric has been undertaken.

Protohistoric Period, Infierno Subperiod (450–250 BP):
The Infierno Subperiod is seen as a separate chronological period in the Lower Pecos River region. The approximately twenty sites associated with the subperiod consist of teepee rings some eight to ten feet in diameter although larger rings are also documented. Some of the sites also contain rectangular cairns. Artifacts

[19] This age is based on a single radiocarbon date of a paint sample.

reported from the sites include triangular arrow points, occasional sherds of bone- and calcium carbonate-tempered pottery, and beveled knives.

Historic Period (350 BP–present):
Evidence of Native American presence in the Lower Pecos Canyonlands during the Historic period is meager. Spain and later Mexico—who claimed title to Texas until 1836—had almost no economic interest in the region, limiting the ethnohistorical records of where or which native groups resided in or used the region (Kenmotsu and Wade 2002). As in the overlapping Infierno Subperiod, the cool and moist climate permitted bison north and south of the Rio Grande. Early Spanish documents recount conflicts between various native groups relating to access to buffalo and other resources, and later documents indicate the incursion of Plains groups (i.e., Apache, Kiowa, Comanche, Tonkawa, and Kickapoo) into the region. They also provide evidence that some smaller populations in this and adjacent regions joined those larger nations. Archeologically, the evidence is quite limited. Three rock art sites in the region bear painted figures believed to represent Spaniards and mission architecture, and several other sites in the region have art depicting Plains warriors (Jordan 2015). The teepee ring sites of the Infierno Subperiod may also be part of this period and a few sites contain metal arrow points indicating late Native American use of the region.

Table 4. Lower Pecos River Cultural Sequence and Time Markers (period of significance in bold; after Shafer 2013:62 and Turpin 2004)

Radiocarbon Years BP	Period	Subperiod	Time Markers
350–present	Historic	Historic	European trade goods, historic rock art, metal arrow points
450–250	Protohistoric	Infierno	Triangular arrow points, pottery, stone circles, tipi rings, historic rock art
1,000–450	Late Prehistoric	Flecha	Perdiz, Toyah, Livermore arrow points
2,300–1,000	**Late Archaic**	**Blue Hills**	**Ensor, Paisano, Frio dart points, Pecos River style rock art**
Ca. 2,250	**Late Archaic**	**Flanders**	**Shumla, Marcos dart points, Pecos River style rock art**
3,150–2,300	**Late Archaic**	**Cibola**	**Montell, Castroville, Marshall dart points, Pecos River style rock art**
4,100–3,200	**Middle Archaic**	**San Felipe**	**Langtry, Val Verde, Arenosa dart points, Pecos River style rock art**
5,500–4,100	Middle Archaic	Eagle Nest	Pandale dart points
8,900–5,500	Early Archaic	Viejo	Baker, Bandy, Early Barbed, Early Triangular, Bell dart points
10,300–8,900	Middle Paleoindian	Oriente	St Mary's Hall, Angostura, Golondrina dart points
10,800–10,300	Middle Paleoindian	Bonfire	Folsom, Plainview, Midland dart points
11,500–10,800	Early Paleoindian	Clovis	Clovis dart points
>11, 500	Early Paleoindian	Aurora	No diagnostic artifacts

NATIONALLY SIGNIFICANT INFORMATION YIELDED TO DATE

Archeological investigations in the Lower Pecos Canyonlands Archeological District have yielded nationally significant information that is invaluable to current and future research. The information that has derived from the sites includes chronological control of the archeological sequence through radiocarbon dating, beginning in

the 1960s. Arenosa Shelter is one of the best dated sites in the Lower Pecos River region (see Figure 2). Sites in the district also yielded informative studies about Archaic resource procurement and diet, and experiments with paints led to a new method of pictograph dating. Most recently, efforts to interpret PRS murals using ethnography and semiotics have resulted in identification of a composition that represents a creation myth.

The deep, rich, and stratified deposits in the dry rockshelters of the Lower Pecos Canyonlands lend themselves to excellent preservation. As a result, unlike many precontact sites elsewhere, the contributing sites contain some of the most outstanding examples in North America of Archaic wood and shell artifacts, mats, basketry, sandals, cordage, and other remains such as human coprolites, faunal remains, and botanical materials (Jurgens 2005). At Baker Cave, Greer (1968:4) said of the area he excavated: "This cave offered an unequaled opportunity to collect materials (including exceptionally well-preserved vegetal remains) in extremely thin and quite easy to follow layers, each possibly representing a single occupation." Excavations in these deposits have yielded data that have provided many in-depth studies of the human ecology of the region during the period of significance through investigation of cultural stability (Alexander 1974) and diet and subsistence (Dering 1999; Johnson 1962; Jurgens 2005; Marmaduke 1978; Riley 2010; Williams-Dean 1978, among others), along with studies to understand how floods have affected the deposits and the human landscape (Kochel 1980; Patton and Dibble 1982).

Nationally significant information has also come from two rock art investigations in the Lower Pecos Canyonlands. The first study led to the advancement of rock art dating worldwide, and this groundbreaking methodology occurred while studying sites in the Lower Pecos Canyonlands Archeological District. In 1986, the Witte Museum in San Antonio awarded a small grant to Dr. Harry Shafer, then professor at Texas A&M University. In turn, Shafer asked Marvin Rowe, a chemistry professor at the same university, if Rowe could identify a new method to date a PRS paint sample from 41VV75 (Photograph 24), a contributing site located in Seminole Canyon (Rowe 2013). Direct dates on rock art paintings at that time had only been obtained on paintings drawn with charcoal. Few pictographs in the Lower Pecos Canyonlands were created with charcoal, meaning that the potential for precise dating of these murals was quite limited. Rowe and his colleagues developed a method to separate the organic binder in the paint from the minerals that color it and then submit the binder for radiocarbon analysis. The 41VV75 sample dated to 3865 ± 100 years BP. Today, thirty-three radiocarbon dates for PRS art have been assayed and range from 4200–1465 BP (Bates et al. 2015), making it a key tool for researchers. The technique, however, has also become invaluable to rock art research elsewhere, and is now successfully utilized in other parts of North America (including at Hueco Tanks) and internationally.

The second study representing a paradigm shift of national significance was Boyd's (2016) recent analysis of the mural at the White Shaman site, which concluded that the murals at this and other sites with PRS art represent narratives of the myths of the people who painted them. Recognizing the work of Campbell (1958), Turpin (1982b, 1986, 1994) and others who argued that the art of the Lower Pecos is shamanic, Boyd (2003:107) agreed but stressed that the art was also a means to communicate:

> Produced by members of an egalitarian society within which direct instruction or order-giving was considered inappropriate, the rock art was a vehicle through which important information and instruction could be disseminated to the community without threatening autonomy.

She argued the murals can be "read" if researchers employ ethnographies of the Huichol, Aztec, and others. These types of advancements open avenues to research non-material aspects of hunter-gatherer lifeways, their cosmology, mythology, and ritual practices, and instructive messages to the people, not just in the Lower Pecos Canyonlands, but in other regions with rich pictographic displays.

NATIONALLY SIGNIFICANT INFORMATION POTENTIAL OF THE LOWER PECOS CANYONLANDS DISTRICT

As indicated by the archeological investigations of both the domestic deposits and the PRS imagery in the district, the Lower Pecos River Canyonlands Archeological District contains resources that offer remarkable potential to address nationally significant research questions, and likely more than most other comparable archeological districts with intact cultural remains and rock art sites. The district contains an array of hunter-gatherer sites with intact, stratified deposits containing a massive amount of perishable material culture (see Photographs 9 and 25) and sites that display a remarkably sophisticated religious, polychrome art that began 4200 years ago (see Photographs 1, 2, and 7, Figure 1). Combined, the middens and the art hold great promise to increase current knowledge of Archaic spiritual beliefs, boundary markers, ritual practices, and material culture. They can inform how the PRS pictographs developed and how the art evolved over time, the philosophical, spiritual, astronomical, social, economic, and ecological factors that influenced choosing places for imagery and habitation; the social contexts of intensified plant-baking and rock imagery, how land tenure was negotiated by Archaic hunter-gatherers; and core values that these people shared with foragers to the south. Study of each of these (and other) nationally significant research questions could change our understanding of the complexity and ingenuity of hunter-gatherer lifeways and belief systems during the Middle Archaic and Late Archaic periods. Information gleaned from the archeology in the Lower Pecos Canyonlands—both the dirt archeology and the rock art—has the potential to rewrite the prehistory of the North American continent.

Nationally significant research questions that potentially could be addressed by data obtained from resources within the Lower Pecos Canyonlands Archeological District relate to the following subject areas:

Development of PRS Imagery and Boundary Maintenance.
Barth (1998:6) states that the study of ethnicity is the study of "social organization of cultural differences," because ethnic groups often form as a result of interaction with others. In that process, groups establish boundaries, albeit permeable ones, to distinguish their integrity and uniqueness by signaling cultural differences with other groups. Such differences can be signaled by unique forms in ceramics, projectile points, settlement patterns, food preferences, rock art styles, or a variety of other ways. Barth suggested that the boundaries between ethnic groups and how those boundaries are maintained should be the focus of research. A social boundary structures and channels the behavior of all groups—hunter-gatherers and urbanites alike. One's identity as a member of a social or ethnic group includes a common, shared means of communication and interaction. Outside individuals or groups are "others" and as such have less insight into the group's shared knowledge and understanding. The boundary may be rigid or quite permeable with a continual flow of people, information, and material culture. The ethnic group may also persist when the "cultural stuff" changes, if the members of the group continue to think of themselves as different from "the others."

Archeological research of cultural stylistic differences through time and space has been a common and effective method of understanding boundary maintenance and social or ethnic identity. Recent studies have shown that ethnic identification and boundary maintenance intensify in situations where people compete for space and resources (Lightfoot and Martinez 1995). In periods of subsistence, social, or economic change, territorial boundaries would be under pressure and it has been proposed that more conspicuous forms of boundary maintenance emerged during these times. The contributing sites in the Lower Pecos Canyonlands Archeological District present an outstanding opportunity to study processes of boundary maintenance operating among Archaic hunter-gatherers in North America.

Archaic period art is a religious expression that indirectly communicated useful information to the hunter-gatherers of the region (Boyd 2003:107; Turpin 2004; Whitley 2011a). In addition to conveying information

about religious concepts, the PRS art can also be understood to have communicated a territorial boundary to "others" from outside of, or traveling through, the Canyonlands. While some of the art is difficult to see hidden in shelters or alcoves (such as Hidden Shelter [41VV408] and Raymond's Shelter [41VV286]), many of the sites in the district, including Eagle Cave, are large, open, and easily visible as one moves across the terrain. Indeed, the modern archeological boundary of the Lower Pecos River region is defined by the extent of PRS art (see Photographs 1-3, Figure 2). As another example, projectile point styles during the Middle Archaic—when PRS art began—also changed from earlier periods and those styles had a geographic distribution generally restricted to the region. Together, the dart point styles and the paintings would not necessarily suggest intent to keep "others" out, but do suggest a way to inform outsiders about the boundaries of the region.

While the dart point styles and the paintings on shelter walls are visible evidence of a territorial marker, they beg the question of why these hunter-gatherers felt it necessary to mark their territory so prominently and what decisions or events, or both, led to this implementation. In this regard, it is important to note that the artistry appears full-blown, not a style in its infancy. Two contributing sites with the earliest radiocarbon dates for this artistic style (Mystic Shelter and Jackrabbit Shelter [41VV576][20]) contain highly complex, dense examples of PRS art (Photographs 13-14), not art that was created in a nascent stage—an indication that still earlier antecedents of the imagery should exist. Clearly, the myths conveyed by the art were already well established, but something triggered the need to paint them on the walls of shelters and overhangs. Do panels of imagery at sites on the region's periphery exhibit information distinct from the White Shaman site located on the Pecos River far from the district's boundaries, perhaps about concerns for their ancestors or narrations related to a particularly powerful shaman who could ward off adversity? Do the intact cultural deposits at sites on the periphery with components dating to these periods exhibit conflict? Does the material culture at peripheral sites differ in significant ways during the period of significance from those located deep within the Lower Pecos Canyonlands Archeological District at sites such as Eagle Cave, Fate Bell, or Black Cave?

The Roles of Material Culture and Non-Material Culture in Identity Formation.

Understanding the relationships between material and non-material culture and social boundaries is essential to the study of the past (Dietler and Herbich 1998). Material culture (ceramics, projectile points, architecture, etc.) is a primary medium used to infer information about past social formations. For example, maps of known resources are often used to illustrate the inferred boundaries, such as Map 2 with the inferred boundary of the Lower Pecos River region. Non-material culture (e.g., interaction spheres, group size, mobility patterns, marriage partners, belief systems, and other social strategies) are also inferred using material culture, often with the aid of ethnographic analogies and ethnohistorical resources. Unfortunately, the sites of many Archaic hunter-gatherer groups in Texas and elsewhere in North America exhibit a fairly homogenous material culture spread over broad areas—areas too large to represent local groups and communities in small-scale societies. This inhibits meaningful inferences about the complexity and dynamism of Archaic communities.

In contrast, the PRS imagery found within the Lower Pecos archeological region presents a remarkable opportunity to directly study one aspect of non-material culture: the belief systems of Archaic groups from 4200–1000 BP (see Figure 1). Researchers have shown that precontact rock art in North America communicates information about a community's environment, belief systems, and activities to the members of that community, and that the art may be drawn by a shaman for that purpose (Boyd 2003; Conkey 2001; Schaafsma 1980; Turpin 1994; Whitley 2012). From her recent analysis of the art at the White Shaman site, Boyd (2016:160) argues the art panel there "served a purpose very similar to that of the painted books referred to as

[20] The radiocarbon date from Jackrabbit Shelter is one of the oldest radiocarbon dates in North America from any rock painting subjected to this analysis.

the Mexican codices." It was planned and executed to pass the community's knowledge or wisdom to future generations.

Future studies of PRS art, aided by radiocarbon dating of the organic binders used in its paints, have tremendous potential to increase understanding of the art tradition's endurance and the myths and the prescription for rituals that the art panels imparted to viewers. Such studies could also investigate how motifs and stories in the panels evolved over the district's long period of significance and whether the evolving stories reflect climatic or other environmental or social changes. Analyses of other PRS panels at sites miles from the White Shaman site may reveal slightly altered versions of the creation story, supporting the notion of distinct communities operating within the broader region. Alternatively, the alterations may equate to an evolution in the spiritual beliefs. Radiocarbon dates from White Shaman indicate it was painted about 2000 BP; two contributing sites on the Devils River (Mystic and Cedar Springs) date about 2000 years earlier (Photographs 14 and 26). Analysis of the latter two panels may allow study of these non-material cultural issues.

Technological study of the imagery found in the shelters and overhangs spread across the region—comparing how the paint was applied, the techniques used by the artist, the sizing of individual figures, and other technical aspects of individual panels—may also reveal subtle differences marking boundaries of smaller kin- or clan-based groups within the larger region. Such a data set could be combined with detailed analyses of the material culture from the same or adjacent shelters to detect differences in technical choices made in the manufacture of mats, baskets, projectile points, bifaces, ground stone, or other tools that also reflect intra-group social boundaries. Equally important, these detailed analyses have tremendous potential to assist in detection of the boundaries of small, local systems during the Archaic in regions elsewhere that lack imagery drawn as a planned composition.

Investigation of Deep Memory through Artistic Motifs.

The contributing sites of the Lower Pecos Canyonlands Archeological District present an unparalleled opportunity to initiate study of deep religious memory among North American indigenous peoples.[21] Much hunter-gatherer art on the continent contains entoptics[22] that are less easily subjected to modern interpretation.[23] In contrast, PRS art was not only painted as deliberately planned compositions over a period of days (Boyd 2016; Grieder 1966; Howard 2016; Kirkland and Newcomb 1997), but it contains deer, panthers (mountain lions), atlatls, darts, and the human-like anthropomorphs, among a graphic vocabulary of other distinct and repeated motifs, that are fairly easy to identify in the panels (Photographs 1-3). It can also be dated, and direct dating of the art shows it to be as much as 4200 years old (Bates et al. 2015). All four of these aspects of PRS art are critical to the study of deep memory.

To place this research issue in context, Mystic Shelter, with paint whose organic binder dates to 3920 ± 120 BP (Rowe 2001), contains what may be the earliest known depiction in North America of a horned serpent, a motif hinted at in similar relatively thick wavy lines across other PRS panels at other sites. At Mystic Shelter, the left end of the red waving line has a head and horns (Photograph 27). It represents a horned serpent. Horned serpents are an integral part of the rock art of the Jornada Mogollon in west Texas and southern New Mexico, including at the significant site of Hueco Tanks (41EP2) (Loendorf et al. 2013; Schaafsma 1980). In that region

[21] Deep religious memory here refers to religious beliefs that are rooted in quite ancient beliefs, that are pervasive in the cosmologies of many Native American indigenous peoples, and that have similar meanings among those indigenous peoples.

[22] Entoptics consist of geometric shapes such as zigzags, dots, spirals, grids, etc. that are generally believed to have been seen by shamans in visions when they are in altered states of consciousness and later painted or pecked on rock surfaces (Francis and Loendorf 2002; Lewis-Williams and Dowson 1988; Whitley 1992).

[23] Whitley (2011a), Layton (2001), Francis (2005), and others, however, have demonstrated that careful and extensive ethnographic study can and has led to interpretation of entoptic glyphs.

horned serpents and other motifs (goggle-eyed figures and stepped or cloud terraces) do not gain prominence in the rock art until around 1700 BP and are believed to have served in "coaxing the rain" needed for crops (Loendorf and White 2012:200). After 900 BP, when dependence on corn and other cultigens had increased, Miller (Miller et al. 2012:25) has demonstrated that the same motifs are also expressed on Jornada Mogollon ceramic vessels, in bone, stone, shell, groundstone and wood artifacts. While the residents of the Lower Pecos were hunter-gatherers, not small scale farmers, they too needed the rain. The wild foods they depended on required regular infusion of water to grow, and Boyd (2003) discusses how an important part of their cosmology related to the peyote cactus which is best harvested after the rain comes. Hence, the horned serpent, as a guardian or harbinger to bring the rain, could have been as important to the hunter-gatherers in the Lower Pecos as to the farmers in the American Southwest.

Similar serpent-like motifs can be seen on ceramics from Middle Hopewell (ca. 1700–1000 BP) mound burials (Buikstra and Charles 1999).[24] Called birds, each has a long, undulating body and a projection from its head. Importantly, the authors state these birds represented "liminal beings that move between landscape domains" such as land to water where water is perceived as the symbolic entry to the underworld. In a like fashion, caves represented the jaws of a serpent to the Aztecs, the Huichol conceive the world surrounded by the sea which is a large serpent, and the Hopi believe a horned water serpent oversees the waterways below the earth (Boyd 2003:50–55). Combined these examples suggest that a cross-cultural study of the use and meanings assigned to selected motifs throughout North America, such as the serpent motif, would yield significant new insights into indigenous belief systems. For example, the horned serpent is at Mystic Shelter which has been radiocarbon dated to 3900 B. P. (Rowe 2001), well before the appearance of horned serpents in the other regions.[25] More research would be needed to determine if the use of the motif elsewhere was borrowed from the Lower Pecos Canyonlands. However, as Furst (2006), Miller (2012:25), Thompson (2000), Schaafsma and Taube (2006), and others have noted, the similarity in cross-cultural patterns of symbolic expressions among Middle Hopewell, Jornada, Hopi, Aztec, Huichol, and Lower Pecos cultures suggests sacred meanings for Native Americans have deep origins in time.

"Wisdom Sits in Places" and Choices Are Made.

Taken from Basso and his Western Apache informants (1996), this nationally significant research issue focuses on investigating how the geography of the Lower Pecos region contributed to the formation of group cohesion and land tenure during the Middle and Late Archaic periods. The Western Apache use the term "Wisdom Sits in Places" to reflect about the named places where they live that give them a sense of place:

> Experienced in this way…sense of place may gather unto itself a potent religious force….Fueled by sentiments of inclusion, belonging, and connectedness to the past, sense of place roots individuals in the social and cultural soils from which they have sprung together, holding them there in the grip of a shared identity, a localized version of selfhood…. Accordingly, features of the Apache landscape…and the many tribal narratives that recall their mythical importance are viewed as resources with which determined men and women can modify aspects of themselves, including, most basically, their own ways of thinking (Basso 1996:85).

Land tenure was important to all North American groups, including Archaic hunter-gatherers. It regulates the land and the people using it (Kelly 1995). Data obtained from resources in the Lower Pecos Canyonlands Archeological District is uniquely positioned to investigate how land tenure operated during the Archaic among

[24] Burial Feature 6, Mound 7, from the Elizabeth site in Illinois.

[25] Boyd (personal communication January 2016) believes this horned serpent may be the earliest example of these glyphs in the Americas.

the region's hunter-gatherers, and as a way to investigate land tenure among Archaic societies where territorial boundaries are not as well marked. As is noted in Section 6 of this nomination, the excavations at contributing sites like Arenosa, Devil's Mouth, Baker Cave, Perry Calk (41VV87), Coontail Spin (41VV82), and others have clear evidence that people repeatedly returned to occupy these same sites; Howard (2016:167), following others, calls them "persistent" sites. Significantly, deposits potentially containing evidence of such re-occupations during the period 4200–1000 BP in the district's contributing sites are generally intact. These shelters were favored places on the landscape. Moreover, many of them contain rock art that is religious and unique to this region (Boyd 2016; Turpin 1994; Whitley 2012). Yet, there are also many shelters throughout the region with no evidence of human occupation or rock imagery, an indication that choices were made about where or where not to stay, or where to create elaborate murals.

PRS art is known to be present in at least 235 shelters in the Lower Pecos Canyonlands.[26] Many (but not all) of those shelters have midden deposits that include components dating from 4200–1000 BP. Other shelters in the Canyonlands, such as Arenosa, Coontail Spin, and Baker Cave, lack PRS imagery but have significant evidence of recurrent occupations during the Middle and Late Archaic periods. Again, this evidence underscores the notion that during the period of significance selection of places for habitation, imagery, or both were made as deliberate choices. That the ancient peoples of the Lower Pecos deliberately chose and repeatedly reoccupied favored locations during this time suggests that these sites fit into a well-developed sense of place. Future studies may also investigate whether the Lower Pecos Canyonlands, with the volume of PRS murals, was a pilgrimage destination from other regions.

What is not as clear are the factors that led to those choices and whether influential factors changed through time or seasonally. Ecological and/or practical factors appear to have played a contributing role in many decisions. Some shelters likely lack evidence of human use because they were as inaccessible or unsuitable in prehistory as they are today. The Curly Tailed Panther site (41VV18) consists of a few shallow overhangs with PRS art but no deposits at the top of a bluff overlooking the Devil's River (Photographs 4 and 18). Its floor slopes to the cliff edge, dropping abruptly some 61 m to the river which likely discouraged occupation of the shelter. Similarly, High Country Shelter (41VV888) is a shallow overhang with little floor space that contains PRS imagery but no midden deposits (Photograph 19). Some contributing sites contain deposits but no art, such as Coontail Spin, because the shelter formed in honeycombed limestone where art panels could not be painted.

Nonetheless, many accessible shelters in the region remained unused, but the reasons for the choices made are less clear. The priorities behind these choices were governed by a range of traditions and meanings within the larger population that enabled access to and use of resources (see Kelly 1995). A study of land tenure in the Lower Pecos Canyonlands would investigate whether choices were determined by access to economic resources, by group affiliation, by access to walls suitable for painting, by prestige competition, or by other forms of negotiated property rights.

