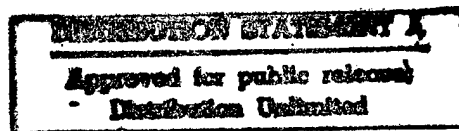

ARCHEOLOGICAL SURVEY FOR JTF-6 ROAD IMPROVEMENTS IN PRESIDIO AND JEFF DAVIS COUNTIES, TEXAS

by

Mark Sale
and
Victor Gibbs

REPORT OF INVESTIGATIONS
NUMBER 134EP



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**ARCHEOLOGICAL SURVEY FOR JTF-6
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by

Mark Sale

and

Victor Gibbs

Regan Giese
Principal Investigator

REPORT OF INVESTIGATIONS NO. 134EP

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ABSTRACT

This report summarizes the results of a cultural resources survey which was conducted along approximately 90 mi of existing road rights-of-way and 1.5 mi of proposed new road rights-of-way in Presidio and Jeff Davis counties, Texas. The study was undertaken to provide archeological clearance for road improvements that are designed to assist the U.S. Border Patrol in accessing the International Boundary.

A total of 27 new archeological sites and 42 isolated occurrences was identified as a result of the survey and one site (41PS13) was rerecorded. Twenty-one of these sites are attributable to prehistoric activities and five sites are attributable to historic activities. One site contained both prehistoric and historic artifacts. Thirteen of the newly recorded sites are considered to be ineligible for inclusion on the National Register of Historic Places (NRHP). The remaining 15 sites are recommended as potentially eligible for inclusion on the NRHP. A total of 20 previously recorded sites was revisited. Five sites documented during this project and six previously recorded sites are located on Texas State lands. With the exception of 41PS762 and 41PS763, these sites are also considered potentially eligible for the NRHP.

Sites located within the right-of way which might be impacted during this undertaking were flagged for avoidance. By limiting modification of the existing roadbed in the vicinity of these sites, adverse impacts as a result of road improvements were avoided.

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The location of this project is set in the wild and dangerous Mexican border along the Rio Grande. The team at the Marfa Sector Border Patrol are to be commended for their role as guides, protectors, and interpreters for our survey crew, especially Terry Norman who served a logistical role during the project. Thanks go to Milton Blankenship, who administered the project for JTF-6. Major Garza of JTF-6, who was in charge of the difficult logistics for the project, provided us with accurate maps and information and kept us up-to-date when plan changes occurred. Thanks also go to Dr. Jay Newman, who administering the project for the U.S. Army Corps of Engineers, Fort Worth District. The efforts of Regan Giese, principal investigator, were much appreciated, as were those of the Texas Archeological Research Laboratory, the Texas Historical Commission and Texas General Land Office at Austin. Lastly, long-time resident Jack Brunson provided valuable historical information regarding the West Texas region.

Victor Gibbs

El Paso

CHAPTER 1

INTRODUCTION

During November and December of 1997, archeologists from Geo-Marine, Inc., conducted an intensive cultural resources survey along approximately 90 mi (145 km) of existing roads and 1.5 mi (2.4 km) of proposed new road in Presidio and Jeff Davis counties, Texas (Figure 1). The study was conducted at the request of the U.S. Army Corps of Engineers, Fort Worth District, in response to a need for road improvements expressed by the U.S. Border Patrol. At the time of this investigation, portions of the roads along the Rio Grande were impassable, complicating patrol of the International Boundary.

Improvement plans include use of U.S. Army, Joint Task Force-6 (JTF-6) personnel and heavy equipment to upgrade existing roads and to engineer and construct a new road near Candelaria. In addition to the roadways, several locations were inspected to provide archeological clearance for K-Span structures, equipment parking, bivouacs, helicopter landing pads, an unimproved airstrip, creek crossings, and material borrow areas.

A total of 27 new archeological sites and 42 isolated occurrences was identified as a result of the survey, 20 previously recorded site locations were revisited, and one (41PS13) was rerecorded. Three sites which contained questionable locations from previously recorded map information could not be relocated. Twenty-one of the new sites are attributable to aboriginal activities, five sites are attributable to historic activities, and one site contained both aboriginal and historic artifacts. Details regarding the newly recorded sites are located in Chapter 6. Fifteen of the previously recorded sites were attributable to aboriginal activities, three were attributable to historic activities, and three contained both aboriginal and historic artifacts. Details regarding the previously recorded sites are located in Chapter 4.