The investigations should incorporate DNA studies of coprolites [redacted] to determine if generations of the same families repeatedly returned to the same shelter. If this were the case, then do these generational family ties to selected places on the landscape correspond with the variable attributes of anthropomorphs—such as the "rabbit ears" motif on their heads (Photograph 2) found predominately west of the Pecos River? Such findings would enable researchers to map intra-regional boundaries within the larger region and begin to evaluate the social, religious, economic, and ecological factors involved in regulating land tenure, including which shelters were chosen for habitation and rock art imagery and which were chosen for only imagery. The findings of these

[26] The sites with PRS panels included in the nomination are those that have been closely studied and are known to meet Criteria 5 and 6. Future study may reveal that other sites with PRS imagery also qualify for the district.

studies could then be compared to Archaic sites in other regions to investigate the range of behavior that governed land tenure of other Archaic foragers.

Investigation of the social organization of the people inhabiting the Lower Pecos River region is another nationally significant research topic that relates to land tenure. "Mobility has long been considered one of the distinguishing characteristics of hunter-gatherers" (Kelly 1995:111). Kelly argues that many anthropologists long opined that hunter-gatherers moved around the landscape with great frequency. Some do. Others, however, move infrequently as mobility is tied closely to the environment in which each group resides (Kelly 1995:120). As noted above, the PRS art appears to mark the boundaries of the hunter-gatherers of the Lower Pecos River region, signaling to others that this was "their" territory. If so, then this region presents a cohesive, organized settlement location signaling the transition from a more nomadic, highly mobile population to a more sedentary hunter-gatherer society. That transition would require new norms and expectations about how to share resources, land, and knowledge. "The basis for much of the behavior labeled territoriality…is the product of individuals making decisions about whether and how to share the right of resource use with others. These decisions are embedded in a complex intellectual process whereby people come to share an identity" (Kelly1995:189). Given that the decisions about these issues are made individually or family by family, and that mythology is a part of the complex process of making those decisions, the domestic deposits and the PRS imagery together are uniquely suited to investigating the social organization operating (and perhaps in flux) in the Lower Pecos River region during the period of significance.

Archaic Ritual Practices.

Rituals are repetitive behaviors carried out at socially prescribed times to convey messages to participants (Hicks 2001) and have always been an important part of the lifeways of hunter-gatherers (Kelly 1995). The ritual occasion would also have been an occasion for exchange of information and goods, rites of passage, identification of marriage partners, and other types of social activities. Researchers (Boyd 2003, 2016; Grieder 1966; Jackson 1938; Kirkland and Newcomb 1997; Turpin 1994) have long argued the act of painting the PRS murals was itself a ritual practice. In part, this argument is based on the quantity of sites where it was painted, the compositional nature of the art, and the persistence of its formalized, rule-governed style and attributes for 3000 years in the Lower Pecos Canyonlands. Its persistence alone is considered evidence that it had great significance for the Archaic hunter-gatherers here. As well, many of the panels are large, extending on to ceilings and would have required construction of scaffolding to paint (Photograph 28). Sometimes called 'grand galleries,' the murals are incredibly complex (Photograph 2, Figure 1) and there is evidence that many figures were first outlined with charcoal or other materials prior to their execution. Stratigraphic analysis of panels at some sites has shown that the colors in each panel were applied one at a time: first black, then red, then yellow, and finally white (Boyd 2016; Lee 2016). Such patterns are likely to be found at many other sites in the region. Given these complexities, the painting of shelters and overhangs would probably have been ritual occasions—and painting the scenes at the larger shelters quite possibly could have been attended by large numbers of people over multiple days.

Despite general agreement among archeologists that the painting process was at least somewhat ritualized, investigations in shelter deposits have not been directed at exploring the archeology of ritual. Given the richness of the deposits, the shelters of the Lower Pecos Canyonlands Archeological District present a superb dataset to explore the signature of ritual practice in the region. As one example, the remains of earth ovens (used to cook the hearts of sotol and lechuguilla and the pads of prickly pear, among other foods) are present in many of the contributing shelters, such as Eagle Cave, Raymond's Shelter (41VV286), and 41VV75. They present remarkable opportunities to study whether the social contexts of intensified plant baking are related to the rock imagery and ritual. Elsewhere, recent investigation of sixty-six earth ovens found that the total volume of rock required to create these features weighed 197 tons (Miller et al. 2013). This quantity of rock had to be

transported to the site, and Dering (1999) estimated that every earth oven also required the transport of 224 kg of wood as fuel. Given the significant labor costs, Miller et al. (2013) suggest that this investment may represent important social and ritual functions beyond subsistence that involved large groups.

The Lower Pecos Canyonlands' shelters also contain a rich amount of perishable artifacts in their deposits. Previous radiometric and other modern analyses of these artifacts indicate that they have significant potential to reveal how sites were chosen for ritual practice and how decisions were made for where and when to create these large, labor-intensive cooking features. Thus, the social and ritual context of intensified plant baking and the painting events can be studied at these shelters.

Additionally, the cultural deposits and earth oven features and collections from sites with rock art can be compared to those from contributing sites that do not contain art (like Baker Cave, Devil's Mouth, and Arenosa) to explore differences that suggest ritual activity. For example, do their earth ovens or collections differ in size, use intensity, or other ways than those in shelters with art?

A final example of the Lower Pecos Canyonlands Archeological District's outstanding potential to inform hunter-gatherer ritual practices is Bonfire Shelter (41VV218). A contributing site located in Eagle Nest Canyon, it is significant on many levels. Bonfire's deposits contain an intact, stratified series of human-driven bison jumps during the Paleoindian and Late Archaic periods. After ca. 7000 BP, the environmental data indicate that the Lower Pecos Canyonlands had become too arid and warm for bison. Between 2800–2500 B. P, however, cooler and more mesic conditions prevailed and during this time, hundreds of bison were driven over the cliff above Bonfire (Photographs 16 and 17). Researchers estimate they were driven in more than one jump event (Prewitt 2013). A portion of the bone bed burned in an intense fire perhaps as the result of spontaneous combustion of decomposing bison carcasses (Dibble 1965) or perhaps deliberately to reduce the stench. Regardless, the smoke would have been seen for miles, making that, too, a part of the Bonfire's legacy.

We know from the First Peoples Bison Jump National Historic Landmark in Montana and other Northern Plains examples that bison jump localities represent sites with a complex history (Aaberg 2014; Herrmann 2017). Drive lines were carefully designed and planned as were the processing activities, requiring considerable quantities of time and people to successfully exploit bison behavior. These communal hunts are considered examples of a complex social organization.

Given these factors, each event at Bonfire had to have been of enormous significance to the people living in Eagle Nest Canyon and beyond. Preparation for the bison drive would almost certainly have required personnel greater than those living in the immediate area. Moreover, each bison drive would have created an instant availability of meat, hides, sinew, and other important commodities that could be eaten, traded, negotiated for, used to repay debts, and argued over. Real and fictive kin would have traveled to the canyon to participate in rituals (including feasting) associated with the events. News of each event also would have been widely shared, even among those not invited to share in the bounty, and the events at Bonfire surely became part of the region's oral history. Hence Bonfire's events present an outstanding opportunity to study ritual, feasting, and exchange that would have taken place among a large number of people in Eagle Nest Canyon around the timing of the bison jumps. Other studies could include analyzing pictograph panels drawn in or near Eagle Nest around this time frame to look for evidence of the Bonfire events being incorporated into the region's visual narratives.

Other Nationally Significant Information Potential of the Lower Pecos Canyonlands Archeological District.
Research on changes in the PRS imagery in the Lower Pecos Canyonlands Archeological District during the period of significance could contribute to an understanding of how spiritual beliefs evolved (or not) and what factors contributed to that evolution. Stylistic and iconographic differences between the murals at one site and

murals at other sites have been recognized since the 1930s. More recently, researchers have shown that while PRS art exhibits a unified graphic vocabulary, geographic variations exist across the region (Boyd 2003; Harrison 2004; Turpin 1994, 2010). For example, the u-shaped or "were-jaguar" heads of anthropomorphs is common throughout the region including at PRS murals in Mexico. In contrast, the "feathered hip cluster" motif is found on many anthropomorphs in the Seminole Canyon area but not elsewhere. Similarly, the "rabbit ears" motif on anthropomorphs can be seen in a few murals (predominately at the Rattlesnake Canyon site, Photograph 2) but not at most sites. These and other geographic variations merit closer study and research to determine if they may reflect differences in the narratives displayed on the walls, in clan markers, the evolution of the art through time, or something else.

Jackrabbit Shelter contains extremely significant PRS art dating to the Middle Archaic period. Dates (4200 BP) for its art suggest it may be one of the earliest panels painted in North America. Jackrabbit's early date is critically important in a number of ways. First, full analyses of the panel, in the manner Boyd recently completed at the White Shaman site, have tremendous potential to reveal some of the core features of the cosmology of the Lower Pecos Canyonlands. Given its early date, the Jackrabbit panel may depict the most fundamental beliefs of their system. Second, comparison of these core beliefs with those depicted on the White Shaman mural, which dates some 2000 years later (Bates et al. 2015), has the very exciting potential to explore how or if those core beliefs changed through time. Third, the panel at Jackrabbit has incredible research value if compared to panels at Cedar Springs and Mystic Shelter, two sites located on the Devils River whose radiocarbon dates are slightly younger than the dates from Jackrabbit. Are scenes of anthropomorphs moving into another, higher universe static at all three? Is there any indication that snakes or early renditions of snakes are in Jackrabbit, as they are at Mystic, or do they become part of the cosmological pantheon slightly later?

Size and content of the shelters vary and presumably these differences have cultural meaning. Most shelters with pictographs in the region have relatively wide mouths and the murals can be seen across a canyon. Often they also contain deep midden deposits suggesting they intermittently housed multiple families, even when others such as White Shaman lack deposits. Some sites have prominent views such as at 41VV40 (Photograph 29). Other contributing sites, however, such as Jaguar (41VV584), Hidden Shelter (41VV408), and Curly Tailed Panther, are in smaller, often dark spaces. Boyd (1997) wrote that in Jaguar Shelter "the rock art, although still PRS, has a different mood….[It] doesn't appear to have been painted for 'mass consumption.' It does not have a 'platform' for viewing across the canyon and the art is placed on the shelter wall at such an angle that viewing from across the canyon would be very difficult." Closer study of these smaller shelters is needed to unlock their meanings. Smaller, they have less prominence on the landscape. Were only shamans or a significant few permitted entry? Do they concentrate in one time period? Do the narratives on their walls hold unique information that is not intended for the larger population as at the bigger, more open shelters?

Why were many PRS panels painted in proximity to one another? The Rattlesnake Canyon site (41VV180) is in a short canyon with three other sites (41VV204, 206, and 628) that also contain PRS art. Similarly, Eagle Nest Canyon and Seminole Canyon contain multiple sites in proximity to each other that contain PRS imagery. Other examples are found in side-by-side shelters such as 41VV888 and 41VV889. Multiple panels of imagery near one another suggests each may have imparted different pieces of local wisdom important to the local community about highly charged topics such as death, customs, fire, or migration. However, this hypothesis needs careful research to verify.

Planning and painting the murals in these rockshelters and overhangs took a great deal of time for the artist and his/her helpers. During painting, others would need to hunt or gather for the artist and other helpers. This suggests social stratification within the group, but that topic would require greater study of shelter deposits.

COMPARATIVE ANALYSIS

The middens and the art in the Lower Pecos Canyonlands Archeological District contain great promise to increase current knowledge of Archaic spiritual beliefs, boundary markers, ritual practices, and material culture. They hold data pertinent to the investigation of how the PRS pictographs developed and how the art evolved over time; the philosophical, spiritual, social, economic, and other factors that were involved in choosing places for imagery and habitation; the social and ritual contexts of plant-baking in sites with rock imagery; negotiation of land tenure by Archaic hunter-gatherers; and whether core values were shared with foragers to the south. Study of each of these nationally significant research questions has the potential to alter our understanding of the hunter-gatherer society during the Middle Archaic and Late Archaic periods. Given these attributes, the dirt archeology and the rock art together have the potential to contribute to theories related to hunter-gatherer social organization, complexity, and religious beliefs across the North American continent.

To place the Lower Pecos Canyonlands Archeological District in context, it will be compared to several properties in the western United States. Three rock art-related properties are designated as NHLs in this broad area: Pictograph Cave in Montana, Coso Rock Art District in California, and Carrizo Plain Archeological District also in California. Of these three NHLs, the Lower Pecos Canyonlands is most similar to the Carrizo Plain Archeological District.

Pictograph Cave contains some 100 pictographs, many of animals, but also warriors and rifles. These images appear to have been painted intermittently over a long range of time beginning approximately 2000 years ago and continuing into the Historic period (Montana State Parks 2017). Its time period, in addition to the intermittent and individualist nature of the art is distinct from and not comparable to the age or planned compositions in the art of the Lower Pecos Canyonlands. Similarly, PRS art is not comparable to the Coso Rock Art District, which consists primarily of numerous petroglyphs (over half of which are bighorn sheep) left on darkly varnished basalt boulders and cliffs (Whitley 2012). The art is, at best, loosely associated with domestic deposits in the region, and Whitley (2012:27) stated: “locational associations between the art and other kinds of archeological remains appear to be coincidental, not intentional.” The petroglyphs were composed intermittently over a long period of time and thought to have been created by Numic shamans who came from all over the Great Basin to conduct vision quests to obtain the power to make rain (Whitley 2012). While the Coso rock art is shamanic, it is not comparable to the composed murals in PRS art, nor does the data indicate that the Coso art dates as early.

In contrast to Pictograph Cave and the Coso Rock Art District, the Carrizo Plain Archeological District and the Lower Pecos Canyonlands Archeological District do share some similarities. Both are comprised of pictograph sites with and without cultural deposits that were painted in the same approximate period. Each also contains some sites with cultural deposits but no rock art. Additionally, both are thought to represent cohesive sociopolitical units. As well, a few of the larger panels at sites in the Carrizo Plain appear to have been planned and coordinated in the same sense that the PRS murals were. That is, some of the murals were created as a single coordinated event when large quantities of pigments had to be gathered, and scaffolding had to be constructed to reach inaccessible surfaces (Whitney et al. 2006). Despite these similarities, there are marked differences between the two districts.

Named after the National Monument where it is located, the Carrizo Plain Archeological District consists of 100 sites in eight site complexes located around exposures of the Vaqueros Sandstone on the foothills at the northeastern front of the Caliente Range in central California (Whitley 2012). The 100 sites represent the bulk of the known sites in the larger National Monument. Its complexes are relatively close together and surveys in surrounding areas have determined that those lands have a very low archeological site density with few to no

sites, indicating that this geographic cluster was a sociopolitical unit. Eighteen of the sites contain rock art. Most art is polychromatic (red, black, and white) but some have petroglyphs. Much of the art is expressed on open sandstone outcrops, some with multiple panels, but some art is in crevices and small rockshelters. The figures in the art consist of anthropomorphs, turtles, rattlesnakes, and geometric shapes with images often piled on top of each and with planned compositions only in the larger panels. Eighteen sites contain imagery, and these are either within or very close to village middens, suggesting that the art was the work of shamans, each associated with an individual village (Whitley 2012). The archeological record from the middens suggests that the art dates from 4000–800 BP (Whitley et al. 2006) but the period of significance for the entire district is 10,000–200 BP.

The Lower Pecos Canyonlands Archeological District differs in several ways from the Carrizo Plain Archeological District. The two districts differ environmentally. The Carrizo Plain sites are along the Caliente Range, one of the coastal ranges of California. As a result, they are within an oak, chaparral, and grassland-dominated area. The Lower Pecos Canyonlands Archeological District contrasts dramatically with that region. It is a rough, rocky, dry area dominated by deep, narrow limestone canyons that have cliffs of hues of buff, gray, and white above the blue ribbons of water below (Photographs 5, 18–21). Soils on the uplands above the canyons are shallow and rocky. Winters are dry and summers are quite hot and droughts frequent. Vegetation varies according to the quantity of rain: mesquite-acacia and grasslands in the east, juniper-oak and grasslands in the north, and sotol-lechuguilla-creosote in the west. This land can be harsh and during the period of significance, the Middle and Late Archaic periods, when environmental records show it was much drier, it was even harsher.

A more important distinction between the two districts is the content of their rock imagery. Both styles are dominated by polychromatic pictographs. However, the Carrizo Plain figures were painted on open sandstone faces. They are moderate in size but made impressive by the quantity of figures and the vibrancy they would have exhibited at the time they were painted. While each figure was planned, many Carrizo Plain panels do not appear to represent one large composition, but rather a series of individual paintings. In some cases, natural features of the sandstone panels—small hollows, crevices, cracks—were employed as part of the individual figure, displaying creativity and innovation to provoke viewers to imagine lines going into the rock face. These paintings, done in a setting that distinguishes them from the broad inland valley below, give them an aura of drama.

In contrast, the PRS art in the Lower Pecos Canyonlands, dating from 4200–1465 BP, was undertaken on the limestone walls of rockshelters and overhangs—a few of them small, but the majority in moderately large or quite large spaces. These spaces appear to have been chosen, in part, to display the art, informing the viewers of their messages. The panels contain an abundance of polychrome figures, dominated by anthropomorphs ranging from a few centimeters in size to eight meters (Boyd 2003). These human-like figures are often surrounded by deer, panthers, darts, and enigmatic elements. The anthropomorphs usually face to the front with outstretched arms and many wear antlers on their heads. Investigations of PRS art demonstrate that these panels were painted as planned compositions (Gebhard 1966; Kirkland and Newcomb 1997) and through ethnographic analogies have been shown to depict the mythologies of the hunter-gatherers who painted them (Boyd 2016). This content—each mural painted to illustrate in great detail a myth—differs from the intent of the content of the Carrizo Plain where the individual elements had significance on their own merits that would not necessarily relate to the entire panel as a single, coherent story or myth. The execution of the panels from the two districts also followed different processes. Many of the PRS panels are quite large, often stretching up to the ceilings of the shelters. These panels can be quite long; the contributing Rattlesnake Canyon mural is over 32 m long. Their size and height indicate they took a considerable amount of time and a number of people, along with scaffolding, to create. While some larger Carrizo Plain panels required scaffolding and logistical efforts to obtain and prepare paint, the production and planning of the PRS panels—where every

figure, every super-positioning was planned and often outlined prior to painting—is on a different scale. These factors indicate the painters and their assistants were, for some period of time, occupied in creating and preparing the art panels, not in foraging and other daily activities, meaning others in the local group had to forage and feed them. In turn, this suggests some level of stratification was operating within the hunter-gatherer society.

Of the twenty-seven shelters included in the Lower Pecos Canyonlands Archeological District that contain PRS art, twenty also contain cultural deposits. The remaining eight sites are a combination of rockshelters and open terrace sites that lack art. The sites with deposits contain deep, intact, stratified middens with impressive components from the period of significance. Because these deposits are in dry caves, they differ from the open village sites in the Carrizo Plain in retaining a remarkable inventory of perishable materials, including grass beds and other botanical materials, coprolites, woven mats and baskets, large quantities of cordage, sandals, wood tools and other artifacts, and much more (Photographs 22-23). Given the condition of these deposits and the collections from investigations of them in the past, future research can investigate the ways this society integrated their art with their daily activities.

Like the Carrizo Plain sites, the Lower Pecos Canyonlands Archeological District exhibits a firm cohesiveness that indicates the region was the domain of a single socio-political unit. This cohesiveness, together with the combination of the imagery and the rich, intact deposits that relate to a single socio-political unit makes the Lower Pecos sites nationally significant. What distinguishes the sociopolitical units is the size of the respective regions. The Carrizo Plain Archeological District is contained in 12,578 acres. The Lower Pecos Canyonlands Archeological District contains thirty-five contributing sites that are representative of the cultural region—the Lower Pecos River region—of which it is a part.[27] That region contains over 2,000 recorded sites and it is likely that many more unrecorded sites are present in areas of Texas and Mexico that have not been subjected to survey. This region covers approximately 3,500 square miles in Texas and approximately 3,000 square miles in Mexico, although the Mexican component needs additional research to confirm its boundaries. While not all sites were occupied at the same time, they were spread across a much larger physical area than the Carrizo Plain district but were able to maintain their cohesion despite that geographic separation, suggesting they had fairly complex processes for internal decision-making. Given the communication role of art in hunter-gatherer societies (Boyd 2003; Whitley 2011, 2012), it is likely that the PRS art played a strong role in maintaining the cohesion of within the sociopolitical unit. This sets the Lower Pecos Canyonlands Archeological District apart from the Carrizo Plain sites and other hunter-gatherer societies in the western United States.

Moreover, the PRS art is an "international" phenomenon. Not only does the southern half of the region extend over 50 miles into the state of Coahuila, Mexico, recent formal analysis of the panel at the White Shaman site shows remarkable parallels with the mythologies of Uto-Azteccan speaking peoples to the south in Mexico (Boyd 2016), as discussed in the introductory summary of significance. Boyd's work means other panels likely represent narratives that can help trace the shared ideologies between this region and others to the south of the Rio Grande. These factors make the Lower Pecos Canyonlands Archeological District a unique and valuable historical, artistic, and archeological property. Through archeological research of the deposits, collections, and art, these sites have the potential to unlock the oldest texts in North America.

Several other pictograph areas merit comparison to the Lower Pecos Canyonlands Archeological District, including one in Mexico. The first is the area in eastern Utah containing pictographs and petroglyphs of tall

[27] The thirty-five contributing sites in this district represent those that have undergone significant study and their current physical condition has been determined through site visits. Other sites in the region may also meet Criteria 5 and 6 but have not been as well studied or their current condition is uncertain.

broad-shouldered anthropomorphs in the pictographs and petroglyphs, known as the Barrier Canyon Anthropomorphic style (Pederson et al. 2014; Sucec 2014; Schaafsma 1980). These panels carry visual similarities to the PRS anthropomorphs. Moreover, Barrier Canyon style imagery, like that in the Lower Pecos Canyonlands, was produced over a long period of time.[28] The dominant motif is the anthropomorph; other elements sometimes occur, but they are usually small and numerically few. In addition, Sucec (2014) suggests that the individual anthropomorphs were created "by different individuals—across an extended time-span, most likely millennia" and have markedly little image super-positioning. In other words, while the Barrier Canyon style is considered part of a tradition of hunter-gatherer shamanic art and shares some stylistic emphases with PRS art (Schaafsma 1980:70), the murals appear not to have been created as planned compositions recounting complex narratives.

Nine Mile Canyon in Utah contains an incredibly dense concentration of rock art. Most of the art consists of petroglyphs with some anthropomorphs and a large quantity of bighorn sheep (Schaafsma 1980:176). Some panels may represent scenes, nearly all of hunting. Most of the art has been assigned to the period from 1300–600 BP. Given the relatively late time frame and the fact that these panels appear to have been created through the addition of more glyphs through time, they are not comparable to the Lower Pecos Canyonlands Archeological District's sites which began much earlier and relate to precontact mythologies.

Another area of pictographs that merits mention is the Great Mural Rock Art in the central mountains of Baja California, Mexico. A UNESCO World Heritage property, it also contains pictographs of very large, front-facing anthropomorphs and animals, particularly deer and sheep. When listed as a World Heritage property, the imagery was dated from 2000–600 BP. However, more recent radiocarbon dates from the organic binders in the paints used conflict with that analysis showing dates of 5300, 4800, 300 BP, and the age of the panels remain unclear (Loubser 1997). Thus, on an international scale, the Great Mural Rock Art may be comparable, but unfortunately their age is problematic. At the same time, the murals are not eligible for NHL designation.

As mentioned in the Criterion 6 discussion above, sites from the Jornada Mogollon region of southern New Mexico and west Texas merit mention as well. That discussion notes that the Archaic rock art in the Jornada Mogollon is the Desert Archaic style which consists of geometric designs. The Summerford Mountain Archeological National Register District in southern New Mexico contains rock art sites and habitation sites that exhibit these various cultural phases of the Jornada Mogollon region dating from 7000–500 BP (Pruett et al. 2006). The rock art is dominated by Desert Archaic designs, but some of the Jornada style is present. Hueco Tanks, another very significant Jornada Mogollon site, is dominated by Jornada style art. This art largely consists of elaborate masks found in small overhangs and shelters. These masks and other motifs of the Jornada style are thought to indicate efforts to resolve issues that arose with the shift from more autonomous, kin-based hunter-gatherers into larger agricultural communities (Schaafsma 1980). As indicated in the discussion under Criterion 6, the Lower Pecos Canyonlands Archeological District contains Archaic rock art dating to the time frame of the Desert Abstract, but the art itself is not comparable to that style. Moreover, the PRS art is generally publicly displayed in medium or large rockshelters; only a subset is in less accessible shelters and overhangs.

Finally, another important pictograph site in central Texas is the Paint Rock Indian Pictograph site, north of the Lower Pecos River region. The site contains some geometric designs, but also contains a number of painted designs thought to date to the Historic period. These include horses and some believe one panel contains a

[28] The dates for the style are not clear. Earlier estimates dated the style from approximately 9000–1500 BP (Sucec 2014). Recently, a single date was obtained using optically stimulated luminescence which dated from 1950–900 BP (Pederson et al. 2014), indicating a need for more study.

drawing of a nearby mission dating to 1757 (Kirkland and Newcomb 1997), a time much later than when PRS art was painted. Again, the art appears to have been drawn intermittently, and is not comparable to PRS murals.

CONCLUSION

The Lower Pecos Canyonlands Archeological District contains thirty-five nationally significant archeological sites comprised of rockshelters, terrace sites, and a sinkhole used as a cemetery. Twenty-seven of the sites contain Pecos River style rock imagery, and most of them contain middens with deep stratified deposits that include components dating to 4200–1000 BP, the period of significance. Five other contributing rockshelter sites contain no art but do contain the deep stratified middens; two others are terrace sites, and a final site is a sinkhole. Sixteen of the sites were listed on the National Register at the national level of significance in the 1970s. The forty sites (thirty-five contributing) in the district are widely spread across the landscape of the Lower Pecos Canyonlands in Texas. This dramatic landscape is distinguished from surrounding areas by its well-watered canyons and its high density of rockshelters. Archeologists use the distribution of Pecos River style pictographs within these canyons and rockshelters to delineate the Lower Pecos River cultural region. This region represents the territory of Middle to Late Archaic hunter-gatherers who shared not only material culture, but a common ideology and linguistic stock. There are several thousand recorded precontact sites in the cultural region. The thirty-five contributing sites included in the Lower Pecos Canyonlands Archeological District are among the finest representative resources of the region and both individually and collectively have the potential to yield nationally significant information of scientific importance and to provide information on the broad patterns of the ways of life and cosmology of an exceptional Archaic society.

The region is centered on the confluences of the Pecos and Devils rivers with the Rio Grande and has been the focus of intermittent, intense archeological interest since the 1930s (Black 2013). The region's stunning polychromatic rock art has been at the center of this interest. PRS rock imagery is unique to this area. It is the most abundant, well-preserved, and complex style in the Southern Plains region, and is among the most significant body of images in North America. It was painted in often massive panels on the walls of rockshelters and overhangs. The pictographs consist primarily of anthropomorphs, zoomorphs, and enigmatic abstract and geometric patterns, painted with red, black, yellow, and white pigment.

Scholarly interest in the PRS murals began in the 1930s, with A. T. Jackson (1938), the Witte Memorial Museum in San Antonio (Black 2013), and Forrest Kirkland (1939; Kirkland and Newcomb 1997). Kirkland (1939:71), an artist, recognized the aesthetic value of this art calling the murals an "outstanding artistic achievement" that consisted of "elaborate, beautifully balanced designs and compositions." The panels were painted as planned compositions, likely designed by a shaman/artist who was aided by others. Boyd's (2016:161) formal analysis of the White Shaman mural concluded: "Nothing in this panel is random or arbitrary; everything has its place and purpose." A number of renowned rock art researchers have recognized the imagery as among the most important on the continent. Jean Clottes (quoted in Boyd 2013:171) stated that the "Pecos River rock art is second to none and ranks among the top bodies of rock art anywhere in the world." James Keyser and Jo McDonald (both quoted in Boyd 2013:171) agreed. McDonald stated: "the complexity and compositional intricacies seen in many of the Pecos panels is unrivaled."

Today, PRS rock imagery is thought to represent a core set of cosmological beliefs, animated through pictographs. Researchers believe that the pictograph panels are composed narratives, representing the earliest 'books' in North America. Although the imagery is only found in these Canyonlands straddling the Rio Grande, it reflects pan-Mesoamerican cosmological traditions. The distribution of this imagery and its early beginnings has led scholars (see Boyd 2003, 2016) to suggest that some core concepts in this belief system may have originated in the Lower Pecos Canyonlands and moved southward into central and southern Mexico, rather than

diffusing north from Mesoamerica—a paradigm that is now challenging the direction of future research on Archaic hunter-gatherers because it, along with the evidence that this was a single sociopolitical unit with a high degree of cohesion, suggest a high level of complexity in their society. Under NHL Criteria 6 and the themes Peopling Places and Expressing Cultural Values, the art has yielded nationally significant information of scientific importance and is likely to yield much more in future studies. Further analysis may help address the movement of people and ideas, including the cosmological beliefs reflected in rock imagery, to and from the Lower Pecos.

In the Lower Pecos Canyonlands, PRS art informed outsiders of a cultural boundary, but it also fulfilled important functions for the people who lived in or visited the shelters where it was painted or those who came to view it. As Boyd (2003) and others have noted, non-western art informs the people about the past, about how their world is ordered, and about the many layers that exist in their universe. Analyses of panels has significant potential to reveal insights into the spiritual complex, if and how that complex changed through time, or if later narratives continued to echo lessons taught thousands of years earlier. Study of the subtle differences in the motifs (i.e., “rabbit ears” vs “feathered hip clusters”) aligned with DNA studies of coprolites from the same shelters may reveal intra-regional clustering of kin groups. Jackrabbit Shelter contains a PRS panel with the oldest date (4200 BP) and analysis of that panel has the promise to reveal the most fundamental core values of their religious beliefs. These types of analyses, when paired with similar studies of artistic traditions elsewhere in North America also have significant potential to contribute to our understanding of pan-regional cosmologies of indigenous Native Americans. These studies would allow investigations of shared beliefs with deep time.

The significance of the Lower Pecos Canyonlands Archeological District has never been restricted to artistic values alone. Museum and scientific institutions, also drawn to the region’s dry rockshelters in the 1930s, focused on the collection of perishable artifacts from the artifact-rich middens (Black 2013). The excellent preservation led to recognition that the deposits hold an unparalleled record of cultural and climatic changes over the last 11,000 years. Considerable research carried out on these deposits since the 1960s has produced significant information of scientific importance about the lifeways of the hunter-gatherers who lived in the region and a well-dated chronology. The sites in the district with extant deposits or curated collections dating to the period of significance will likely yield significant new information of scientific and national importance.

The concentration of archeological sites in the Lower Pecos region with preserved perishable materials is among the most extensive in the American Southwest. There are twenty-five contributing sites with extant deposits and four others with well-excavated collections. Most also contain PRS art panels, and, together, the dirt archeology and the art expand the significance of the sites collectively and individually. As Whitley (2011) points out, the dirt archeology contextualizes the rock art with its material culture while the art frames a more holistic understanding of this Archaic society. With their art and dirt archeology, the district’s sites have tremendous potential to yield unparalleled insight into the social, economic, and material contexts within which PRS imagery arose and persisted for thousands of years, how daily secular activities intersected with the ritual activities that took place when the art was painted, how and when interaction with outsiders took place, how land tenure was negotiated during the Archaic, and the causes that led to changes in their lives and beliefs. The sites can also inform on the factors that prompted the residents to begin marking their boundaries around 4200 BP and maintained those boundaries for some 3,000 years. They also present remarkable opportunities to investigate changes in social organization as mobility was reduced, and to study the roles of material culture and non-material culture in identity formation through time by combining formal analyses of the art and detailed analyses of the material culture. Bonfire Shelter and the other contributing sites in Eagle Nest Canyon have tremendous potential to study the rituals and the logistical organization that would have accompanied the

various bison jumps. As well, the sites have great potential to study the cultural meanings of their variability in size and content.

The research potential of the Lower Pecos Canyonlands Archeological District is enormous and goes well beyond these topics and concerns. The combination of the art and the rich Middle and Late Archaic deposits has superb potential to investigate demographic changes such as in-migration of outsiders and how they negotiated accommodations, subsistence changes, prestige competition, communal property rights versus individual ownership of resources, marriage patterns, and many other patterns that form the complexity of hunter-gatherer lifeways. Carolyn Boyd (2016:162) summarizes the potential for this District:

> As archeologists we too often define ancient cultures solely by their material remains. In the Lower Pecos, these remains engender images of simple foragers engaging simple tools in an often harsh and unforgiving landscape. Without the art, they are yet another little understood and little regarded Archaic population eking out a meager existence as best they could. But, with the art, worlds change and wonder begins.

The Lower Pecos Canyonlands Archeological NHL District is archeologically unique, extremely important, and contains a rich source of material to improve our understanding of the past, making it an exceptional archeological and heritage resource.

6. PROPERTY DESCRIPTION AND STATEMENT OF INTEGRITY

Ownership of Property		Category of Property	
Private:	19	Building(s):	
Public-Local:		District:	
Public-State:	14	Site:	40
Public Federal*:	7	Structure:	
		Object:	

*One of these sites has federal/private ownership and two have federal/state ownership.

Number of Resources within Boundary of Property: 40

Contributing		Noncontributing	
Buildings:		Buildings:	
Sites:	35	Sites:	5
Structures:		Structures:	
Objects:		Objects:	
Total:	35	Total:	5

PROVIDE PRESENT AND PAST PHYSICAL DESCRIPTIONS OF PROPERTY

INTRODUCTION

The Lower Pecos Canyonlands Archeological District contains thirty-five contributing sites that represent one of the oldest and best preserved collections of Archaic-age sites in North America. The sites are nationally significant because they contain narratives, told through the art, of the religious beliefs of Native Americans living here thousands of years ago (Boyd 2003, 2016; Turpin 1982a, 2004) and their domestic deposits can provide nationally significant archeological information (Dibble 1967; Johnson 1965; Williams-Dean 1978). The majority of contributing sites in the district are rockshelters with large-scale, spectacular pictographs on their walls—some extending to their ceilings and many with evidence of over-painting—of a type known as Pecos River Style (PRS) art (see Photograph 1) which began as early as 4200 radiocarbon years BP and continued until approximately 1465 BP (Bates et al. 2015). The period of significance begins, then, at 4200 BP and continues to 1000 BP, which is the close of the Late Archaic period. Analyses of these superb paintings demonstrate that the panels contain the stories of the cosmos or belief systems of the indigenous people. Many of the shelters where the paintings are found also contain deep, stratified middens (see Photographs 5 and 9) left by the people who painted the panels and intermittently occupied the sites for thousands of years (Koenig et al. 2016; Shafer 2013).

The Lower Pecos Canyonlands Archeological District possesses a high level of physical and archeological integrity. The landscape of the Lower Pecos region is dramatic, and shelters have wide vistas of canyons and drainages that provide a sense of place with a timeless quality, largely unchanged from 4200 years ago (see Photographs 19, 20, 21). That timeless quality also creates an atmosphere of spirituality and a sense of place (*sensu* Basso 1996) that would have been central in the creation of the narratives depicted in the art and the people's beliefs about the cosmos.

LOCATION AND SETTING

The Lower Pecos Canyonlands Archeological District is located in Val Verde County, Texas (see Maps 1–6). It is also within what archeologists call the Lower Pecos River cultural region. The northern half of the Lower Pecos Canyonlands region is in Texas and the southern half is in the Mexican state of Coahuila (Dering 2002; Turpin 2004) (see Map 2). In Texas, the region centers on the confluences of the Pecos and Devils rivers with the Rio Grande. The area stretches some 75 miles east to west beginning just east of Val Verde County in Edwards County and continuing west into a small slice of eastern Terrell County. The northernmost part of the region extends approximately 75 miles north of the Rio Grande, generally ending at the Val Verde County line. South of the Rio Grande, the region extends at least 100 miles and is thought to terminate in the area of the Arroyo de la Babía drainage (Turpin 2004). Within this area, Del Rio, Texas and Ciudad Acuña, Coahuila, separated from each other on the Rio Grande, are the largest population centers (see Map 2). Also present in Texas are the communities of Comstock, Pandale, and Langtry. U.S. Highway 90 roughly parallels the Rio Grande from Del Rio west to Terrell County. Until Interstate 10 was constructed north of Val Verde County, U.S. 90 was the major route of travel from San Antonio to El Paso and beyond.

The Lower Pecos River region is at the southwestern edge of the uplift known as the Edwards Plateau (often called the Texas Hill Country) and is the southernmost part of the Southern Plains. West of the region rises the Stockton Plateau, sometimes considered part of the Edwards Plateau, but as part of the Great Plains physiographic province and the Southern Plains (Fenneman 1931) the two are certainly related. The region can be characterized as flat and semi-arid, and this environment prevails on both sides of the Rio Grande. It was once part of an inland sea that laid down sediments that are today's grayish-white limestone formations. Short tributaries of the Rio Grande, on both the Mexican and United States sides of that river, interrupt the flat, rocky uplands of the Lower Pecos Canyonlands. In Texas, the limestone uplands are also interrupted by the more extensive drainages of the Pecos and Devils rivers and their tributaries (see Map 1). In Mexico, the terrain differs some from that north of the river. There, the uplands are incised by northeast flowing tributaries of the Rio Grande that originate in the Serranias de los Burros, a mountain range some 80-km south of the Rio Grande. Through time, the drainages and tributaries north and south of the river have incised the uplands, creating steep limestone cliffs and canyons with relatively narrow terraces that afford spectacular views of blue sky, gray and black cliffs over narrow canyons, and rocky uplands (Photograph 31). In the canyons, rockshelters and caves of varying sizes have been carved out of the limestone walls by water, wind, and other natural forces over the last 100 million years. Most of the contributing sites in this nomination are found in these shelters. Caves and sinkholes, which riddle the karstic limestone landscapes, have also formed in the Lower Pecos River region; one contributing site in the nomination (Seminole Sink, 41VV620) is a deep sinkhole that housed a precontact cemetery.

Low hills rise between the river canyons and become more prominent as distance north from the Rio Grande increases, but nothing north of the Rio Grande has the elevation of the Serranias de los Burros in Mexico that rise abruptly to over 1500 meters (5,000 ft.). Rather, elevations along the rims of the Pecos River and the Rio Grande near where they join range from 300 meters to 420 meters above mean sea level (amsl) while down river, near the confluence of the Devils River with the Rio Grande, elevations range from 270 meters to 320 meters amsl.

Water is always an important resource in semi-arid environments, and in the Lower Pecos River region permanent water is and has long been available to humans and animals in the three prominent rivers that flow through it. These rivers are fed by a variety of sources including the annual precipitation of some 14–17 inches of rain which arrive in the spring (April–May) and fall (September–October), usually in the form of intense thunderstorms that are associated with moisture moving west from the Gulf of Mexico (Dering 2002). When

one of these storms stalls over the region, devastating rains can fall in a matter of hours and flash floods become a hazard. Another source of water in the porous limestone geology is the region's many springs, some of which are quite prominent. The Devils River itself and much of the flow of the lower Pecos River are spring-fed, and other seeps and springs are important sources of water throughout the region (see Photograph 31). San Felipe Springs in Del Rio, the Val Verde County seat, is the fourth largest spring in the state and the sole source of water for that city. Goodenough Springs, located in a side canyon of the Rio Grande and now inundated by Amistad Reservoir, is the third largest of the state's springs. Given the ubiquity of springs throughout the region, both north and south of the Rio Grande, along with the three rivers, water was generally available throughout prehistory, making the Lower Pecos region a veritable oasis.

Soils throughout the uplands are relatively shallow and rocky with many areas of exposed bedrock. However, the narrow terraces of the rivers and their larger tributaries of those rivers often exhibit deep alluvial soils. The deep soil profiles were created by centuries of periodic floods that result from run-off during rain events. A flood in 1954 caused water in the narrow confines of the lower portions of the Pecos River to rise more than 27 m above its normal elevation (Patton and Dibble 1982). That flood left approximately one meter of sandy silt in the uppermost part of the shelter that defines the walls of Arenosa Shelter (41VV99) (Dibble 1967:1), a contributing site to the district. In his excavations of the site, Dibble was able to identify forty-nine stratigraphic layers in walls that were 14.5 m deep (see Photograph 9), and the layers contained intermittent cultural deposits dating over the last 11,000 years (Jurgens 2005:13; Patton and Dibble 1982). Another contributing site, 41VV188 (Devil's Mouth, [redacted], also exhibited the deep soil profiles that have formed on many terraces in the region.

The Lower Pecos River region is located not just at the confluence of three rivers, but benefits from the biodiversity of being at an ecotone where three distinct ecological regions or biotic provinces converge: the Chihuahuan Desert (of which lechuguilla is a marker species); the South Texas Brushlands (or Tamaulipan thornshrub); and, the Edwards Plateau (Blair 1950). In general, the regional vegetation is that of a short shrub-savannah with an average growing season of 300 days (Dering 1999, 2002, see Photographs 12 and 19). Prominent vegetation in the uplands includes hackberry, Texas persimmon, various acacias, yucca, sotol, prickly pear, and lechuguilla. These species can also be found in the canyons, but trees such as oaks, little-leaf walnut, mesquite, and pecan are also present in canyon bottoms where water is more prevalent, provided the slope is not too steep. The Stockton Plateau and the western portion of the Lower Pecos River region are within the Chihuahuan Desert ecoregion, which contains a xeric shrubland dominated by creosote. It should be noted that peyote is also native to this shrubland.

Fauna within the Lower Pecos include ringtail cats, javelina, jackrabbits, cottontails, raccoons, whitetail deer, porcupines, and birds. Mountain lions and black bear may have been more prominent in the past, but today are occasional visitors. Lord's (1984) analysis of the faunal record at Hinds Cave (41VV456) and Jurgens' (2005) study of the fauna at Arenosa both indicate that species used by humans did not vary much throughout the period from 9000–1200 BP. Both conclude, however, that small fauna (birds, rodents, snakes, lizards, and fish [at Arenosa]) were the primary meat sources for local groups, supplemented by deer.

The spectacular stratigraphic record of the Lower Pecos River region with abundant radiocarbon dates provides an unusually complete record of the Holocene's depositional (and cultural) past (see Figure 2 for the record at just Arenosa). That record contains a regional environmental picture that has not changed drastically in the past 11,000 years. Studies of pollen (Bryant 1985, 2013), fauna (Jurgens 2005; Lord 1984), macroflora (Dering 1999, 2002), geomorphology (Patton and Dibble 1982), and coprolites (Sobolik 1988; Stock 1983; Williams Dean 1978) illustrate a gradual decrease in moisture throughout the Holocene with two periods of note. The first was a period of very little moisture between 6800 and 5500 BP, before the period of significance for the district.

After this dry period, there appears to have been a return to moister regimes albeit still drier than during the early Holocene times. The second period of note was around 3200–2500 BP. This was during the Late Archaic and during the period of significance for this district. During these centuries, elevated arboreal and grass pollens, along with the presence of modern bison remains in several sites in the Lower Pecos Canyonlands (notably at Bonfire Shelter [41VV213], but also at several other contributing sites in the nomination) are indicators that this time period represented a mesic[29] interval. After 2500 BP, the evidence indicates resumption of reduced precipitation. Ethnohistorical records suggest that by the nineteenth century there may have been more wide-spread and abundant grasses across the region. In 1849 while seeking a new route between Missouri and Chihuahua, William Whiting (1936) noted the presence of abundant grasslands between the Devils and Pecos rivers. Those grasslands are no longer present and Turpin (2004) attributes their disappearance to livestock overgrazing, particularly from sheep and goats. However, Turpin (2004:267) also notes that today "…the vegetational communities [in the Lower Pecos Canyonlands] retain the basic components utilized during much of prehistory."

OWNERSHIP AND MANAGEMENT

The ownership and management of the thirty-five contributing sites and five noncontributing sites in the Lower Pecos Canyonlands Archeological District are mixed. Nine of the sites are in a site concentration with four contributing sites and five noncontributing sites (the Eagle Nest Canyon Concentration) and are privately owned and managed (1,500 acres). Another eleven contributing sites—all isolated from each other—are also privately owned and managed. The remaining twenty contributing sites—again all isolated from each other—are owned and managed by the state of Texas, the federal government, the state and federal government jointly, or by the federal government and private landowners.

Seven contributing sites are partially or wholly on land managed by Amistad National Recreation Area (Amistad), a unit of the National Park Service (NPS). Amistad manages the land surrounding the United States portion of the International Amistad Reservoir. Its boundary is generally the 1144.3 amsl elevation contour determined by the maximum flood pool of the reservoir and the extent that the federal government was authorized to purchase for the project in the 1960s. Amistad owns about five miles of riparian canyon bottom below the dam on the United States side of the Rio Grande. Their lands extend over 70 miles upstream along that river, approximately 15 miles up the Pecos River, and about 25 miles up the Devils River. Amistad owns site 41VV1207, [redacted] Two other contributing sites are owned by Amistad. Both are inundated. One is the Devil's Mouth site (41VV188), [redacted] (see Photograph 25); the other is Arenosa (41VV99), a shelter with deep deposits [redacted] (see Photograph 9). Both sites were extensively excavated prior to dam impoundment. Amistad owns and manages the archeological collections from these and the other sites investigated as part of the archeological work of the 1960s. Amistad also owns two other contributing sites, Perry Calk (41VV87) and Coontail Spin (41VV82) (see Map 3), but it shares that ownership with private parties for the portions of the sites above the 1144.3 amsl elevation. Additionally, Amistad shares ownership and management of two other contributing sites with the State of Texas. Texas Parks and Wildlife Department (TPWD) owns/manages part of Panther Cave (41VV83); Texas Tech University owns/manages the greater portions of the Rattlesnake Canyon site (41VV180).

Subsequent to dam impoundment in 1969, access to sites via the lake increased and with it the looting of sites on both public and private lands. In the late 1980s, the Texas Historical Commission (THC) and Amistad, with advice from private landowners, initiated a program to closely monitor sites, educate the public about the

[29] *Mesic* refers to a period of greater moisture.

significance of the sites, and reduce looting.[30] As part of its responsibilities, Amistad conducts consultations with federally recognized American Indian tribes and directed an ethnohistoric literature review (Kenmotsu and Wade 2002) to identify tribes affiliated with their lands.[31]

Eighteen contributing sites and the five noncontributing sites are privately owned by twelve separate owners, including the two co-owned by Amistad. The privately owned sites are on active working ranches that are not open to visitors without the permission of the owners. These owners generally raise sheep, goats, and cattle. They are aware of the significance of these and other archeological sites under their management and act as stewards of the sites.

Sixteen contributing sites are owned and managed by the State of Texas, including the two co-owned with Amistad. The Rattlesnake Canyon site is owned and managed by Texas Tech University. TPWD owns and manages the contributing sites in Seminole Canyon State Park and Historic Site (Seminole Canyon) and the Devils River State Natural Area (DRSNA). Development of Seminole Canyon as a park was one condition of a Memorandum of Agreement (MOA) between the NPS, the Advisory Council on Historic Preservation, and the THC in compliance with Section 106 of the National Historic Preservation Act. The MOA was signed in 1973, but the work to create this park—originally intended to become a federal park in the NPS system—began several years prior. At the time, the lands of Seminole Canyon were privately owned and part of the Fate Bell and other adjacent ranches. The intent was to showcase the area of Seminole Canyon as part of the larger precontact and later history of the Amistad area. When federal monies for the park did not materialize, the State of Texas passed legislation to purchase and make the canyon part of the state park system. Between 1973 and 1977, lands for the park were acquired and it opened in early 1980, and today has a visitor center and interpretive exhibits (see Map 4). TPWD has completed an inventory of the cultural resources in the park (Turpin 1982a), instituted measures to prevent looting and vandalism in the park, allows public access of the sites only during guided tours, undertakes rock art conservation studies (Dean 2001; Silver 1988), and has developed management plans for the park's rock art sites (Roberts 2004). Given these safeguard measures, "Seminole Canyon…has a fairly high degree of integrity and promises to retain it in the future (Howard 1985)."