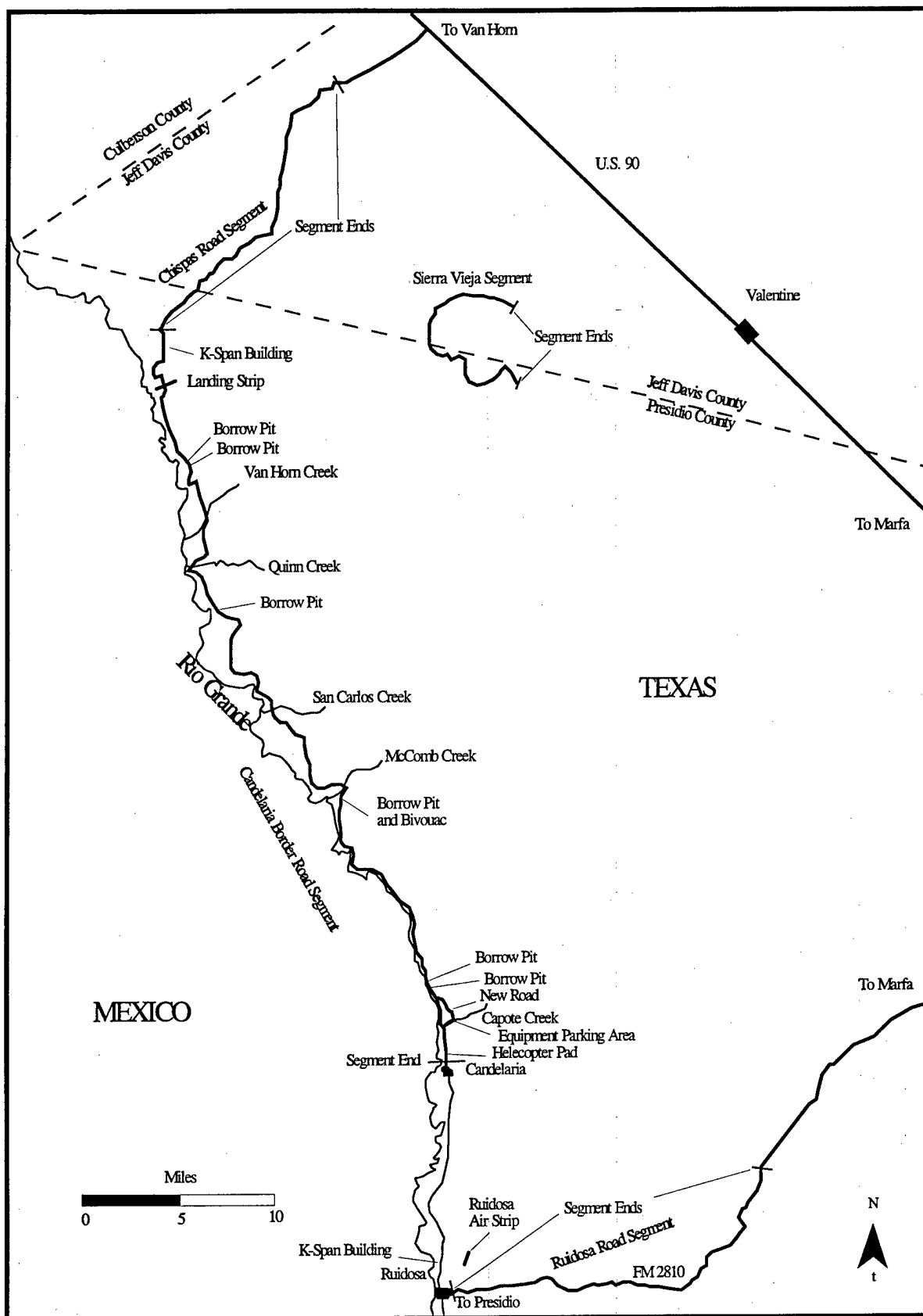


Figure 1. Location of the study areas.

Fifteen of the newly recorded sites are recommended as potentially eligible for inclusion on the National Register of Historic Places (NRHP). The remaining 13 sites are considered as ineligible for inclusion on the NRHP. The 21 previously recorded sites that could be relocated are recommended as potentially eligible for the NRHP.

Those cultural properties located within the right-of-way (ROW) and considered potentially eligible for the NRHP can be avoided by limiting additional expansion of existing roadbeds within the limits of the sites. Cultural properties located along the proposed new road can be avoided by strict adherence to the proposed route.

LOCATION OF THE STUDY AREAS

The study areas, divided into four segments detailed below, are depicted on maps with land status in Appendix C.