In the late 1980s, TPWD acquired approximately 22,000 acres of the former Fawcett Ranch on the Devils River (currently known as the Del Norte Unit) and, more recently, another 17,000 acres about ten miles to the south in the Dan A. Hughes Unit (see Map 5). Together, they form the DRSNA. Seven sites (one in the Del Norte Unit and six sites in the Dan A. Hughes Unit) within the DRSNA are contributing properties in Lower Pecos Canyonlands Archeological District. At present, public access to the Dan A. Hughes Unit is limited while TPWD works with stakeholders and the public to develop appropriate plans for sustainable and responsible long-term conservation and use of these lands. These plans will include safeguards for the protection and preservation of cultural resources, including the sites that are contributing properties to this nomination.

It is worth noting that long-term management of publicly owned outstanding cultural resources in the Lower Pecos Canyonlands is today and will be for the foreseeable future a collaboration among federal and state agencies, including Amistad, TPWD, Texas Tech University, and the THC. These agencies also recognize and respect the efforts of private landowners who serve as stewards in preserving the resources on their land that are an equally important part of that legacy.

[30] These programs continue at Amistad today and are administered by a professional archeologist.

[31] Amistad consults with the Tonkawa Tribe, Kickapoo Traditional Tribe of Texas, Kickapoo Tribe of Oklahoma, Mescalero Apache Tribe, Comanche Tribe, and the Kiowa Tribe of Oklahoma.

ARCHEOLOGICAL INVESTIGATIONS

The nearly nine decades of archeological research in the Lower Pecos Canyonlands occurred in three phases separated by inactive periods. The first was an effort in the early twentieth century to collect museum-quality perishable artifacts. The second effort in the 1960s was a more systematic investigation in advance of the impoundment of Amistad Reservoir. Massive collections resulted from excavations at sites that would be affected by the reservoir. Due to funding constraints, these collections have only been partially analyzed and remain rich reservoirs of data that would contribute to our understanding of the broad patterns of precontact hunter-gatherer lifeways. The final effort began in the mid-1970s and continues to the present day. It has been a mix of extensive excavations at Baker and Hinds caves, intensive surveys of state and federal park lands and some private lands, and new state of the art excavations in Eagle Nest Canyon. All three phases included rock art research and state of the art rock art investigations, in part because the imagery is simply too spectacular to ignore. The following paragraphs elaborate on these three phases.

The first period of archeological investigation of sites in the Lower Pecos Canyonlands, including studies conducted at several of the contributing sites in the district, began in the 1920s and continued through 1937 (Black 2013; Turpin 2004). Excavations primarily focused on obtaining perishable artifacts in the deposits that were manufactured from wood, leather, and fiber for display in major museums on the east coast, but also for the newly established Witte Memorial Museum (Witte) in San Antonio, and the University of Texas in Austin (UT). While the focus of museum curators and archeologists from the eastern United States remained on these perishable artifacts from the dry caves and rockshelters in the region, efforts of the Witte and other Texas institutions included serious early efforts to study and record the regional rock art.

Excavations at sites in the Lower Pecos Canyonlands began in earnest in 1927 and 1928 when the Museum of the American Indian/Heye Foundation in New York, the Smithsonian Institution of Washington, and the Museum of the University of Pennsylvania sent scouts to the Lower Pecos region to identify sites warranting excavation and seek permission of owners to conduct work (Black 2013). In 1929, the Witte followed suit, but also had their people gather plants, animals, and artifacts for display. In 1931, that museum sent a team to the Lower Pecos Canyonlands for six weeks. They conducted limited excavations at six shelters (McGregor 2013:155), and had Virginia Carson, an artist, reproduce the rock art at several shelters including Fate Bell Shelter (41VV74) and Rattlesnake Canyon, both contributing sites in the district. Her watercolors remain at the Witte today.

These expeditions presaged subsequent efforts over the next several years. In 1932, UT sent Professor James Pearce and his foreman (A. T. Jackson) to conduct excavations at Fate Bell Shelter in Seminole Canyon. While UT was excavating at Fate Bell, E. B. Sayles of Gila Pueblo, a private research organization, obtained permission to conduct test excavations at several sites in Eagle Nest Canyon including at Eagle Cave (41VV167). Many sites he investigated are contributing properties of the Mile Canyon Archeological district. Sayles' goal was to identify cultural patterns of material culture and lifestyle/behavior of the region shedding light on how different the Lower Pecos is from Big Bend and other regions of the state. His book, *An Archeological Survey of Texas,* tries to clarify these distinctions (Sayles 1935).

The following year, two major museums sent men to excavate in the Lower Pecos. Frank Setzler conducted excavations at Moorehead Cave (41VV55) on behalf of the Smithsonian Institution (Maslowski 1978; Setzler 1928, 1934). The other was organized by the Witte Memorial Museum and directed by George Martin (Black 2013) to excavate at Shumla Cave (41VV115 and others), [redacted]

All early excavations found that the deposits in the shelters of the Lower Pecos Canyonlands contained abundant artifactual remains in the deep, usually stratified middens. Materials collected included stone tools, painted pebbles, basketry, woven mats, sandals, tump lines, wooden stakes, netting, groundstone, ochre, skin and hide artifacts, and much more. The collections from these early efforts, largely curated in repositories in Texas (see Tables 2 and 3), have high research value and have been major contributors to successful exhibits on the peopling of the Lower Pecos (McGregor 2013). The significance of the imagery on shelter walls was not ignored in these early expeditions. In addition to the watercolors of Carson, Jackson also photographed, took notes, and made drawings of the rock art at Fate Bell and 34 other regional sites; many are contributing properties in this nomination. These materials became part of his opus on Texas rock art titled *Picture-Writing of the Texas Indians* (Jackson 1938). In the book he referred to Val Verde County as "the premier pictograph area of the state." His book, his research materials, and the glass negatives of his photographs continue to be invaluable reference materials for researchers of the regional rock art.

Forrest Kirkland, a commercial draftsman in Dallas, and his wife Lula were the most important documenters of rock art during this early period. Between 1935 and 1937, forty-three of the sites he documented with detailed watercolor renderings were in the Lower Pecos River region. Kirkland, the first to recognize that PRS imagery was compositional art, prepared notes about his work at individual sites and some of these discuss stylistic and geographic variation in the murals in the Lower Pecos sites (Boyd 2013). As an artist, he appreciated the immense effort it had taken to paint the murals:

> [The effort to paint on these walls] is proof of their serious purpose….The pictures in almost every cave in Val Verde County, extend far above the reach of a man standing on the floor of the cave….In a few cases they were painted flat on the ceiling more than ten feet above the floor. This work would certainly have required some type of scaffolding…[and] must have required considerable labor (Kirkland in Kirkland and Newcomb 1997:65, original published in 1966).

W. W. Newcomb studied Kirkland's notes, watercolors, and photographs on file at UT to publish *The Rock Art of Texas Indians.* Given the Kirklands' multi-year effort to document the rock art statewide and the beauty of his watercolors, Kirkland is the primary author of the volume. Newcomb (Kirkland and Newcomb 1997) classified the regional rock art into four styles that continue in use today: Pecos River, Red Linear, Red Monochrome, and Historic. In his Preface, Newcomb (pg. ix), a professor of anthropology at UT, writes: "The fascinating and challenging Pecos River style paintings…warrant exhaustive study." Clearly, the study of the rock art in the Lower Pecos region was recognized in the early twentieth century as an important means to better understand the area's precontact residents.

It is important to be realistic about the short-comings of these early archeological investigations in the Lower Pecos Canyonlands. Neither the field directors nor their crews had much, if any, formal training in archeological methods which, at that time, were at best rudimentary. Nonetheless, it is equally important to recognize that the expedition leaders were truly interested in the past, not to plunder, but to understand. Black (2013:143) describes it this way:

> The main goal of all early expeditions was to amass artifact collections for study or display. Virtually all of the targeted caves yielded museum-quality perishable specimens including rabbit-fur robes, baskets, nets, sandals, and wooden artifacts. San Antonio's competing newspapers touted the [Witte] Museum's explorations, and citizens flocked to the Witte to see displays of the amazing finds. The exhibits presented a counterpoint to the prevailing image most Texans had of Indians as marauding savages bent on plundering and scalping pioneering settlers. The dry caves spoke of a different past. Here untold generations of precontact Indians had called

> the Lower Pecos home and found clever uses for nature's bounty amid the harsh world of the twisting desert Canyonlands. They used fibers stripped from desert plants to fashion sandals and baskets….And they painted colorful, enigmatic symbols on cave walls and smooth river pebbles.

The early expeditions to the Lower Pecos region came to an end in 1937 as the country struggled with the Great Depression and World War II. However, after the great flood of 1954—a flood so huge it was considered by experts to represent a 10,000-year flood (Patton and Dibble 1982)—plans to construct a flood control dam at the confluence of the Devils River with the Rio Grande began to move forward. To comply with Flood Control Act of 1944, the NPS's Interagency Archaeological Salvage Program (IASP) contracted with UT in 1958 to conduct surveys to identify significant sites and carry out excavations of them prior to impoundment of Amistad Dam in 1969. This was the first systematic attempt to formally record and evaluate the archeological resources in the Lower Pecos and began the next period of archeological research in the region.

UT's initial reconnaissance recorded 188 sites (Graham and Davis 1958). Some sites recorded in the effort, such as Fate Bell (41VV74) and Panther Cave had been known for decades but not formally recorded or assigned trinomial designations. Graham and Davis recommended a subset of the identified sites for excavation. In the beginning, the goal of the excavations was culture history (Black 2013). In the years between 1937 and the late 1960s, regional chronologies, aided by the development of radiocarbon and tree-ring dating, existed for only a few regions of the country. To develop the chronology of the Lower Pecos region, stratified sites with datable material and stone tools (particularly projectile points) were targeted for excavation. Most sites investigated during this period were only partially excavated due to funding limitations. Rockshelters investigated that are contributing properties in this district are: Fate Bell, Arenosa Shelter, Eagle Cave, Coontail Spin, Bonfire Shelter, and Perry Calk. Arenosa and the Devil's Mouth site, both deeply stratified, were the most extensively excavated because they were anticipated to have the greatest contribution to chronology building (see Photographs 9 and 25). Combined and coupled with radiocarbon dates, these and the other sites investigated were instrumental in development of an outline of culture history that, with a few modifications, continues in use today (see Table 4).

The excavations also revealed several significant aspects of the precontact occupation and archeology of the region. The first is that Native Americans arrived in the region at approximately 11,000 years ago. The excavations at Bonfire Shelter solidified this fact and boosted Bonfire to national prominence as a significant Paleoindian site (Black 2001). There, two massive bison bone beds were encountered that appear to have resulted from human-driven bison jumps from the top of the cliff above the shelter, one of *Bison antiquus* dating to 11,000 BP and the other of modern bison dating at ca. 2500 BP (Dibble and Lorraine 1968). Given that bison were rarely present in the Lower Pecos region after the Paleoindian period, their presence in large quantities (over 800 individuals) at 2500 BP is exceedingly important and indicates a climatic shift to a cooler and more mesic period. This climatic shift has been substantiated by pollen studies (Bryant 1985) and occurred within the district's period of significance.

The excavations carried out by UT were also significant because these dry rockshelters produced an impressive and rich array of material culture across the 11,000 year period that encouraged a focus on cultural ecology. David Dibble, who directed the field work at Arenosa and Bonfire, and Edward Jelks, Dee Ann Story, and Vaughn Bryant, Jr., who oversaw work funded by the National Science Foundation, ensured that then state of the art methods and techniques were used to extract the greatest amount of information during the excavations. As a result a number of innovative ecological studies were undertaken and published as dissertations and reports (Alexander 1974; Bryant 1974; Johnson 1964; McClurkan 1968; Patton 1977; Riskind 1970). Finally, the excavations revealed the remarkable wealth of data about the broad patterns of hunter-gatherer lifeways that reside both in the curated collections and in the remaining deposits in the sites of the region. None of the

curated collections from this era have been fully analyzed, offering a truly outstanding opportunity to study these patterns using those collections.

Rock art investigations were included in the pre-impoundment investigations and began to tease out the cultural values of these Archaic people. Two art historians (Terence Grieder, of the University of Texas, and David Gebhard, first of the Roswell Museum and Art Center in New Mexico and later at the University of California, Santa Cruz) were contracted to record the imagery. As art historians they brought a fresh understanding to the paintings. Both saw each panel as a single overall design, not a random series of images although they recognized that some panels were superimposed on earlier panels. Both also concluded that the panels with PRS art was communal and had been undertaken for special occasions. Grieder (1966:3) concluded that the especially large panels at sites like Panther Cave, Fate Bell, and Eagle Cave had evidence of precontact spirituality: "Earlier paintings…were simply painted over when there was no more room. Perhaps the wall took on spiritual potency by the accumulation of paintings on it….This suggests that the act of painting was part of a ceremonial ritual." Similarly, Gebhard (1966:45) states: "…these [Pecos River style panels] probably served a wide variety of religious, social, psychological functions within the society that produced them." Newcomb (Kirkland and Newcomb 1997) also considered the PRS art to be religious in nature, drawing from the earlier work of his colleague T. N. Campbell (1958) who had asserted that this art was part of a shamanic religious system.

While the rock art documentation and studies of the 1960s made significant advances, some of their methods were unfortunate. To clean the dust from the art and enhance the figures, both Grieder and Gebhard applied water and kerosene to selected panels. Fortunately, such practices are no longer in use.

Once the Amistad Reservoir was impounded, three things occurred. The first was a general absence of active archeological field work in the region for several years. Unlike other regions of the state, little commercial land development has taken place in the Lower Pecos. Thus, cultural resource management (CRM) projects have been few and usually restricted to highway rights of way or linear pipelines, limiting the investigations of sites in the county. The second was a concerted effort by the THC to nominate significant historic and precontact properties to the National Register in Val Verde County. Three archeological districts (the Lower Pecos Canyon, the Mile Canyon [Eagle Nest Canyon], and Seminole Canyon) and one site (Rattlesnake Canyon, 41VV180) were listed in 1970 and 1971—all at the national level of significance. Rattlesnake and fifteen other individual sites within the three districts are included in this NHL nomination. The final thing affecting the archeology of the region was the presence of a reservoir that provided citizens water access to sites and private property that were previously inaccessible. The access led to unauthorized looting of sites with deep middens. The reservoir has also led to an increase in mud-dauber wasps nesting in shelters now located closer to the water and the nests can damage the rock art. As well, the higher humidity levels may result in spalling due to the freeze-thaw process. Initially, it was thought that the higher humidity could lead to fading of some imagery, but recent research has determined that the whewellite mineral accretions growing over the paintings, and likely "fed" by the increased moisture, is preserving the imagery and the paint is remarkably intact (Russ et al. 1999).

Archeological research resurged in the region, beginning in the mid-1970s and continuing to the present day. As in the previous two periods, investigations of surface and subsurface deposits of sites and of rock art panels both played prominent roles in the resurgence. Researchers of both dirt archeology and rock art have consistently taken advantage of the newest methods to reach more refined interpretations of their data; some new techniques have also been developed in the Lower Pecos region. Also during this period, private property owners, archeologists, state and federal agencies, and others have taken measures to reduce site looting, a topic discussed in the section below on the integrity of the contributing properties in the district.

Excavations at two sites laid the foundation for the renewed professional and public interest in the region. One was at Baker Cave (41VV213), a solution cavity rockshelter [redacted] and a contributing site to this district (see Photograph 8). Work at this site began with excavations by James Word, an avocational archeologist, between 1962 and 1966, but not published until 1970 (Word and Douglas 1970). In 1976 and 1984, excavations at the site were undertaken by the University of Texas at San Antonio under the direction of Thomas Hester. The other site was Hinds Cave (41VV456), a rockshelter [redacted] where Harry Shafer and Vaughn Bryant of Texas A&M University led excavations from 1973 to 1976. Neither site contains rock art, but their deposits were essentially pristine, deeply stratified, and contained a wealth of rich material culture and intact features—particularly from the Middle and Late Archaic periods—that have contributed significantly to our understanding of the broad patterns of hunter-gatherer lifeways in the Lower Pecos region; their collections will continue to do so in the future. Stephen Black (personal communication August 2016) states: "Hinds Cave is arguably the most important dirt archaeology site in the Lower Pecos Canyonlands by virtue of data it has generated." Numerous theses, dissertations, journal articles, and other documents have been published on data from Hinds Cave as recently as 2010 (Riley 2010); they interpret, among other things, hunter-gatherer dietary patterns (Dering 1979; Edwards 1990; Stock 1983; Reinhard 1988; Williams-Dean 1978), health (Danielson and Reinhard 1998), and succulent processing methods (Woltz 1998). The Hinds Cave research has never been fully reported and drawn together in a synthetic monograph; however, the extensive online exhibit "Hinds Cave: A Perishable Scientific Treasure" (Shafer, Black, and Bryant 2005) provides an illustrated summary. Unfortunately, the Hinds Cave collection has not been prepared for accession to a curatorial facility.

By the 1980s, the Witte Museum—which began its interest in the Lower Pecos River region in the early 1930s and assisted in funding the 1984 excavations at Baker Cave—was at the forefront of the resurgence (Boyd 2013). With their large collections from the Shumla Caves and other sites, including the 1930s watercolor renderings of the rock art, the Museum initiated a study of the regional art led by archeologists, archeobotonists, art historians, and social anthropologists. The goal of the study was "to interpret the material culture and to investigate the lifeways of the precontact residents" of the region (Boyd 2013:174). An exhibit, entitled "Ancient Texans," was installed at the museum and the museum published *Ancient Texans: Rock Art and Lifeways along the Lower Pecos* (Shafer and Zintgraff 1986). To highlight the spectacular rock art and the dramatic view sheds in the Lower Pecos, Shafer and the Witte used the photographs of Jim Zintgraff. Both the exhibit and the book were popular among professional and avocational archeologists and the lay public, leading to greater awareness and interest in the remarkable art and the lifeways of hunter-gatherers in Texas. Another outgrowth of the heightened public awareness was the creation of the Rock Art Foundation to promote and preserve the region's rock art. In 1993, the Foundation obtained title to the White Shaman site (41VV124), a renowned site on the Pecos River that is a contributing site to the district.[32] A final outcome of the collaboration of the Witte with Shafer has been the advancement of rock art dating worldwide mentioned in Section 5 above.

Sites in Seminole Canyon that were formally recorded during UT's work in the 1960s were listed on the National Register in 1970. The original nomination largely confined the district to the canyon, its branches, and a narrow strip of land along the canyon rims, containing thirty-four sites in an area of 1,334 acres. Then, in 1980, TPWD contracted with the UT to conduct an archeological inventory of their newly acquired lands in Seminole Canyon (see Maps 3 and 4). Solveig Turpin (1982a, 1982b) directed the survey. Many sites in this canyon contain both deeply stratified deposits and spectacular panels of Pecos River style rock art (see Photograph 3). As a result of the survey, in 1985 the THC revised the nomination to include all recorded sites identified by Turpin in the expanded acreage of the state park as well as some acreage in private ownership

[32] In January 2017, the Foundation's lands and assets reverted to the Witte Museum.

(Howard 1985; Turpin 1982a). The expanded district contains ninety-three sites of which ten are contributing properties to this nomination.

From this base, archeological research has continued unabated across the region. Turpin (1985, 1991) directed the excavation [redacted] in the region (Turpin 1991, 2012; Turpin et al. 1986), particularly those of the Late Archaic period. She also has conducted numerous studies of rock art both in Texas and south in Mexico (Turpin 1990, 1994, 2010). Her work largely defined the southern extent of the region (see Map 2). In the late 1980s, TPWD acquired the lands of the DRSNA's Del Norte unit (see Map 5). A large portion of those lands was partially surveyed by field schools of the Texas Archeological Society (TAS) in 1989 (Turpin and Davis 1993). In 2012 a TAS field school again partially surveyed a large portion of the newly acquired Dan A. Hughes Unit (Howard 2016). As well, TPWD's cultural resource program has developed management plans for Seminole Canyon (Roberts 2004). The TAS rock art task force has conducted studies at sites with imagery in Seminole Canyon, Rattlesnake Canyon, Eagle Nest Canyon, the DRSNA, and on NPS-managed lands. Their documentation is housed at UT.

In turn, the NPS has undertaken a number of projects to improve their management of the cultural resources on the narrow strips of lands they manage along the three rivers and their tributaries (Dering 2002; Labadie 1989). They also supported a 1999 TAS field school, concentrating on NPS-managed lands (Collins et al. 2000; Johnson and Johnson 2008).

Most archeological research in the past 15 years, however, has been and continues to be undertaken by the non-profit Shumla Archaeological Research and Education Center (Shumla) and Texas State University. Founded by Carolyn E. Boyd, Shumla focuses on the preservation, documentation, and interpretation of the region's spectacular rock art. It has developed standardized recording methods and has revitalized rock art research in the region, holding rock art field schools to teach others to carry out its methods and using state of the art techniques such as DStretch color enhancement photography, 3D laser mapping, drone mapping, Structure from Motion (SfM) photogrammetry, portable X-ray fluorescence, handheld digital microscopy, spatial data collection with total data stations, and digital illustration using interactive pen displays. Shumla maintains the data it collects at its headquarters in Comstock, Texas, and encourages national and international collaboration.

In 2009, Stephen Black, a professor at Texas State University, established the Ancient Southwest Texas (ASWT) project to investigate the "dirt" archeology of the Lower Pecos region through state of the art field and analytical techniques and public engagement. Black began by directing surveys and small-scale excavations west of the Devils River along Dead Man's Creek investigating precontact settlement patterns and landscape use intensification (e.g., Koenig 2012). The 2010-2012 ASWT research has included excavation and documentation of sites with earth oven facilities (burned rock middens; e.g., Knapp 2015), and individual earth oven features (e.g., Campbell 2012). From 2013–2017, the ASWT project conducted major excavations at five sites in Eagle Nest Canyon in collaboration with Shumla. The collaboration has allowed the two institutions (as well as outside colleagues) to ask questions of the entire archeological record using both the rock art and the findings from the deep deposits in the shelters in Eagle Nest Canyon. Like Shumla, the ASWT crews use drone mapping, SfM photogrammetry, total data stations, and other techniques, including extensive multi-disciplinary sampling (e.g., Koenig et al. 2017; Willis et al. 2016).

Geoarcheological research is a core element of the ASWT investigations and their work has begun to shed light on the interface of humans with the cyclical flood events in the region. The Middle and Late Archaic deposits in all of Eagle Nest Canyon sites except at Bonfire are dominated by the remains of plant baking (in earth ovens) reflecting an intensified reliance on desert succulents (such as sotol and lechuguilla) that coincides with the florescence of Pecos River Style rock art. The ASWT researchers posit that the massive evidence of plant

baking in shelters may reflect feasting that would have accompanied the painting of sacred myths on the walls (see Photograph 15). The massive Late Archaic bone beds at Bonfire Shelter at the head of Eagle Nest Canyon represent at least three bison drives that must have been much heralded events in the lives of the people in Eagle Nest and surrounding canyons.

CONTRIBUTING AND NONCONTRIBUTING SITES

This section provides descriptions of the identified contributing and noncontributing archeological sites within the Lower Pecos Canyonlands Archeological District. The Lower Pecos Canyonlands Archeological District contains forty sites, which are comprised of thirty-five contributing sites and five noncontributing sites. Table 2 contains a list of all resources within the Lower Pecos Canyonlands Archeological District. The locations of the sites are on Maps 3–6.

Because the district is discontiguous, many of the contributing sites are isolated from other contributing sites by several miles. The boundary of each isolated contributing site is the only physical space nominated, with the exception of two sites: Crab Shelter (41VV50) and Sunburst Shelter (41VV840). Small areas that represent the sacred viewscape for each shelter are incorporated in the boundary for each site (see Maps 7, 8). Other recorded sites located in proximity to isolated contributing sites are not considered further here because they may not date to the period of significance of the district or because the landowner objects to their inclusion in the nomination. As well, while these other isolated sites have been formally recorded, subsurface excavation or other research on many of them has been minimal to none and the information on such sites is too limited to know if they do/do not meet National Historic Landmark criteria. Future archeological research on those sites may one day indicate that they too should be considered as additions to the Lower Pecos Canyonlands NHL and appropriate revisions made to the district.

In one case, contributing sites in the district are within a geographic area — a canyon, where they are contained by a natural boundary. This natural boundary is used to enclose both contributing and noncontributing sites. The concentration is called Eagle Nest Canyon Concentration (see Map 6).

All contributing sites contain dateable organics. Most dry rockshelters in the Lower Pecos have midden deposits, some quite deeply stratified, that contain charcoal, bone, coprolites, quids, and perishable artifacts that can be dated by radiometric analysis to provide chronological and cultural context. Additionally, the binders in paints used for the PRS and other painted art in the region contain organics that have been subjected to a relatively new plasma oxidation process that also allows radiocarbon analyses (see discussion in Section 5 above). Thus, the art itself can be placed in chronological context. To date, PRS art has been dated between 4200 and 1465 years BP (Bates et al. 2015). Each contributing site is nationally significant under Criterion 6. Their exceptional significance is elevated when considered collectively under Criterion 5. Their collections, their art, their intact subsurface deposits, and their prime potential for radiocarbon dating of both the art and the deposits contribute to the whole. Each site can offer new and important information to understanding the Lower Pecos Canyonlands Archeological District's outstanding historic significance. The contributing sites in the nomination retain significant integrity that will allow them to provide nationally significant information related to the development and florescence of PRS art and its spiritual complex, the role of outside influences in the decline of that art, and the social contexts of intensified plant baking as related to the imagery.

Contributing Sites:

Isolated Western Sites, Rio Grande and Pecos River Drainages (see Map 4 and Table 2)

41VV73, Fate Bell Annex, Photograph 32.
This Seminole Canyon site consists of a shelter with PRS and Red Monochrome art and remnant spalls of deposits on its back wall below the art. Most deposits were likely removed during a flood event after 5500 BP; these do not retain their integrity. Cupules and deep mortar holes are at the mouth of the shelter. To reduce adverse effects to the site, TPWD constructed steps from the canyon floor up to a platform that enhances visitor viewing of the art. The PRS art is complex and has a fair amount of superpositioning. It is in "very good condition" (Dean 2001:19), retains its integrity, and can be dated. The superpositioning of the PRS art offers a superb opportunity to study the development of that imagery. As well, it is an optimal site to look for evidence of rituals relating to floods.

41VV74, Fate Bell, Photographs 3 and 21.
Located in Seminole Canyon [redacted] Fate Bell is a large shelter "famous for not only its pictographs but also for the depth and extent of the precontact cultural deposits" (Turpin 1982a:64). Excavations indicate the deposits are some 3m in depth with plant baking pits, [redacted] and abundant perishable and non-perishable artifacts including Middle and Late Archaic dart points (Parsons 1965; Pearce and Jackson 1933). Among the artifacts are pressed bars of yellow ochre, paint pallets, a charcoal pencil, and groundstone stained in red. Three radiocarbon dates from the period of significance range from 4170–2330 BP. TPWD has placed thick rubber mats on the top of the deposits for visitor use during guided tours, to prevent adverse effects to the site. Potholes were dug into the upper part of the midden prior to TPWD acquisition of the site, but the unexcavated part of the midden is believed to retain its integrity and to contain dateable materials.

The famed rock art at Fate Bell is primarily PRS art but Red Linear and Red Monochrome are also present. Condition assessments of it indicate this art is in very good condition (Dean 2001) and retains its integrity (Turpin 1982a). Overprinting of PRS art by later PRS murals is common at the site. Overprinting (also called superpositioning) of PRS imagery consisted of painting over an older composition with another composition. One anthropomorph at Fate Bell exhibits feathers clustered at its hip (Boyd 2003; Harrison 2004), an attribute only found in PRS art in Seminole Canyon and nearby Painted Canyon. Two other anthropomorphs (one is winged) have antlers, a trait associated with deer, water, and peyote (Boyd 2003, 2012). Future excavations at Fate Bell, combined with closer analysis of the PRS art have remarkably exciting potential to yield information on whether outside influences played a role in the development of the imagery or in its decline and on Archaic ritual practices. They also have tremendous potential to improve our understanding of the social, economic, and ecological factors that led to the decision to use certain shelters for both habitation and imagery.

41VV75, Photographs 24 and 33.
41VV75 is a large shelter [redacted] with PRS and Red Linear art, cupules, deep mortar holes, and a midden in excess of 3m thick. The upper portions of the midden have been looted. However, Parsons (1962) found intact deposits with Late Archaic components beneath the looters' pits. Excavations at 41VV75 have revealed [redacted] cultural features, and perishable materials (Pearce and Jackson 1933). The remaining deposits underlying the looters pits at the site retain their integrity and contain dateable materials.

The rock art at 41VV75 is in poor condition due to exfoliation of the walls where it was painted. There have also been some attempts by vandals to remove wall segments. In addition, some of the art is obscured by naturally-occurring calcium oxalates, although Russ et al. (1999) found that these accretions encapsulate and conserve the art rather than destroy it. The site's art is highly significant for the PRS dates obtained from it and

for future research. Successful new methods of rock art dating now being used worldwide were first pioneered at 41VV75 by Marvin Rowe and his colleagues at Texas A&M University (Rowe 2013). The first PRS figure analyzed yielded a date of 3865 ± 100 BP and subsequent dates of PRS art from the site range from 3900–2750 BP. Dating of PRS and the other styles in this site are critical to understanding why and when the images developed, how they influenced each other, how PRS art evolved over time, and why it went out of favor. Given that radiocarbon dating is a destructive process, researchers restrain from taking multiple samples from the same site. However, since the art at 41VV75 is exfoliating, it offers a unique key to unlocking the past.

41VV76, Black Cave, Photograph 34.

The site consists of a large shelter and two adjacent shallow overhangs, all three [redacted] They contain PRS and Red Linear art and the shelter also contains some deposits. Excavations at the shelter produced Middle and Late Archaic dart points (Parsons 1962), and radiocarbon dates from overlapping hearths on its back wall are from the Middle Archaic. Deposits along the back wall but behind roof fall are estimated to be 40 percent intact and contain additional dateable material. Some art at 41VV76 has faded, but much of it is considered "vivid," and in one alcove there are two elaborate scenes of anthropomorphs surrounded by deer impaled with spears (Turpin 1982a:69). A recent date from one of the impaled deer dated to 1465 ± 40 BP (Bates et al. 2015). The PRS art retains its integrity. The site has significant potential to yield information important in understanding the evolution of the region's belief systems.

41VV78, Painted Shelter, Photograph 35.

[redacted] Painted Shelter contains no deposits but has PRS, Red Linear, Red Monochrome, and possibly historic pictographs displayed on its walls and ceiling that overlie a permanent spring and an intermittent stream. Cupules, mortar holes, and grinding facets are also present within the shelter. Some PRS art appears faded but has been encased by naturally occurring accretions that act as a conservation agent (Russ et al 1999). Thus the art retains its integrity and can be analyzed and dated. Given the repeated use of the shelter for painting, the site was clearly of great consequence to hunter-gatherers for thousands of years, and analysis and dating of the PRS narrative has tremendous potential for insights into the core set of cosmological beliefs.

41VV82, Coontail Spin, Photograph 10.

Coontail Spin is a long, narrow shelter [redacted] The shelter does not contain PRS art but has significant, deeply stratified Middle and Late Archaic components based on radiocarbon dates, dart points, [redacted] that date to those periods (Nunley 1962). Although some looting of the site has occurred, the unexcavated deposits retain their integrity and have additional dateable material. These deposits and the collections at UT present an excellent opportunity to investigate how land tenure operated among these Middle and Late Archaic people. DNA studies of coprolites and other materials can inform on whether group membership differed between shelters with and without rock art.

41VV83, Panther Cave, Photograph 36, Figure 3, and Map 11.

This Seminole Canyon site is one of the best-known and most spectacular in the region and consists of three adjacent shelters. The northernmost contains a small group of PRS figures. The central shelter contains a vivid, complex PRS mural above a 1m deep midden that is largely covered with roof fall. The third shelter contains a small mural. The site including its deposits is fenced for protection with a viewing platform for visitors, all of whom arrive by boat at a small dock and climb up a stairway to view the pictographs. The deposits are believed to retain their integrity and contain dateable materials. Red Linear and Red Monochrome art are also present in the central shelter. The art retains its integrity and its pigments are dateable. Beginning in the 1930s, researchers have considered this to be a stunning example of PRS art with copious quantities of over painting (Jackson

1938; Roberts 2004; Turpin 1982a). Carolyn Boyd (personal communication January 2016) argues it is *the* iconic site for the region that merits research on many topics including how the region's belief systems evolved through time.

41VV87, Perry Calk Site.
This site consists of a rockshelter [redacted] with a midden 2.5m in depth that contain stratified deposits of ash with cultural lenses containing a wide variety of perishable artifacts interrupted by pits of various functions [redacted] and numerous Middle and Late Archaic dart points (Collins 1969). Radiocarbon assays of features date to the Late Archaic. The site also contains three horizontal shaft caves; one held [redacted] faint traces of pigments around its opening. The unexcavated deposits at the site retain their integrity. These deposits and the collections at UT can provide important information on the social, economic, and ecological factors related to the selection of shelters for habitation and imagery.

41VV99, Arenosa Shelter, Photographs 9 and Figure 2.
[redacted] 41VV99 does not contain rock art but includes deposits both in the shelter itself and in the adjacent terrace of the river. Extensive and meticulous excavations carried out by the UT prior to inundation by Amistad demonstrated those deposits are in excess of 14.5m thick (Dibble 1967; Jurgens 2005) and contain components throughout the precontact history of the region. Radiocarbon assays illustrate "a nearly unbroken span from 4350 BC to AD 650 [6300–1450 BP], i.e., the Middle and Late Archaic periods" (Whelan and Black 2008; Figure 2). The unexcavated deposits were inundated in 1969 when the reservoir filled. While some theses and dissertations have analyzed portions of the material culture recovered from the site (Jurgens 2005; Kochel 1980; Patton 1977; Patton and Dibble 1982), a majority of the immense collection remains unanalyzed and has the potential to provide insights into the broad nationally significant patterns of the daily lives of hunter-gatherers in the Archaic and how those people carried out religious ceremonies in sites without rock art. Intact cultural deposits and features have been documented at other inundated sites in Amistad National Recreation Area (Dering 2002:6.10), thereby suggesting the possibility that Arenosa Shelter also has preserved deposits.

41VV124, White Shaman Site, Photographs 7 and Figure 1.
One of the best-known and most significant PRS rock art sites in the Lower Pecos, White Shaman's mural is under an overhang high above the Pecos River. The site lacks midden deposits other than a few scattered lithics but does contain mortar holes and grinding facets in the bedrock below the mural (Castañeda 2015). The site has been intensively studied by several researchers (Boyd 2003; Koenig et al. 2013; Zintgraff and Turpin 1996 and others) who conclude the art is vivid and retains its integrity. Radiocarbon dates of pigment from the PRS art provide dates from 2400–1460 BP. Recently Boyd (2016) published her interpretation that the mural was a planned composition that was painted as a single composition. Boyd argues the remarkable composition depicts the creation story for the Middle and Late Archaic hunter-gatherers of the Lower Pecos region. Using ethnographies of the Aztec, Huichol, and other Uto-Aztecan speakers in northern Mexico, the mural has potential to continue to reveal aspects of ritual practices during the Late Archaic.[33]

[33] The relationship between the Nahua, the Huichol, and the Lower Pecos Canyonlands' PRS murals and ethnographic analogy was made apparent to Shumla in 2010 when a Huichol *mara'akame* (shaman) visited the White Shaman panel. Boyd (2016:167) wrote: "The first motif he pointed to was the red and black crenellated band [across the mural]. Translated from Huichol, to Spanish, to English, I was told it represents the ocean. What I wanted to say was, 'I am sorry, you must be confused. I think it represents the western entrance to the underworld.' Thankfully, I said nothing. Later I remembered that to the Huichol, the ocean is associated with the serpent that surrounds the world…and the entrance to the underworld. 'Ocean' is a metaphor. The Huichol shaman possessed the cognitive code required to 'read' the motif within moments of visiting the mural."

41VV180, Rattlesnake Canyon site, Photograph 2.
This site is [redacted] It contains PRS art that extends to the ceiling and a 1m deep midden with charcoal-rich deposits. The deposits and the art both contain dateable material although some integrity of the deposits has been compromised by floods that periodically occur in the canyon. Detailed documentation of the PRS art, which is on-going by Shumla, indicates that the rock art has received less impact from floods and retains its integrity. The art at the site is considered one of the most outstanding in the Lower Pecos Canyonlands. That art is dense and quite complex and has tremendous potential to provide new information related to the ritual practices and world view of people residing here during the Middle and Late Archaic. The art panel is also well-known for anthropomorphs with "rabbit ears" on their heads, a motif uncommon elsewhere. This feature presents a significant opportunity to study whether the feature marks family or clan distinctions within the larger Lower Pecos River region.

41VV286, Raymond's Shelter, Photograph 37.
41VV286 consists of a shelter [redacted] PRS art and an ashy 3m thick midden with fire-cracked rock (FCR),[34] charcoal, lithic tools, shell, ocher, fiber, and a Late Archaic dart point. The upper deposits have undergone some looting, but overall the midden is considered 40 percent intact (Turpin and Bement 1985) and contains dateable materials. The art retains its integrity and includes vivid red figures and one winged anthropomorph is nearly identical to a winged anthropomorph at Fate Bell in Seminole Canyon (Boyd personal communication January 2016). There is excellent potential at 41VV286 to study the decisions made to use a specific shelter for habitation and imagery as well as to study how and why art from one site (Fate Bell) was duplicated 24 km away at this site.

41VV408, Hidden Shelter.
Hidden Shelter is [redacted] Within the shelter, the site contains PRS and Red Linear art and has a midden estimated to be about 1m thick. Shovel testing of the central midden yielded Middle Archaic dart points and materials that were radiocarbon dated to the same period. Despite some erosion and two shallow potholes, the midden retains 90 percent of its integrity. The PRS art is somewhat faded but otherwise retains its integrity. Hidden Shelter has great potential to yield information about the social, economic, and ecological factors that went into the choice to use a shelter for art and habitation.

41VV576, Jackrabbit Shelter, Photograph 13.
This shelter, [redacted] contains PRS art and a midden of some 40cm in depth with FCR, abundant Rabdotus snail shells, stone tools, and flakes in an ashy deposit. The midden appears to retain its integrity and has dateable materials, and the art retains its integrity. Paint from a black PRS-style deer at the site has been dated to 4130 ± 60 years BP and another sample from a rabbit-eared anthropomorph has been dated to 3400 ± 70 years BP; yet another figure dates to 4200 ± 90 years BP (Bates et al. 2015), placing the site's art at what is considered the beginning of PRS art in the region. Future analyses of the art and the deposits at the site have significant potential to study the core components of this religious art at its inception.

41VV584, Jaguar Shelter, Photograph 20.
This shelter [redacted] contains PRS art, mortar holes, and material culture, some of which date to the Late Archaic, scattered on the floor and in the talus. Unlike many of the shelters in the Lower Pecos, Jaguar has never undergone looting and its deposits are intact. As well, its art, which is considered to retain its

[34] Fire-cracked rock or FCR refers to rock that was heated in a fire and broke into smaller pieces. Typically, the edges of a piece of FCR are quite angular and stained by soot and charcoal.

integrity but is slightly faded, was not painted for mass consumption as it was placed where it cannot be viewed from across the canyon, distinguishing it from art in the large open shelters. Study and dating of the art at Jaguar have substantial potential to inform on distinctions between the cosmology expressed in art produced for the masses and that produced for smaller group consumption.

41VV620, Seminole Sink.
Situated in Seminole Canyon, 41VV620 consists of a sinkhole, a portion of which was used [redacted]

Isolated Eastern Sites in the Devils River Drainage (see Map 5):

41VV18, Curly Tail Panther, Photographs 4 and 18.
The site [redacted] that contains PRS and Red Linear art. Sixty percent of the art retains its integrity and can be analyzed and dated. The site presents a superb opportunity to explore whether the spectacular views from the overhangs are part of the narrative in the PRS art. If they are, it would provide insight into environmental factors involved in choosing where narratives would be painted.

41VV40, Photographs 29 and 30.
41VV40 is a large shelter. It contains PRS art and a shallow (ca. 50cm deep), ashy midden that retains its integrity and has dateable materials. Some exfoliation of the imagery has occurred, but it is considered at least 60 percent intact. Unfortunately kerosene was used to clean some of the art in the 1960s (Grieder 1966) so the art may not be dateable. Nonetheless, the extensive and overpainted panels have great potential to yield data regarding the evolution of this imagery through time and how narratives in side-by-side shelters express similar or quite different stories of the people's understanding of their universe during the Archaic.

41VV50, Crab Shelter, Map 7.
41VV50, with a shelter situated on a high bluff overlooking the Devils River, commands an outstanding vista of the canyon and the uplands. Although there are deposits on the talus and in the midden below the rockshelter that have yielded Middle and Late Archaic dart points, no deposits are contained in the shelter, but it does house dense and complex PRS imagery across its back wall that retains at least 40 percent of its integrity. A pictograph from the shelter was radiocarbon dated to 2950 ± 60 BP (Chaffee et al. 1993a, 1993b). The acreage for the site was expanded by TPWD to incorporate the midden and surrounding landscape. Crab Shelter, with the midden below, has outstanding potential to greatly enhance our understanding of how belief systems in the Lower Pecos region changed through time.

41VV188, Devil's Mouth Site, Photograph 25.

This inundated site was a deeply stratified terrace site some 14 m deep [redacted] Excavations and analyses in the 1960s largely focused on establishing the chronological sequence for the region, recovering charcoal samples and a large inventory of Middle and Late Archaic dart points and associated stone tools; perishable artifacts were few (Johnson 1964). The Devil's Mouth site, along with Arenosa, was instrumental in establishing the chronological framework for the Lower Pecos River region. Johnson noted that while deposits from the Middle Archaic to the Paleoindian periods were mixed due to intermittent floods, the Late Archaic deposits retained their integrity. Because the analyses of the material culture from the site focused on refining regional chronology, the collections at UT have great potential to understand, through comparative analyses, the broad patterns of utilitarian activities during the period of significance that were undertaken by hunter-gatherers who also inhabited and held ceremonies at sites exhibiting large PRS murals. Intact cultural deposits and features have been documented at other inundated sites in Amistad National Recreation Area (Dering 2002:6.10), thereby suggesting the possibility that Devil's Mouth site also has preserved deposits. Re-analysis of the collections or future investigations of inundated portions of the site have great potential to test whether the apparent utilitarian-focused activities at the site differ from occupations in other shelters such as Eagle Cave (VV167).

41VV213, Baker Cave, Photograph 8.

A solution cavity [redacted], this site contains no rock art but had a rich, deeply stratified midden intermittently occupied for thousands of years. The Middle and Late Archaic periods are represented in the collections at UT and the University of Texas at San Antonio by dart points, a wide array of perishable artifacts, residue from pits, [redacted] and an earth oven. The site had excellent integrity when excavated, but it has since been badly looted. The collections at the two universities, however, present an outstanding opportunity to investigate one of the broad patterns of hunter-gatherer lifeways: how ritual and cosmology are expressed in shelters without rock art. While extensive looting has occurred at the Baker Cave, future investigations have the potential to uncover intact deposits below or in between looter holes, as was the case at Fate Bell and Eagle Cave.

41VV337.

41VV337 is a large shelter [redacted] containing deposits that may be up to 2m thick with abundant perishables, lithic tools, and dateable materials. The upper deposits have been looted, but their thickness suggests that the Middle and Late Archaic materials are intact and retain their integrity. The site also contains a PRS rock art panel along its entire back wall where a series of solution cavities, perhaps representing portals into the spirit world, are present. The upper-most parts of the panels are vivid; the remainder is obscured by lichen that has served to conserve the art (Russ et al. 1999). Overall the art has tremendous potential to trace the social contexts of earth ovens with PRS imagery.

41VV612, Mystic Shelter, Photographs 14 and 27.

[redacted] Mystic Shelter consists of three shelters tiered one above the other. None contain deposits. The lowest has some poorly preserved art, but the middle shelter has one of the most important and spectacular murals of PRS art in the region (Boyd 2003); Red Linear art is also present, some below the PRS figures. The art has excellent integrity, and pigment from a PRS figure has been dated to 3900 BP (Rowe 2001), indicating the art was painted as these murals began to be created in the region. Future study of the art at Mystic Shelter has superb potential to provide information on the initial development of this style and whether it emanated from the region, perhaps from the Red Linear style, and what outside influences may have played a role in its spread.

41VV696, Cedar Springs, Photograph 26.

[redacted] the Cedar Springs site consists of a large shelter with an annex; neither have deposits, but do have outstanding PRS art that, along with Mystic Shelter's art, is among the top tier of rock art sites in the region, and has been dated to 3010 ± 100 BP (Rowe 2001). The art has excellent integrity. Given its age, Cedar Springs panels provide a remarkable opportunity to study the evolution of PRS art 1000 years after these compositions began to be painted in the region.

41VV840, Sunburst Shelter, Map 8.

41VV840 consists of a long, shallow overhang with vibrant PRS and other art, a shallow (ca. 30cm) midden, and [redacted] The tributary begins as a pour off that formed the small canyon. The site boundary was expanded to include the small pour off canyon. The overhang contains a number of small solution cavities, many with pigment fragments around their openings. The midden deposits are 70 percent intact although some looting and erosion has taken place. The art in the overhang contains very bright PRS figures, but also figures that appear to be Red Linear or Red Monochrome; all retain their integrity. Because the various art styles overlap, 41VV840 has significant potential for stratigraphic analysis of the art to better understand their chronological relationships and the evolution of PRS art and its spiritual complex.

41VV888, High Country Shelter, Photographs 19 and 28.

[redacted] 41VV888 consists of an overhang with PRS and Red Linear art but no midden deposits. A circle with an X inside suggests that Red Monochrome art may also be present. The art has evidence of ritual obliteration in the precontact past. The art retains its integrity and has excellent potential to study the relationships between Red Linear and PRS art as a way to understand similarities and differences between their underlying cosmologies.

41VV889, High Lonesome Shelter.

41VV889 [redacted] and contains PRS and possibly Red Linear art and a midden deposit ca. 60cm thick. The deposits have a few shallow potholes but are believed to be 80 percent intact. Perishable artifacts along with FCR can be seen in the ashy midden. The art is somewhat faded and exfoliating, but with D Stretch and other modern technologies, it can be analyzed. Future study of the art and midden at 41VV889 have potential (through coprolites) to study the genetic closeness between populations at sites in the north part of the district with groups in Seminole Canyon and other areas in the region that are further south. Such studies would begin to shed light on whether the art in the region emanated from groups within or without the region.

41VV961, Chimenea Shelter.

Chimenea Shelter [redacted] consists of a shelter with a midden deposit with Middle and Late Archaic dart points, perishable artifacts, and a wide range of lithics based on limited testing by Rice University (Shier 1990). It also contains extensive PRS art along with a talus containing abundant cultural material (Howard 2017). The midden at 41VV961 was intact, with no evidence of looting or other impacts until minor testing of the deposits was undertaken. The deposits are at least 90cm deep, pristine, and contain dateable materials. Four alcoves are present within the shelter; three contain black soot from smoke, the other has red pigment, and the largest alcove has a series of anthropomorphs arrayed around it. Future excavations combined with analyses of the art have great potential to yield insights into how ritual and daily living intersected during the period of significance.