Chispas Road Segment

The Chispas segment begins southeast of Van Horn, along an improved dirt road heading southwest between the Van Horn Mountains and the Sierra Vieja, south of (paved) State Road 2017. The first approximately 7.5 mi (12 km) of road, heading southwest from the pavement, past Needle Peak to the Coal Mine Ranch (Van Horn Creek) turnoff, had been previously surveyed (Sale and Gibbs 1995). The present study began at the Coal Mine Ranch turnoff, continuing about 6 mi (9.7 km) southwest to an intersection with the border (river) road. From this point southward, the route is referred to as the Candelaria Border Road. The Chispas segment of the study area consists of a fairly wide, maintained road in relatively good condition and will require little or no improvements.

Candelaria Border Road Segment

From the Chispas Road intersection, the Candelaria Border Road heads south, along the United States (or eastern) side of the Rio Grande. The road generally parallels the river, although at some points it is up to 2 mi (3.2 km) east of the floodplain, and ends within a few miles of Candelaria. South from this point, the existing road is impassable due to flooding, and current improvement plans include construction of a new road to circumvent the impasse. A steep escarpment situated directly adjacent to the current river channel

Archeological Survey for JTF-6 Road Improvements in Presidio and Jeff Davis Counties, Texas

prohibits improvement of the original road, which has been inundated by water for the past two years. Approximately 1.5 mi (2.4 km) of new road is proposed, skirting the steep scarps to the east of the road. This new construction is currently planned to diverge from the river road 3 mi (4.8 km) north of Candelaria and rejoin the existing road via Capote Creek 2 mi (3.2 km) north of Candelaria (see Figure 1). Archeological survey of the Candelaria Border Road segment terminates approximately 1 mi (1.6 km) south of Capote Creek, where the existing roadway is well maintained and no upgrading is necessary.

Ruidosa Road Segment

The Ruidosa segment begins approximately 30 mi (48 km) southwest of Marfa, where the FM 2810 pavement ends, continuing southwestward along Pinto Canyon, then heading generally westward to the village of Ruidosa on the Rio Grande. This segment follows FM 2810, a well-maintained road that will require little improvement but which may be impacted by heavy equipment traffic accessing the Candelaria Border road during this undertaking.

Sierra Vieja Repeater Road Segment

This inventoried road begins approximately 2 mi (3.2 km) west of Valentine, at the Miller Ranch. From the ranch house on the south end, the road runs north-northwest about 1 mi (1.6 km) before turning southwest and ascending Sierra Vieja by jeep trail. Atop Sierra Vieja, the road trends north past a radio repeater station, skirting the western edge of Star Mesa, and descends to the northeast into Indian Peak Canyon. Survey continued along an existing road east of the canyon, for slightly more than 2 mi (3.2 km), to a well. The road south of the repeater station (benchmark Tierra on the 7.5-minute USGS Sierra Vieja quadrangle map) is in relatively good condition and should require a minimum amount of upgrading, while north of the repeater, the road is impassable and will require substantial improvement for future use.

CHAPTER 2

ENVIRONMENTAL SETTING

The project area is situated within what is generally termed the Trans-Pecos region, which consists of mountains, canyons, and stretches of plateaus and plains between two relatively broad river valleys: those of the Rio Grande on the west and the Pecos River on the east. The project area falls within the Interior subregion of the Trans-Pecos region, which is characterized by true basin and range topography (Hicks 1989:13; Mallouf 1985:5). Generally, the mountains are irregular in shape, trend south and southeast, and are separated by parallel belts of lowlands or bolsons. The Rio Grande is the only permanently flowing river in the project area; all other drainages are intermittent.

GEOLOGY

The geology in and around the project area is complex, featuring evidence of many geologic processes including faulting, folding, and igneous intrusions. Exposed rocks range in age from Precambrian to recent, with nearly all geologic systems being represented. While minor portions of the study area include formations of sedimentary origin, igneous formations occupy a large part of Jeff Davis and Presidio counties (Gates et al. 1980). Volcanic, volcanic-clastic, and intrusive formations of Tertiary age outcrop over much of the project area. Limestone and sandstone rocks of Cretaceous age form outcrops on the southern Diablo Plateau, between the Davis and Apache mountains and in the Van Horn Mountains. Rocks of Permian age, primarily limestone, are also found in the area. Unconsolidated Tertiary and Quaternary deposits fill the basins.