41VV1207, Map 9.

A field of discrete hearths made of tabular sandstone, 41VV1207 is [redacted] Late Archaic dart points, cores, manos, bifaces, and lithics of all

stages of manufacturing debris are scattered around the hearths. The site retains excellent integrity and contains dateable material. 41VV1207 has great potential to yield insights into how hunter-gatherers imbued utilitarian activities with their cosmological world-view.

41VV1230, Halo Shelter, Photograph 1, Map 10.
Halo Shelter [redacted] and contains PRS and Red Linear art, grinding facets, and a dark ashy midden with FCR, lithic tools, and some perishable artifacts. The midden retains its integrity and contains dateable materials (Koenig 2012). The rock art is mostly well preserved and some call it "vibrant." Some PRS art overlies the Red Linear figures. The combination of well-preserved PRS imagery and intact midden deposits presents an excellent opportunity to study the social contexts of intensified plant baking and how they relate to the imagery.

41VV1604, Brazos Fuerte.
Brazos Fuerte [redacted] The walls contain PRS and Red Linear art. Deposits at the site are quite shallow, consisting of some FCR and lithic flakes, and do not retain integrity. The PRS art does retain its integrity and consists of a large panel with two U-shaped glyphs connected in a serpentine line. This motif is also found in the murals at Mystic Shelter and Cedar Springs. Study and dating of the PRS art at Brazos Fuerte have excellent potential to investigate whether the PRS mural reveals myths that parallel those in Mystic and Cedar Springs and whether the panel dates to the same period.

Eagle Nest Canyon Site Concentration (see Map 5):

41VV164, Kelley Cave, Photograph 15.
This site is a moderately large shelter with PRS art, a large midden with deeply stratified deposits nearly 3m thick reflecting both occupation and extensive plant baking. It also contains cupules, mortar holes, grinding facets, and incised lines both inside and outside the shelter. Excavations at the shelter revealed 19 stratified layers, pits, ash lenses, and other cultural features, and radiocarbon dates ranging from the Early Archaic to the Late Prehistoric (Rodriguez 2015). The unexcavated deposits retain their integrity and rubber mats have been installed to reduce visitor impacts. The PRS art is obscured but retains its integrity. Together, the art and the deposits afford an excellent opportunity to study the social and economic factors related to which shelters were chosen for both art and habitation.

41VV165, Skiles Shelter.
Situated [redacted] this shelter consists of two alcoves separated by a tufa mound. PRS art, cultural deposits, cupules, and mortar holes are present in the shelter. The stratified deposits are 0.6m thick in the eastern alcove and 1.3m thick in the western alcove and consist of plant baking ovens with ashy soil with lithics (including Late Archaic dart points), FCR, charcoal, bone, and perishable artifacts (Rodriguez 2015). The deposits have been affected by flooding but are at least 50 percent intact. The art is only in the western alcove and while some is faded what remains is considered very important and 60 percent intact (Boyd personal communication, January 2016). Skiles Shelter, with its PRS art but with a significant Late Prehistoric component, presents an excellent opportunity to investigate whether outside influences played a role in the decline of PRS art.

41VV167, Eagle Cave.
Eagle Cave is an immense shelter that contains PRS art and deeply stratified deposits over 3m in depth and dating back to 13,000 years that have significant intact components of Middle and Late Archaic age based on radiocarbon dates, presence of modern bison bones, and dart points of those periods (Hesinger and Rush 2015; Jurgens and Rush 2015; Koenig and Black 2015; Ross 1965). Excavations have revealed [redacted] earth ovens,

latrine areas, pits, and hearths. The art at the shelter is estimated to be 60 percent intact and a weighted average of three pigment dates from anthropomorphs on the wall is 3280 ± 70 BP (Steelman n.d.) suggesting they were painted in the Middle Archaic. Eagle Cave has outstanding potential to yield information about how PRS imagery evolved over time and the factors involved in choosing which shelters to use for both habitation and imagery. Four major seasons of ASWT excavations and restoration at Eagle Cave (2014-2017) have resulted in the most thoroughly documented and sampled archeological record in the Lower Pecos. This site has excellent potential to integrate rock art and excavation data in the region.

41VV218, Bonfire Shelter, Photographs 16 and 17.
Bonfire Shelter is at the base of a 25m cliff and behind a portion of the roof that fell during the Pleistocene. It contains stratified remains of ancient and modern bison that fell from the cliff above (Dibble 1965). Bone Bed 3 contains a dense layer of burned modern bison bone that consists of several bison drive events dating to 2800-2500 BP and also has Late Archaic dart points. Above this bed is a discontinuous fiber layer of lechuguilla, yucca, and other organics, Late Archaic dart points and other lithics, and bone that dates to 1500 BP. The unexcavated deposits of Bone Bed 3 and the layers above it retain excellent integrity and offer a unique opportunity to explore intermittent use of a shelter for non-ritual use during a period when other shelters in Eagle Nest Canyon were used for habitation and ritual. Additionally, the three drive events of Bone Bed 3 were of tremendous importance to Late Archaic residents as each would have become an event chronicled in oral history for centuries and they present data to study whether these events, combined with the subsequent gradual climate change to greater regional aridity played a role in the decline of the imagery. In 2017 ASWT began new documentation and sampling at Bonfire Shelter in conjunction with a restoration program to protect the extant deposits.

Noncontributing Sites:

The five noncontributing sites are all located in the Eagle Nest Canyon Concentration (see Map 5).

41VV166, Map 5:
The site consists of an overhang [redacted]. It is on a narrow (ca. 1–2m wide) shelf of the cliff face. A shallow midden with lithics and one grinding stone is present. There has been insufficient testing of the site to substantiate that it contains deposits dating to the period of significance and is noncontributing.

41VV168, Langtry Rock Midden, Map 5:
This site is at the top of the bluff [redacted] It consists of a burned rock midden with lithics and burned rock that has been badly eroded along its south side. The site was also impacted by construction of U.S. 90. Because of the impacts to the site, it is considered noncontributing.

41VV2163, Mile Springs Site, Map 5:
This site consists of a moderately-sized rockshelter [redacted] One Late Archaic dart point has been recovered from the site. The floor of the shelter and the talus below it contain the remains of an earth oven facility. The integrity of the remaining deposits at the site remains unknown. Thus, the site is noncontributing.

41VV2168, Map 5:
This site consists of a lithic scatter and fire-cracked rock [redacted]
Fifty percent of the site exhibits bedrock exposure. Without additional testing the site is considered noncontributing.

41VV2239, Sayles Adobe, Map 5:
Located near the location of an adobe building where E. B. Sayles resided when working in Eagle Nest Canyon sites, the site sits on an alluvial terrace where floods have buried the precontact deposits. Burned rock, lithics including dart points have been recovered from the site and the AWST program is currently testing the deposits. At present, however, there is insufficient information to understand the site's deposits and integrity. Thus, it is currently considered noncontributing.

INTEGRITY

Thirty-five archeological sites in the Lower Pecos Canyonlands Archeological District are contributing resources. Because the thirty-five sites have deposits and art that can be dated, and have high levels of archeological and visual integrity, their integrity is incomparable. The recurrent visual elements, the motifs, and the stories told at each shelter in the PRS murals together convey a cohesive design and feeling that dominated the art throughout the region. The similarity in workmanship from one mural to another underscores that cohesiveness as a unified whole where the individual sites are clearly associated with one another but maintain their individuality. Today, the integrity and cohesiveness of the whole continue to impress and amaze visitors to Seminole Canyon and other areas in the region that are open to the public.

The upper levels of some shelters with deposits have been looted. However, subsurface archeological investigations in the majority of the looted sites have revealed that the deposits from the period of significance (4200–1000 BP) are often beneath the looted deposits and remain intact. Investigations at sites that experienced looting such as Fate Bell and Eagle Cave revealed intact grass beds, hearths, latrine areas, [redacted] and other features from the period of significance in addition to an amazing array of perishable artifacts (Parsons 1965b; Koenig and Black 2014), demonstrating the stratigraphic integrity of the deposits that preserves the archeological information that they contain.

Sites situated lower along the waterways, like Arenosa Shelter and Devil's Mouth, were inundated with the creation of Amistad Reservoir. However, intact cultural deposits and features have been documented at other inundated sites in Amistad National Recreation Area (Dering 2002:6.10), thereby suggesting the possibility that these affected sites within the NHL also contain preserved deposits.

While it is possible that all cultural artifacts have been systematically excavated out of Seminole Sink, there remains a great potential for climatic data and ecofacts in the intact deposits of the sink.[35] The burial shaft represents only a small portion of the landscape feature, and so the surrounding soil, which may be culturally sterile, may provide valuable data to reconstruct the local paleoclimate and consider how humans responded to these changes. Moreover, this data may provide important contextual information to understand the unique mortuary practices conducted in the sinkhole by the occupants of the Lower Pecos Canyonlands selectively across a millennia.

The PRS rock art has been affected by natural weathering. At some sites the art has faded or been partially obscured by lichen or other intrusions and exfoliation is occurring in some murals. Modern technologies, however, have been successfully used by researchers in the Lower Pecos Canyonlands to overcome much of the fading. These include DStretch (a digital imaging tool that enhances pictographs), handheld Dino-Lite digital microscopes, and other equipment. As well, researchers have found that much of the lichen growth in the region obscures but does not destroy the rock art (Russ et al. 1999), serving to conserve it for future study. Moreover,

[35] Ecofacts are defined as "Archaeological finds that are of cultural significance but were not manufactured by humans, such as bones and vegetal remains" (Fagan 2016)

while exfoliation is unfortunate, absolute dating of pictographs, pioneered in the region (Rowe 2013), takes advantage of exfoliated fragments of PRS and other art to improve our understanding of the age of the images.

Adverse effects to the art from recent human activity are minimal. A few panels contain modern graffiti consisting of vandals' names and dates of visits to the site. But, this damage is usually quite small in comparison to the large shelter walls covered with precontact murals. Most adverse effects to the art relate to the impoundment of Amistad Reservoir. This resulted in an increase in humidity that may be contributing to the accretions and spalling on the shelter walls and ceilings as well as the construction of wasp nests in them. Additionally, trinomial site numbers were hand-painted on shelter walls to distinguish them from each other, another small adverse impact. Kerosene and water were put on some murals in attempts to clean the panels and draw out faded colors, techniques that are no longer in use. The art historians doing this worked in only a small number of shelters. Black Cave (41VV76) was one of these shelters, but recent radiocarbon results of an exfoliated fragment of paint returned an age of 1465 ± 40 years BP, not the much older date expected if it had been contaminated with kerosene (Bates et al. 2015). In sum, human damage to the rock art has been minimal.

The location where the sites in the district are found has changed little through time. Euro-Americans did not settle in the region until the late nineteenth century, and the limited water available away from the three rivers resulted in the establishment of large cattle, sheep, and goat ranches that continue today. Outside of Del Rio, towns are few and quite small; Comstock's population, for example, is under five hundred. Infrastructure intrusions are largely limited to the linear rights-of-way of railroads, highways, and pipelines so the spectacular limestone cliffs, rocky uplands, and ribbons of blue water flowing in the rivers beneath a brilliant blue sky dominate the area as they have for thousands of years (see Photograph 31). The two principal changes are the impoundment of Amistad Reservoir, elevating the level of the water and drowning some sites and the overgrazing that has caused a significant reduction of grasslands. A few of the contributing sites are threatened by rising water levels, including Rattlesnake, Skiles Shelter, and the lower panels at Panther Cave. Nonetheless, water levels in the reservoir rarely rise above the 1,144 foot contour authorized during construction and usually remain lower than this elevation. Beyond these impacts, the dramatic view shed of the Lower Pecos region still conveys the precontact attributes of the district largely unchanged from that experienced 4,000 years ago.

The materials gathered by precontact people to use for food, manufacture of stone tools, basketry, bone and wooden weapons or other implements, and the minerals gathered to make the pigments painted on the shelter walls are also present today (Dering 2002; Turpin 2004). The dry rockshelters lend themselves to excellent conditions of preservation. Unlike many precontact sites elsewhere, the contributing sites contain some of the most outstanding examples in North America of mats, basketry, sandals, cordage, and other examples of perishable remains as well as human coprolites. These and other materials from the excavations have tremendous potential to gain insights into the broad patterns in the daily lives of the hunter-gatherers who lived here in the Middle and Late Archaic. At the same time, materials to paint the rock art are still present in the rock formations that line the canyons. Ochre and other pigments have been recovered in excavations and pigment residue has been found in cupules and grinding facets at White Shaman (41VV124) and other sites.

Integrity of design, workmanship, association, and feeling are conveyed by the rock art. All PRS researchers have recognized the repeated visual elements of this design style in shelters across the region and south into Mexico (Gebhard 1965; Grieder 1966; Harrison 2004; Jackson 1938; Kirkland and Newcomb 1997; Turpin 1986, 1994). Boyd (2003) identified recurring motifs characterized by several associated pictograph elements present in more than one site or repeated within a site, recombined with each other and with other unique figures. However, no mural is an exact replica of the mural in another shelter, even at those in close proximity such as Kelley Cave and Skiles Shelter in Eagle Nest Canyon.

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Previous documentation on file (NPS):

Seminole Canyon Archeological District (93 sites in the original NR district; 9 are in the NHL district)
X Previously listed in the National Register (fill in 1 through 6 below)
__ Not previously listed in the National Register (fill in **only** 4, 5, and 6 below)

1. NR #:71000960; 85003181 (boundary increase)
2. Date of listing: January 25, 1971
3. Level of significance: National
4. Applicable National Register Criteria: A__ B__ C__ D_X_
5. Criteria Considerations (Exceptions): A__ B__ C__ D__ E__ F__ G__
6. Areas of Significance: Archeology-prehistoric; Archeology-historic

__ Previously Determined Eligible for the National Register: Date of determination:
__ Designated a National Historic Landmark: Date of designation:
__ Recorded by Historic American Buildings Survey: HABS No.
__ Recorded by Historic American Engineering Record: HAER No.
__ Recorded by Historic American Landscapes Survey: HALS No.

Mile Canyon Archeological District (6 sites in the original NR district; 4 are in the NHL district)
X Previously listed in the National Register (fill in 1 through 6 below)
__ Not previously listed in the National Register (fill in **only** 4, 5, and 6 below)

1. NR #: 70000773
2. Date of listing: October 15, 1970
3. Level of significance: National
4. Applicable National Register Criteria: A__ B__ C__ D_X_
5. Criteria Considerations (Exceptions): A__ B__ C__ D__ E__ F__ G__
6. Areas of Significance: Aboriginal-prehistoric; Art

__ Previously Determined Eligible for the National Register: Date of determination:
__ Designated a National Historic Landmark: Date of designation:
__ Recorded by Historic American Buildings Survey: HABS No.
__ Recorded by Historic American Engineering Record: HAER No.
__ Recorded by Historic American Landscapes Survey: HALS No.

Lower Pecos Canyon Archeological District (72 sites in the original NR district; 2 are in the NHL district)
X Previously listed in the National Register (fill in 1 through 6 below)
__ Not previously listed in the National Register (fill in **only** 4, 5, and 6 below)

1. NR #:71000966
2. Date of listing: March 31, 1971
3. Level of significance: National
4. Applicable National Register Criteria: A__ B__ C__ D_X_
5. Criteria Considerations (Exceptions): A__ B__ C__ D__ E__ F__ G__
6. Areas of Significance: Aboriginal-prehistoric

__ Previously Determined Eligible for the National Register: Date of determination:
__ Designated a National Historic Landmark: Date of designation:
__ Recorded by Historic American Buildings Survey: HABS No.
__ Recorded by Historic American Engineering Record: HAER No.
__ Recorded by Historic American Landscapes Survey: HALS No.

Rattlesnake Canyon Site
X Previously listed in the National Register (fill in 1 through 6 below)
__ Not previously listed in the National Register (fill in **only** 4, 5, and 6 below)

1. NR #:71000968
2. Date of listing: September 28, 1971
3. Level of significance: National
4. Applicable National Register Criteria: A__ B__ C__ D_X_
5. Criteria Considerations (Exceptions): A__ B__ C__ D__ E__ F__ G__
6. Areas of Significance: Archeology-prehistoric; Native American Art

__ Previously Determined Eligible for the National Register: Date of determination:
__ Designated a National Historic Landmark: Date of designation:
__ Recorded by Historic American Buildings Survey: HABS No.
__ Recorded by Historic American Engineering Record: HAER No.
__ Recorded by Historic American Landscapes Survey: HALS No.

Location of additional data (see also Table 3):

State Historic Preservation Office: Texas Historical Commission, Austin, TX
Other State Agency: Texas Parks and Wildlife, Austin, TX
Federal Agency: Amistad National Recreation Area (NPS), Del Rio, TX
Local Government:
University: University of Texas at Austin (Texas Archeological Research Laboratory (TARL]); Texas State University (Ancient Southwest Texas Project)
Other (Specify Repository): Witte Museum, San Antonio; Whitehead Museum, Del Rio, Texas; Smithsonian Institution, Washington, DC; Museum of the American Indian/Heye Foundation, New York, New York.

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List of Maps, Lower Pecos Canyonlands Archeological District, Val Verde County, Texas

Map Number	Description
1	Regional Map of the General Area of the Lower Pecos Canyonlands Archeological District, showing highways, towns, and public property.
2	Map of the Lower Pecos River Region in Texas and Coahuila, Mexico, showing natural features.
3	USGS map of the Lower Pecos Canyonlands Archeological District, Val Verde County, Texas, and the 35 proposed NHL contributing sites.
4	Map of the Western Sites in the Rio Grande and Pecos River Drainages, Lower Pecos Canyonlands Archeological District, Val Verde County, Texas.
5	Map of the Eastern Sites in the Devils River Drainage, Lower Pecos Canyonlands Archeological District, Val Verde County, Texas.
6	Map of the Eagle Nest Canyon Site Concentration, Lower Pecos Canyonlands Archeological District, Val Verde County, Texas.
7	Map of the larger area of Crab Shelter (41VV50). Courtesy Texas Parks & Wildlife Department.
8	Map of Sunburst Shelter (41VV840) [redacted] Courtesy Texas Parks & Wildlife Department.
9	Sketch map of 41VV1207, [redacted] Courtesy Amistad National Recreation Area, National Park Service.
10	Lidar map of Halo Shelter (41VV1230). Courtesy Shumla Archaeological Research and Education Center.
11	Lidar map and cross section of the central shelter with the large, complex PRS art panel at Panther Cave (41VV83). Courtesy Shumla Archaeological Research and Education Center.

National Historic Landmarks

Property Name: **LOWER PECOS CANYONDLANDS ARCHEOLOGICAL DISTRICT**

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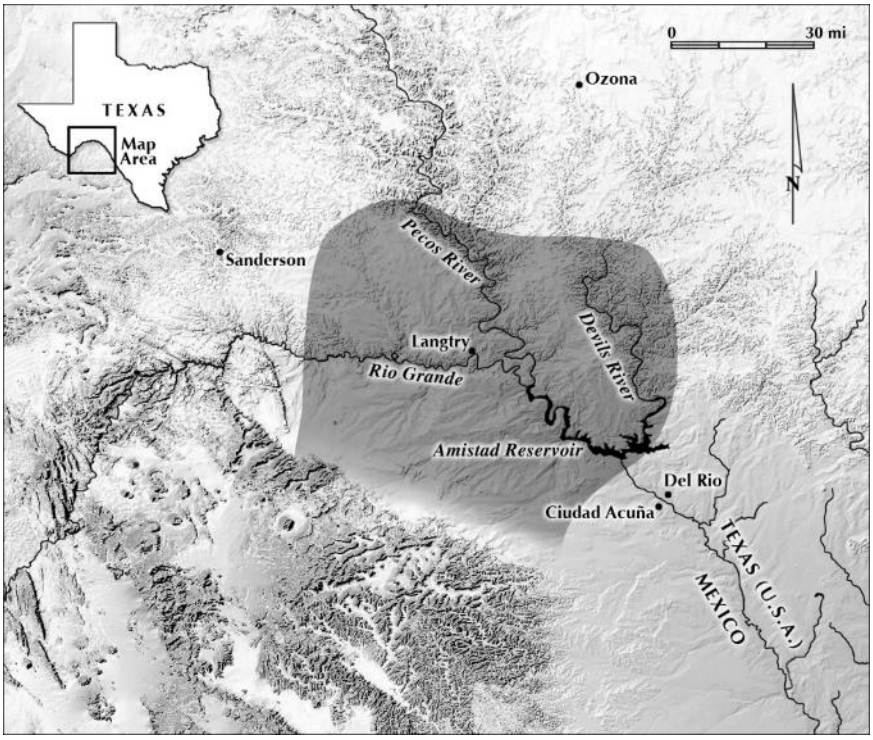
Map Number: 1

Some information about this property is restricted under law:

National Historic Preservation Act of 1966, as amended, section 304, 16 U.S.C. 470w-3(a)
- *Confidentiality of the location of sensitive historic resources*

Section 304

[16 U.S.C. 470w-3(a) – Confidentiality of the location of sensitive historic resources]
(a) The head of a Federal agency or other public official receiving grant assistance pursuant to this Act, after consultation with the Secretary, shall withhold from disclosure to the public, information about the location, character, or ownership of a historic resource if the Secretary and the agency determine that disclosure may –
(1) cause a significant invasion of privacy;
(2) risk harm to the historic resources; or
(3) impede the use of a traditional religious site by practitioners.



Map 2: Map of the Lower Pecos River Region in Texas and Coahuila, Mexico, showing natural features.

National Historic Landmarks

Property Name: **LOWER PECOS CANYONDLANDS ARCHEOLOGICAL DISTRICT**

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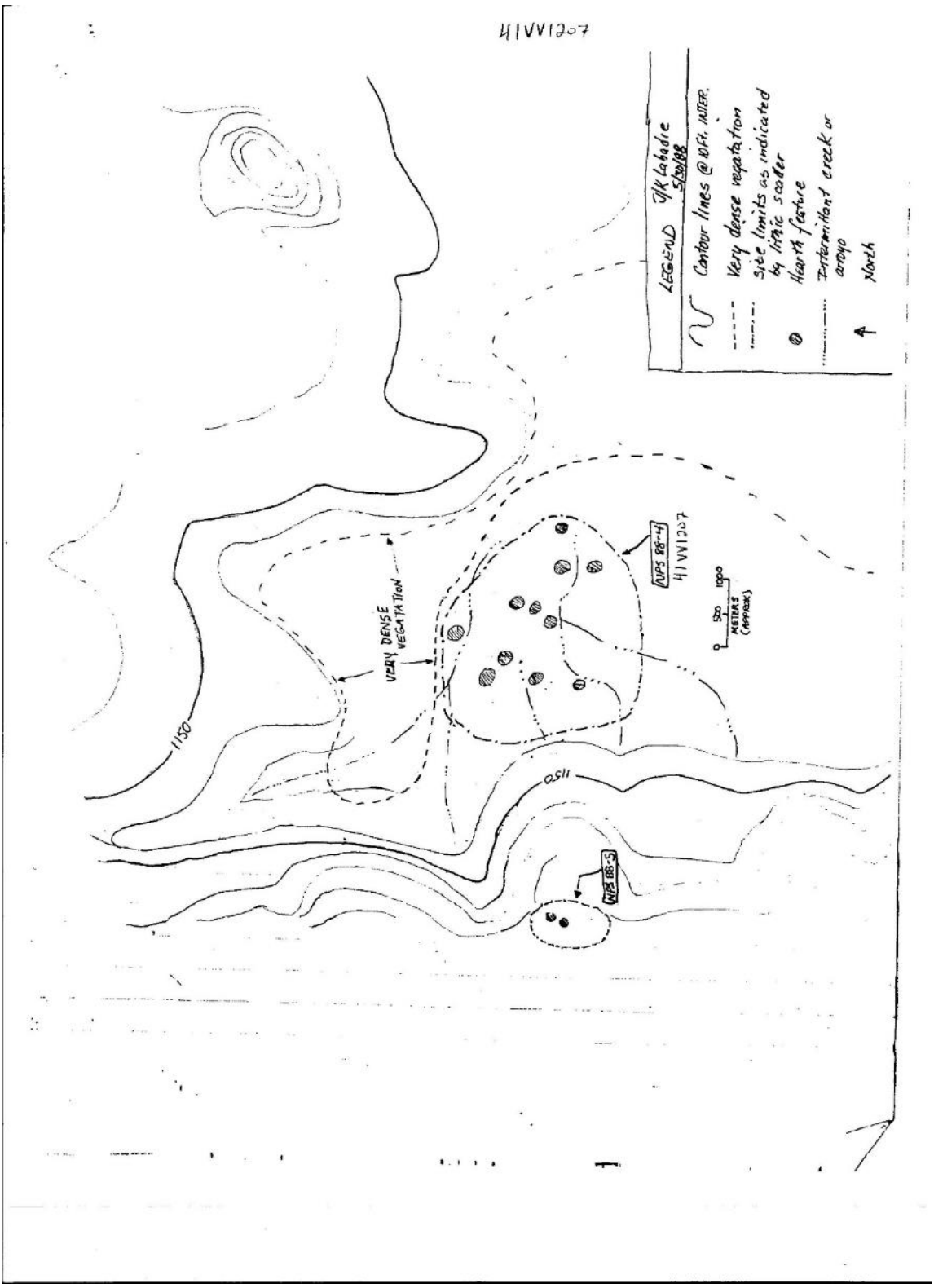
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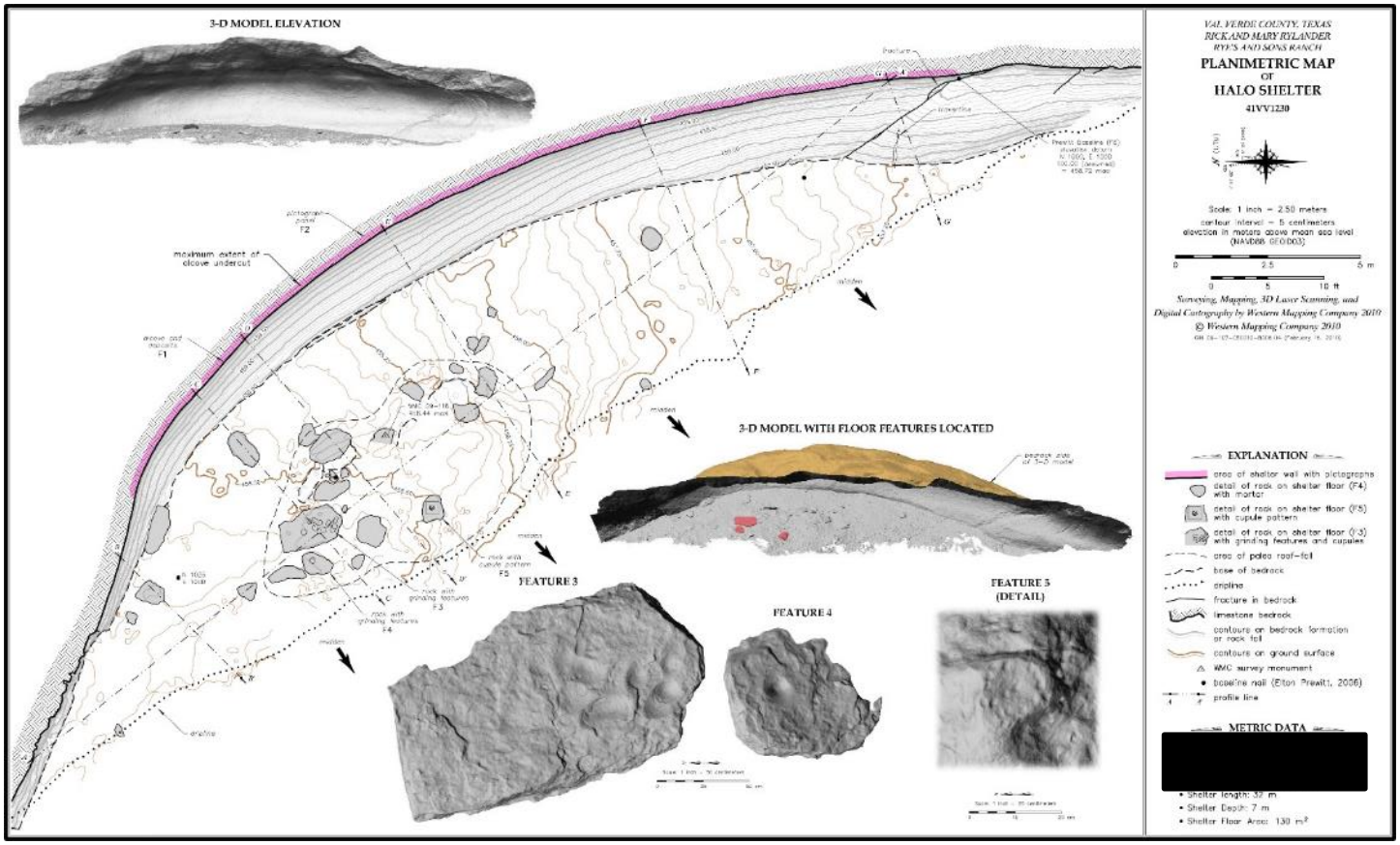
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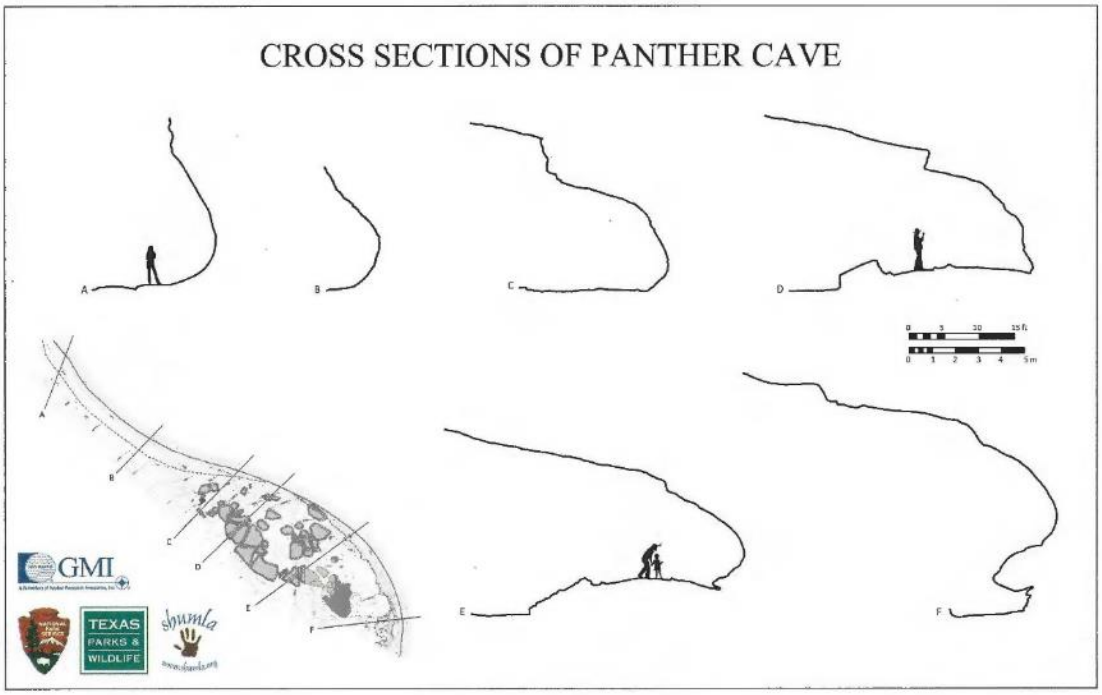
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(2) risk harm to the historic resources; or
(3) impede the use of a traditional religious site by practitioners.



Map 9. Sketch map of 41VV1207, a hearth field on an alluvial terrace of a tributary of the Devils River.



Map 10. Lidar map of Halo Shelter. Courtesy Shumla Archaeological Research and Education Center.



Map 11. Lidar map and cross section of the central shelter with the large, complex PRS art panel at Panther Cave (41VV83). Courtesy Shumla Archaeological Research and Education Center.

List of Photographs, Lower Pecos Canyonlands Archeological District, Val Verde County, Texas

Photo Number	Caption	Camera facing	Date	Photographer
1 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0001.	PHOTOGRAPH 1. View of a portion of the pictograph panel at Halo Shelter (41VV1230), a site in the Devils River drainage. Courtesy of Shumla Archaeological Research and Education Center (Shumla), 41VV1230 Halo Shelter.Site & Crew Photos.General Site Photos.2015.2015_11_10.41VV1230_SITE_4930.jpg.	north	11/10/2015	Jerod Roberts
2 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0002.	PHOTOGRAPH 2. View of a portion of the long panel of rock art at the Rattlesnake Canyon site (41VV180) in the Rio Grande drainage. The central anthropomorph has rabbit ears on its head, an attribute largely found west of the Pecos River. Courtesy Shumla, 41VV180 Rattlesnake Canyon.Site & Crew Photos.General Site Photos.2006.2006_10_18.41VV0180_SITE_2-11.	north	10/18/2006	Jean Clottes
3 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0003.	PHOTOGRAPH 3. View of a portion of the deposits at Fate Bell Shelter (41VV74) and the pictograph panels on shelter wall. [redacted] The lower pictograph panel was partially buried below the midden in the foreground until archeological excavations by the University of Texas in the 1930s. Some pits in the midden are the result of looting. Courtesy of Shumla, 41VV0074 Fate Bell.Photographs.Fate Bell Site Photos.2008.2008_05 Fate Bell.DSC01704.	west	5/2008	Shumla
4 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0004.	PHOTOGRAPH 4. View of alcove with panther facing an anthropomorph at the Curly Tail Panther site (41VV18) in the Devils River drainage. Panthers are commonly found in PRS art at sites across the region. Courtesy of Shumla, 41VV18 Curly Tail Panther_Photographs_Curly Tail Panther Site Photos_2014 IMG_055.	east	2014	Amanda Castaneda
5 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0005.	PHOTOGRAPH 5. View of far right hand portion of the main pictograph panel at Panther Cave (41VV83) suggesting the scale and complexity of the mural. Photo courtesy National Park Service. Panther Cave Site Visit 20150402 IMG_1458_edit.	northeast	3/2006	Jean Clottes
6 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0006	PHOTOGRAPH 6. Looking downstream across the deposits and boulders with grinding features at 41VV83 (Panther Cave). The large-scale pictographs, including a prominent feline, are visible in the background. Courtesy of Shumla, 41VV83 Panther Cave_Site & Crew Photos_General Site Photos_2011_2011.09.27	southeast	9/27/2011	Stephanie Noland

Photo Number	Caption	Camera facing	Date	Photographer
7 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0007.	PHOTOGRAPH 7. View of the panel at the White Shaman Site (41VV124).	east	2/11/2016	Mark Willis
8 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0008.	PHOTOGRAPH 8. Archeologists carefully make their way across a steep rock slope to continue excavations at Baker Cave (41VV213), a large occupation shelter [redacted]. Subsequent to these excavations, looters destroyed the remaining deposits in the shelter. Photograph courtesy Thomas R. Hester.	north	7/1985	Thomas R. Hester
9 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0009.	PHOTOGRAPH 9. Hand excavations in progress at Arenosa Shelter (41VV99). Heavy equipment was needed because the deposits were over 40 ft (14.5m) deep. Photograph courtesy ANRA-NPS Archives at the TARL and TBH at UT.	southwest	06/1967	David Dibble
10 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0010.	PHOTOGRAPH 10. Excavations underway at Coontail Spin Cave (41VV82) [redacted] Courtesy ANRA-NPS Archives at TARL and TBS at UT, http://www.texasbeyondhistory.net/pecos/images/VV82-31.html.	northeast	09/1962	J. P. Nunley
11 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0011.	PHOTOGRAPH 11. Lechuguilla is one of the smallest members of the Agave family and one of the most important plants in the Lower Pecos. Its tough fibers were the preferred material for making sandals, mats, baskets, and many other items. Its heart or leaf base was a major carbohydrate source. Large quantities of lechuguilla hearts were baked in earth ovens. Courtesy ANRA-NPS Archives at TARL and TBS at UT, http://www.texasbeyondhistory.net/pecos/images/lech-3.html and Phil Dering.	east	05/2009	Phil Dering
12 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0012.	PHOTOGRAPH 12. The towering flower stalks of the sotol plant are a common sight in the Lower Pecos Canyonlands. Sotol prefers thin rocky soils and steep terrain and often grows in great abundance in such areas. Prehistoric peoples harvested sotol hearts or "cabezas" (heads) in quantity and baked them in earth ovens. Courtesy of Jack Johnson.	south	06/2016	Jack Johnson

Photo Number	Caption	Camera facing	Date	Photographer
13 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0013.	PHOTOGRAPH 13. Shumla students preparing to document PRS art at Jackrabbit Shelter (41VV576), the site with the oldest radiocarbon assay for this art style. Courtesy Shumla, 41VV576 Jackrabbit.Site & Crew Photos.Crew Photos.2007.2007_05_22_FMRA.576-3397-Kathleen, Niesha,Willi	unknown	5/22/2007	Angel Moody
14 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0014.	PHOTOGRAPH 14. View of part of the PRS panel at Mystic Shelter (41VV612), one of the earliest examples of PRS art in the region. Courtesy Shumla, 41VV612 Mystic Shelter.Photographs.LPRARPP Photos.2013.2013_04_05_Mystic Shelter Originals.41VV0612_Figs_E018_OANS_5801.JPG.	north	4/5/2013	Charles Koenig
15 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0015.	PHOTOGRAPH 15. Earth oven in profile at Kelley Cave (41VV164). Earth ovens are commonly found in rockshelters in the Lower Pecos. Courtesy Texas State University.	northwest	06/2014	Charles Koenig
16 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0016.	PHOTOGRAPH 16. Elton Prewitt (far right) giving tour of Bonfire Shelter (41VV218) open units from the 1960s excavations by UT. Bone Bed 3 from the Late Archaic is below Mr. Prewitt. Courtesy Shumla, 41VV218 Bonfire Shelter.Photographs.Bonfire Site Photos.2009.2009_05 FMRA Bonfire.DSC04603.jpg	northeast	5/25/2009	Angel Moody
17 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0017.	PHOTOGRAPH 17. Close view of bone bed 3 at Bonfire Shelter (41VV218), the whitish layer at the base of the profile. Courtesy Shumla, 41VV218 Bonfire Shelter.Photographs.Bonfire Site Photos.2009.2009_05 FMRA Bonfire.DSC04603.jpg.	northeast	5/25/2009	Angel Moody
18 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0018.	PHOTOGRAPH 18. View red and black cliff faces at the Curly Tail Panther site (41VV18) in the Devils River drainage area. Courtesy Shumla, 41VV18 Curly Tail Panther_Photographs_Curly Tail Panther Site Photos_2007_06 CTP Photos by Kathleen_ IMG_0300.	northeast	6/15/2007	Kathleen Burgess
19 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0019.	PHOTOGRAPH 19. View of black cliff above High Country Shelter (41VV888) in the Devils River drainage. Courtesy Shumla, 41VV0888 High Country Shelter.Site & Crew Photos.General Site Photos.2016.2016_02_24.41VV0888_Site_8381.JPG.	northeast	2/24/2016	Jerod Roberts

Photo Number	Caption	Camera facing	Date	Photographer
20 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0020.	PHOTOGRAPH 20. View of crew climbing to Jaguar Shelter (41VV584) in the Pecos River drainage. Courtesy Shumla, 41VV584 Jaguar Shelter.Site & Crew Photos.Crew Photos.2007.2007_05_20_FMRA.CRW_0613.	north	5/20/2007	Angel Moody
21 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0021.	PHOTOGRAPH 21. View of Fate Bell Shelter (41VV74) with gray cliffs above. Note the rubber mats laid down for visitors to enter on guided tours of the shelter. Courtesy Shumla, 41VV0074 Fate Bell.Photographs.Fate Bell Site Photos.2006.2006 FMRA Fate Bell.IMG_1012.	southwest	2006	Angel Moody
22 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0022.	PHOTOGRAPH 22. Late Archaic dart point from the Lower Pecos Canyonlands with sinue still attached. Courtesy ANRA-NPS Archives at TARL and TBS at UT, http://www.texasbeyondhistory.net/pecos/images/25199.html.	n/a	2008	TARL
23 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0023.	PHOTOGRAPH 23. Rodent-gnawed fragment of a painted cane flute from excavations in the Lower Pecos Canyonlands. Courtesy ANRA-NPS Archives at TARL and TBS at UT, http://www.texasbeyondhistory.net/pecos/images/2794b.html.	n/a	2008	TARL
24 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0024.	PHOTOGRAPH 24. Black zoomorph at 41VV75; note its torso has been partially removed by spalling, a condition that affects the walls in some shelters. The first successful radiocarbon date for painted rock art anywhere in the world was assayed from a spall from 41VV75 with PRS pigment on it. Courtesy Shumla, 41VV0075.Photographs.41VV75 Site Photos.2012.2012_03_12_pXRF.DSC00249.	west	3/12/2012	Amanda Castaneda
25 X_Val Verde County_Lower Pecos Canyonlands Archeological District_0025.	PHOTOGRAPH 25. View of Area A, East profile at the Devil's Mouth (41VV188) site during excavations in progress. Like other sites with deep deposits, the Devil's Mouth site revealed intermittent occupation capped by alluvial flooding over thousands of years. Courtesy Courtesy ANRA-NPS Archives at TARL, TARL, Devil's Mouth, 41VV188-46.	southeast	1967	William Sorrow
26 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0026.	PHOTOGRAPH 26. View of a portion of the PRS panel at the Cedar Springs site showing a white anthropomorph and other figures which can be compared to the White Shaman site's PRS panel. Courtesy Shumla, 41VV0696 Cedar Springs.Site & Crew Photos.General Site Photos.2015.2015_11_08_41VV0696_SITE_6170.JPG.	southeast	11/8/2015	Carolyn Boyd

Photo Number	Caption	Camera facing	Date	Photographer
27 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0027.	PHOTOGRAPH 27. View of the undulating body and head of a horned serpent at Mystic Shelter (41VV612). Courtesy Shumla, 41VV612 Mystic Shelter.Photographs.LPRARPP Photos.2009.090515_Mystic.IMG_0118.JPG.	north	9/5/2009	Angel Moody
28 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0028.	PHOTOGRAPH 28. Looking across the drainage to the Devils River at High Country Shelter (41VV888) with portions of its PRS pictograph panel on the ceiling. Courtesy Shumla, 41VV0888 High Country Shelter.Site & Crew Photos.General Site Photos.2016.2016_02_24.41VV0888_Site_8397.JPG.	west	2/24/2016	Jerod Roberts
29 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0029_OPTION 2	PHOTOGRAPH 29. Viewshed from Big Satan rockshelter (41VV40), a large rockshelter that is extremely obvious on the landscape. The space inside the shelter is open and the murals are highly visible. Courtesy Shumla, 41VV0040 Big Satan_Site & Crew Photos_General Site Photos_2009_2009.10.25 RCS Photos	southeast	10/25/2009	Bob Mark
30 X_Val Verde County_Lower Pecos Canyonlands Archeological District_0030.	PHOTOGRAPH 30. View of part of the PRS panel at 41VV40. The site has this pictograph panel but few to no cultural deposits. Courtesy Amistad National Recreation Area (Amistad), 20160118_112536.jpg.	northeast	1/18/2016	Jack Johnson
31 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0031.	PHOTOGRAPH 31. The spring-fed Devils River with the surrounding cliffs and blue skies are a prominent feature of the Lower Pecos landscape. Courtesy, Texas Parks and Wildlife, devils_river_with_mesas,_canyons--~laurence_parent[1].	northeast	2012	Laurence Patent
32 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0032.	PHOTOGRAPH 32. Anthropomorph at Fate Bell Annex (41VV73) holding matching atlatls in each hand. Courtesy Shumla, 41VV73 Fate Bell Annex.Site & Crew Photos.Photo Legacy.Turpin 1981.PC-A-403B.tiff.	northwest	1981	Solveig Turpin
33 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0033.	PHOTOGRAPH 33. The midden at 41VV75 showing some pot holes and burned rock. Intact deposits are believed to underlie the looter holes in this thick midden. Courtesy Shumla, 41VV0075.Photographs.41VV75 Site Photos.2008.2008_05 FMRA VV75.DSC01749.	north	05/2008	Shumla

Photo Number	Caption	Camera facing	Date	Photographer
34 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0034.	PHOTOGRAPH 34. PRS pictographs on wall at Black Cave (41VV76) with J. Clottes and A. Castaneda. Courtesy Shumla, 41VV0076 Black Cave.Photographs.Black Cave Site Photographs.2011.2011_11_12 from Elton Prewitt.IMG_0124.jpg.	northeast	11/12/2011	Elton Prewitt
35 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0035.	PHOTOGRAPH 35. View of Painted Shelter (41VV78), [redacted] The PRS art is high on the ceiling. Courtesy Shumla, 41VV0078 Painted Shelter.Site & Crew Photos.Artistic Photos.Location.2015.2015_09_23 41VV0078_SITE_ARTISTIC_5225.	northwest	9/2/2015	Shumla
36 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0036.	PHOTOGRAPH 36. View of a portion of the complex panel of PRS art at Panther Cave (41VV83). Courtesy Shumla, 41VV0083 Panther Cave.Site & Crew Photos.General Site Photos.2004.0083_2004_SHUMLA PE.54013_0083_2004_pe.	northeast	2004	Shumla
37 TX_Val Verde County_Lower Pecos Canyonlands Archeological District_0037.	PHOTOGRAPH 37. Panel with winged anthropomorph Raymond's Shelter (41VV286) that is very similar to a figure at Fate Bell Shelter (41VV74) in Seminole Canyon. Courtesy Shumla, 41VV286 Raymond's Shelter.Figure Data.Anthropomorphs.41VV286_A001_CTF.Figure Photos.41VV0286_FIGS_A001_OANS_3016.jpg.	north	6/21/2013	Amanda Castaneda



Photo 1. View of a portion of the pictograph panel at Halo Shelter (41VV1230), a site in the Devils River drainage. Courtesy of Shumla Archaeological Research and Education Center (Shumla), 41VV1230 Halo Shelter.Site & Crew Photos.General Site Photos.2015.2015_11_10.41VV1230_SITE_4930.jpg.



Photo 2. View of a portion of the long panel of rock art at the Rattlesnake Canyon site (41VV180) in the Rio Grande drainage. The central anthropomorph has rabbit ears on its head, an attribute largely found west of the Pecos River. Courtesy Shumla, 41VV180 Rattlesnake Canyon.Site & Crew Photos.General Site Photos.2006.2006_10_18.41VV0180_SITE_2-11.



Photo 3. View of a portion of the deposits at Fate Bell Shelter (41VV74) and the pictograph panels on shelter wall. [redacted] The lower pictograph panel was partially buried below the midden in the foreground until archeological excavations by the University of Texas in the 1930s. Some pits in the midden are the result of looting. Courtesy of Shumla, 41VV0074 Fate Bell.Photographs.Fate Bell Site Photos.20068.2008_05 Fate Bell.DSC01704.



Photo 4. View of alcove with panther facing an anthropomorph at the Curly Tail Panther site (41VV18) in the Devils River drainage. Panthers are commonly found in PRS art at sites across the region. Courtesy of Shumla, 41VV18 Curly Tail Panther_Photographs_Curly Tail Panther Site Photos_2014 IMG_055.



Photo 5. View of far right hand portion of the main pictograph panel at Panther Cave (41VV83) suggesting the scale and complexity of the mural. Photo courtesy National Park Service. Panther Cave Site Visit 20150402 IMG_1458_edit.



Photo 6. Looking downstream across the deposits and boulders with grinding features at 41VV83 (Panther Cave). The large-scale pictographs, including a prominent feline, are visible in the background. Courtesy of Shumla, 41VV83 Panther Cave_Site & Crew Photos_General Site Photos_2011_2011.09.27.



Photo 7. View of the panel at the White Shaman Site (41VV124).



Photo 8. Archeologists carefully make their way across a steep rock slope to join the excavations at Baker Cave (41VV213), a large occupation shelter [redacted] Subsequent to these excavations, looters destroyed the remaining deposits in the shelter. Photo courtesy Thomas R. Hester.



Photo 9. Hand excavations in progress at Arenosa Shelter (41VV99). Heavy equipment was needed because the deposits were over 40 ft (14.5m) deep. Photo courtesy ANRA-NPS Archives at the TARL and TBH at UT.



Photo 10. Excavations underway at Coontail Spin Cave (41VV82) [redacted] Courtesy ANRA-NPS Archives at TARL and TBS at UT, http://www.texasbeyondhistory.net/pecos/images/VV82-31.html.



Photo 11. Lechuguilla is one of the smallest members of the Agave family and one of the most important plants in the Lower Pecos. Its tough fibers were the preferred material for making sandals, mats, baskets, and many other items. Its heart or leaf base was a major carbohydrate source. Large quantities of lechuguilla hearts were baked in earth ovens. Courtesy ANRA-NPS Archives at TARL and TBS at UT, http://www.texasbeyondhistory.net/pecos/images/lech-3.html and Phil Dering.



Photo 12. The towering flower stalks of the sotol plant are a common sight in the Lower Pecos Canyonlands. Sotol prefers thin rocky soils and steep terrain and often grows in great abundance in such areas. Prehistoric peoples harvested sotol hearts or “cabezas” (heads) in quantity and baked them in earth ovens. Courtesy of Jack Johnson.



Photo 13. Shumla students preparing to document PRS art at Jackrabbit Shelter (41VV576), the site with the oldest radiocarbon assay for this art style. Courtesy Shumla, 41VV576 Jackrabbit. Site & Crew Photos.Crew Photos.2007.2007_05_22_FMRA.576-3397-Kathleen, Niesha,Willi



Photo 14. View of part of the PRS panel at Mystic Shelter (41VV612), one of the earliest examples of PRS art in the region. Courtesy Shumla, 41VV612 Mystic Shelter. Photographs.LPRARPP Photos.2013.2013_04_05_Mystic Shelter Originals.41VV0612_Figs_E018_OANS_5801.JPG.

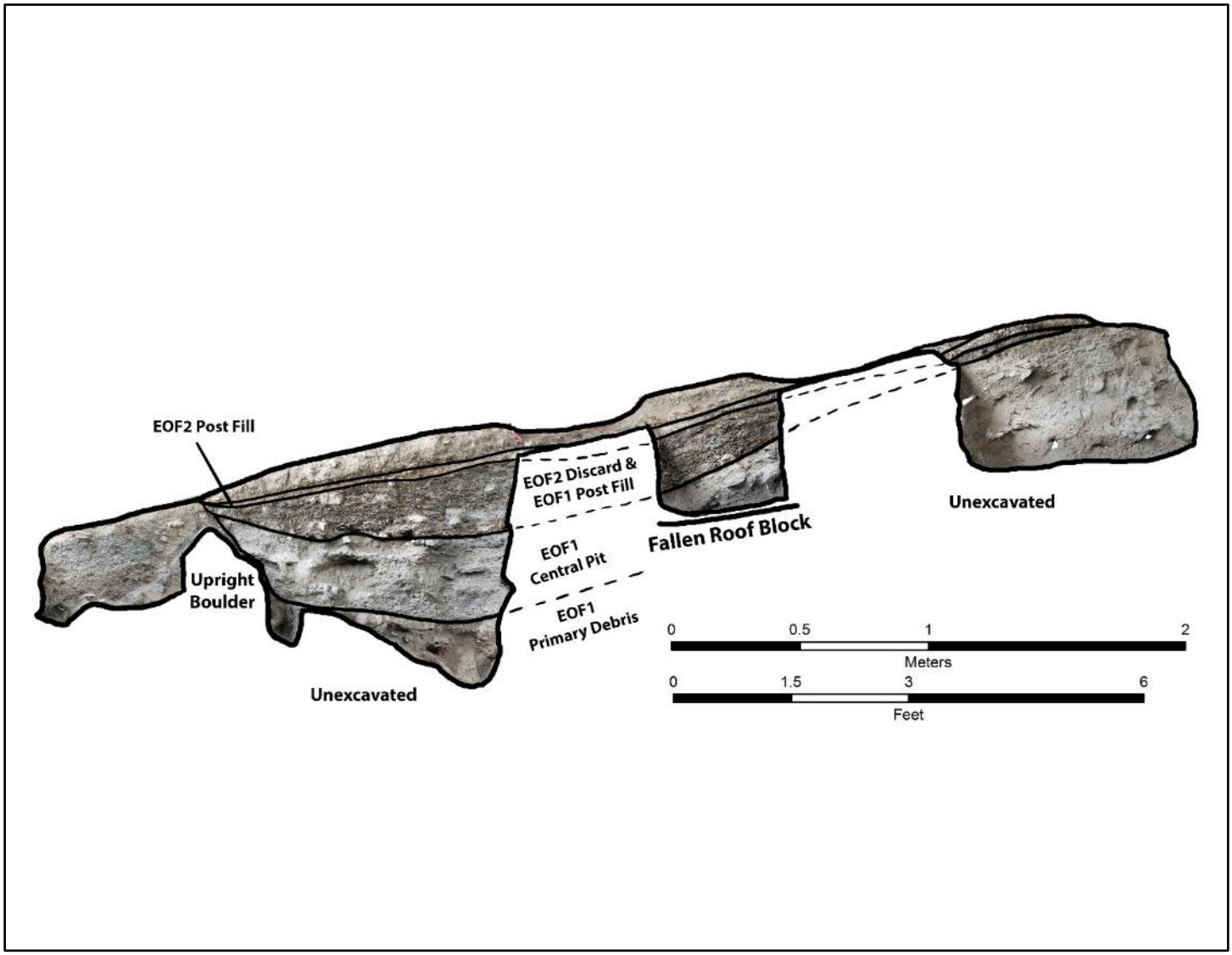


Photo 15. Earth oven in profile at Kelley Cave (41VV164). Earth ovens are commonly found in rockshelters in the Lower Pecos. Courtesy Texas State University.



Photo 16. Elton Prewitt (far right) giving tour of Bonfire Shelter (41VV218) open units from the 1960s excavations by UT. Bone Bed 3 from the Late Archaic is below Mr. Prewitt. Courtesy Shumla, 41VV218 Bonfire Shelter.Photographs. Bonfire Site Photos.2009.2009_05 FMRA Bonfire.DSC04603.jpg.



Photo 17. Close view of bone bed 3 at Bonfire Shelter (41VV218), the whitish layer at the base of the profile. Courtesy Shumla, 41VV218 Bonfire Shelter.Photographs.Bonfire Site Photos.2009.2009_05 FMRA Bonfire.DSC04603.jpg.



Photo 18. View red and black cliff faces at the Curly Tail Panther site (41VV18) in the Devils River drainage area. Courtesy Shumla, 41VV18 Curly Tail Panther_Photographs_Curly Tail Panther Site Photos_2007_06 CTP Photos by Kathleen_ IMG_0300.



Photo 19. View of black cliff above High Country Shelter (41VV888) in the Devils River drainage. Courtesy Shumla, 41VV0888 High Country Shelter.Site & Crew Photos.General Site Photos.2016.2016_02_24.41VV0888_Site_8381.JPG.



Photo 20. View of crew climbing to Jaguar Shelter (41VV584) in the Pecos River drainage. Courtesy Shumla, 41VV584 Jaguar Shelter.Site & Crew Photos.Crew Photos.2007.2007_05_20_FMRA.CRW_0613.



Photo 21. View of Fate Bell Shelter (41VV74) with gray cliffs above. Note the rubber mats laid down for visitors to enter on guided tours of the shelter. Courtesy Shumla, 41VV0074 Fate Bell.Photographs.Fate Bell Site Photos.2006.2006 FMRA Fate Bell.IMG_1012.



Photo 22. Late Archaic dart point from the Lower Pecos Canyonlands with sinue still attached. Courtesy ANRA-NPS Archives at TARL and TBS at UT, http://www.texasbeyondhistory.net/pecos/images/25199.html.



Photo 23. Rodent-gnawed fragment of a painted cane flute from excavations in the Lower Pecos Canyonlands. Courtesy ANRA-NPS Archives at TARL and TBS at UT, http://www.texasbeyondhistory.net/pecos/images/2794b.html.



Photo 24. Black zoomorph at 41VV75; note its torso has been partially removed by spalling, a condition that affects the walls in some shelters. The first successful radiocarbon date for painted rock art anywhere in the world was assayed from a spall from 41VV75 with PRS pigment on it. Courtesy Shumla, 41VV0075.Photographs.41VV75 Site Photos.2012.2012_03_12_xPRF.DSC00249.

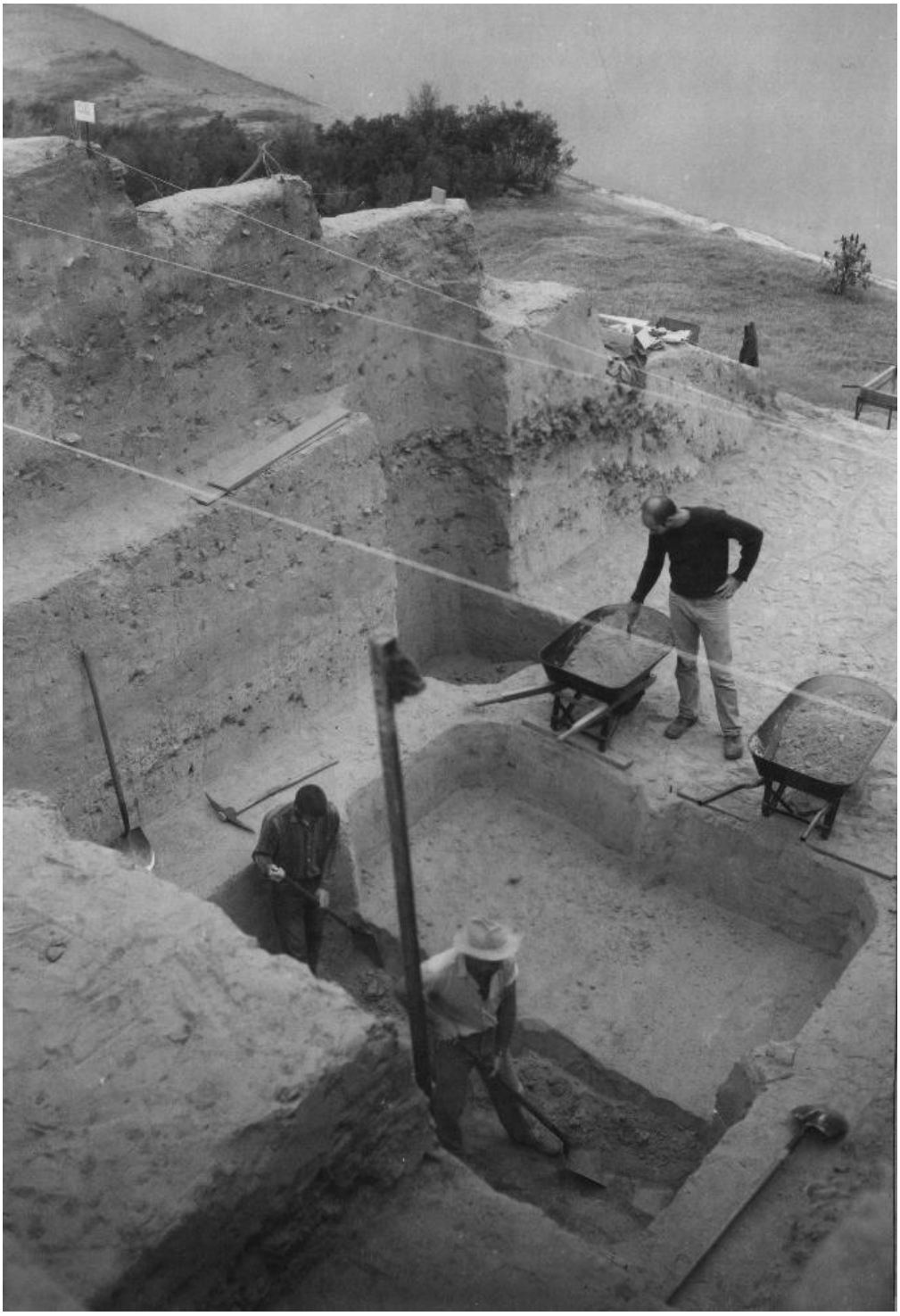


Photo 25. View of Area A, East profile at the Devil's Mouth (41VV188) site during excavations in progress. Like other sites with deep deposits, the Devil's Mouth site revealed intermittent occupation capped by alluvial flooding over thousands of years. Courtesy ANRA-NPS Archives at TARL, TARL, Devil's Mouth, 41VV188-46.

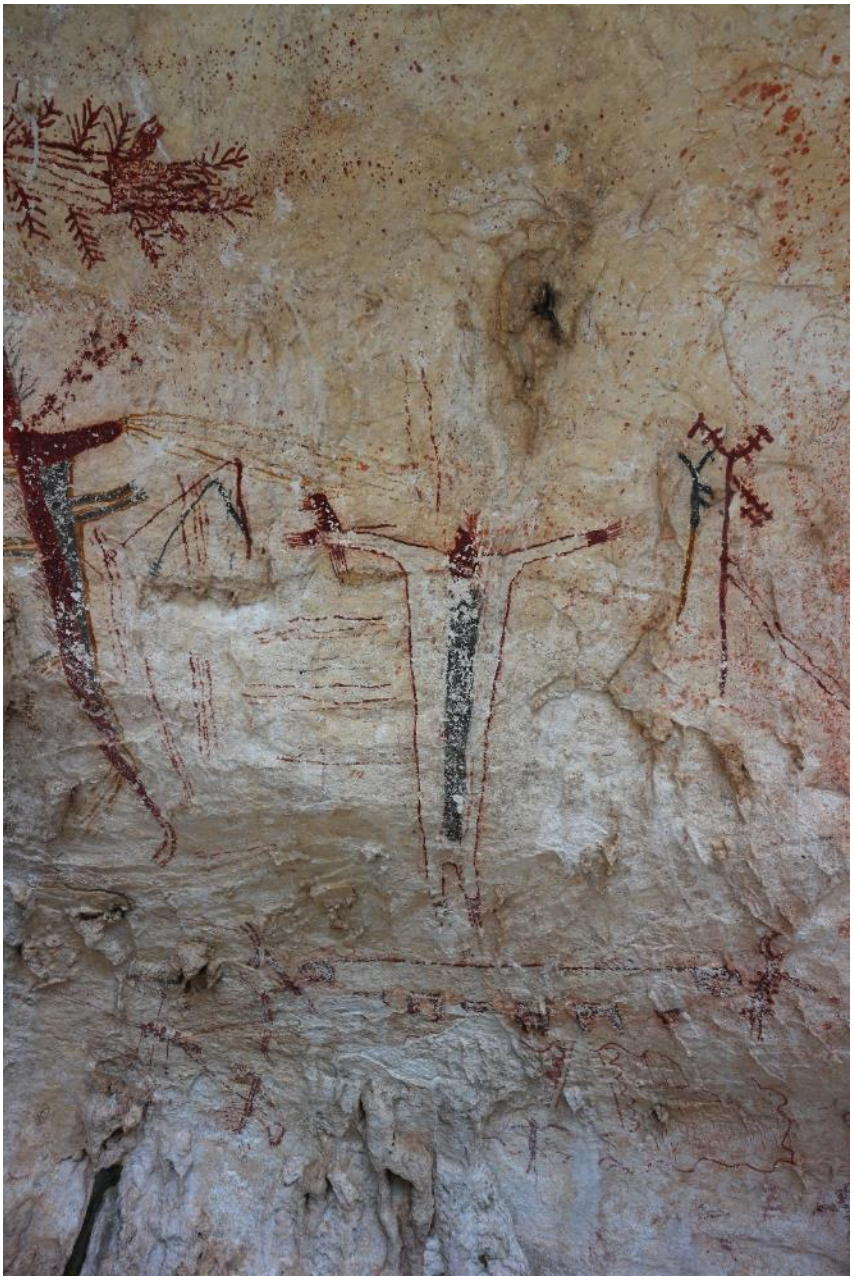


Photo 26. View of a portion of the PRS panel at the Cedar Springs site showing a white anthropomorph and other figures which can be compared to the White Shaman site's PRS panel. Courtesy Shumla, 41VV0696 Cedar Springs.Site & Crew Photos.General Site Photos.2015.2015_11_08_41VV0696_SITE_6170.JPG.



Photo 27. View of the undulating body and head of a horned serpent at Mystic Shelter (41VV612). Courtesy Shumla, 41VV612 Mystic Shelter.Photographs.LPRARPP Photos.2009.090515_Mystic.IMG_0118.JPG.



Photo 28. Looking across the drainage to the Devils River at High Country Shelter (41VV888) with portions of its PRS pictograph panel on the ceiling. Courtesy Shumla, 41VV0888 High Country Shelter.Site & Crew Photos.General Site Photos.2016.2016_02_24.41VV0888_Site_8397.JPG.



Photo 29. Viewshed from Big Satan rockshelter (41VV40), a large rockshelter that is extremely obvious on the landscape. The space inside the shelter is open and the murals are highly visible. Courtesy Shumla, 41VV0040 Big Satan_Site & Crew Photos_General Site Photos_2009_2009.10.25 RCS Photos.



Photo 30. View of part of the PRS panel at 41VV40. The site has this pictograph panel but few to no cultural deposits. Courtesy Amistad National Recreation Area (Amistad), 20160118_112536.jpg.



Photo 31. The spring-fed Devils River with the surrounding cliffs and blue skies are a prominent feature of the Lower Pecos landscape. Courtesy, Texas Parks and Wildlife, devils_river_with_mesas,_canyons--~laurence_parent[1].

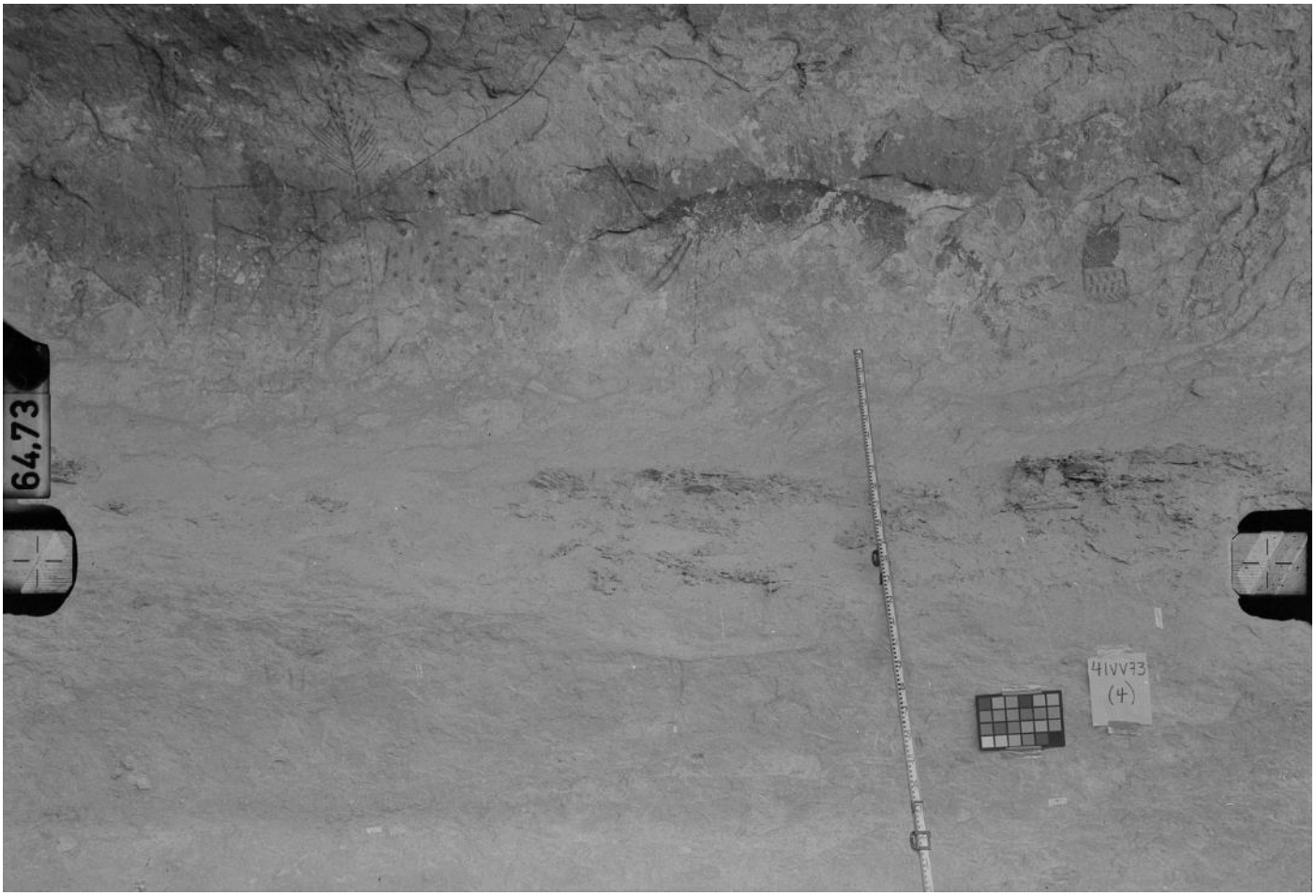


Photo 32. Anthropomorph at Fate Bell Annex (41VV73) holding matching atlatls in each hand. Courtesy Shumla, 41VV73 Fate Bell Annex.Site & Crew Photos.Photo Legacy.Turpin 1981.PC-A-403B.tiff.



Photo 33. The midden at 41VV75 showing some pot holes and burned rock. Intact deposits are believed to underlie the looter holes in this thick midden. Courtesy Shumla, 41VV0075.Photographs.41VV75 Site Photos.2008.2008_05 FMRA VV75.DSC01749.



Photo 34. PRS pictographs on wall at Black Cave (41VV76) with J. Clottes and A. Castaneda. Courtesy Shumla, 41VV0076 Black Cave.Photographs.Black Cave Site Photographs.2011.2011_11_12 from Elton Prewitt.IMG_0124.jpg.



Photo 35. View of Painted Shelter (41VV78), [redacted] The PRS art is high on the ceiling. Courtesy Shumla, 41VV0078 Painted Shelter.Site & Crew Photos.Artistic Photos.Location.2015.2015_09_23 41VV0078_SITE_ARTISTIC_5225.



Photo 36. View of a portion of the complex panel of PRS art at Panther Cave (41VV83). Courtesy Shumla, 41VV0083 Panther Cave.Site & Crew Photos.General Site Photos.2004.0083_2004_SHUMLA PE.54013_0083_2004_pe.



Photo 37. Panel with winged anthropomorph Raymond's Shelter (41VV286) that is identical to a figure at Fate Bell Shelter (41VV74) in Seminole Canyon. Courtesy Shumla, 41VV286 Raymond's Shelter.Figure Data.Anthropomorphs.41VV286_A001_CTF.Figure Photos.41VV0286_FIGS_A001_OANS_3016.jpg.