The geological settings present in the study area are reflected in prehistoric site artifact assemblages. Throughout most of the study area, geologic formations predominantly consist of igneous intrusives. Siliceous rhyolites, typically occurring as a cobble or blocky surface matrix, are common over much of the

Archeological Survey for JTF-6 Road Improvements in Presidio and Jeff Davis Counties, Texas

landscape. Microcrystalline varieties (predominantly red or maroon jaspers) occur intermittently as small nodules, with chalcedony noted less frequently. The rhyolites comprised the predominant material type observed on prehistoric sites, with jasper and chalcedony debitage co-occurring in significantly lower frequencies. Only on site 26 (41PS781), where sedimentary limestone bedrock with nodular chert inclusions was present, was a variety of microcrystalline cherts observed.

SOILS

At least 10 soil associations occur within the study area. To avoid lengthy descriptions of the soil groups that may not be pertinent, general characteristics of soil associations in areas where prehistoric sites have been located are presented in this section.

Chispas and Candelaria Road Segments

Two soil associations occur along the Chispas and Candelaria Border roads: Nickel-Canutio and Volco-Brewster (Soil Conservation Service 1972). The Nickel-Canutio association consists of light-colored, gravelly, calcareous soils on undulating and rolling hills. The Nickel soils comprise approximately 35 percent of this association and consist of a light brownish-gray, gravelly surface layer about 7 in thick, with about 40 percent (by volume) being caliche-coated pebbles. This layer is underlain by a white, weakly cemented layer of fragmental caliche and pebbles. The Canutio soils comprise about 30 percent of this association and consist of a pale brown, friable, calcareous, cobbly loam about 6 in thick. The second layer is very pale brown, loose, calcareous, very cobbly loam about 24 in thick with patchy lime coatings on pebbles, cobbles, and stones. The volume of igneous and limestone fragments ranges from 30 percent in the surface layer to 60 percent or more in the lower layers. Approximately 15 percent of the association is made up of badlands.

The Volco-Brewster association is described as shallow and very shallow, calcareous and noncalcareous soils on igneous hills. This association consists of about 49 percent Volco soils and 31 percent Brewster soils. Volco soils typically range up to about 9 in thick over volcanic bedrock and include a grayish-brown, calcareous loam topsoil, with about 40 percent (by volume) volcanic rock and caliche fragments. The lower layer is a brown, calcareous loam with increased amounts of lime-coated volcanic rock fragments. The Brewster soil surface layer typically occurs about 7 in thick over volcanic bedrock and consists of a reddish-brown, neutral loam with about 50 percent volcanic rock fragments. About 12 percent of this association

is igneous rock outcrop, and approximately 8 percent of the area is composed of deeper soils in narrow drainages and footslopes between the hills and mountains.

Archeological remains demonstrate a general trend, with respect to site type and soil association along the Chispas and Candelaria Border Road portions of this study. Aboriginal lithic scatters and material source areas (or quarries) tend to be located within the Volco-Brewster association, where igneous materials suitable for tool production are available. Campsites and processing locales are predominantly situated within Nickel-Canutio association zones, where soils support more vegetation and erosion is less pronounced. While the potential for subsurface cultural deposits exists within any of these sites located within this segment, this potential is lower on sites found on alluvial ridges and higher on sites located on the sandy benches above the Rio Grande.

Ruidosa Road Segment

While at least five soil associations are present along FM 2810, prehistoric sites were noted in only two of the soil zones: the Lozier association and the Gageby-Rockhouse association. The Lozier association consists of light-colored soils formed on limestone hills and mountains and includes a brownish-gray, calcareous, very gravelly loam topsoil with about 40 percent limestone fragments. Limestone bedrock typically occurs at a depth of about 12 in, and limestone outcrops make up about 15 percent of the area.

The Gageby-Rockhouse association is described as deep, nearly level calcareous and noncalcareous soils on flood plains of small creeks and draws. The Gageby soils are deep, dark grayish-brown silty loams, grading to clay loam at about 15 in deep and comprise approximately 50 percent of the association. Rockhouse soils comprise about 40 percent of the area and consist of deep, grayish-brown loam changing to a very gravelly loam at about 12 in of depth. About 10 percent of the area consists of soils on nearly level to sloping terraces above the flood plains.

Aboriginal sites situated in the Lozier soils may owe their location to the presence of chert outcrops that occur within the limestone formations. These deposits often include highly siliceous chert nodules suitable for stone tool production and rarely occur in areas dominated by igneous formations. Sites located within the Gageby-Rockhouse association appear to be drainage-oriented, and the soils within and surrounding these locations may have had little bearing on site locational preference. The potential for subsurface cultural materials in the sites along this segment is considered low.

Sierra Vieja Road Segment

The Sierra Vieja Repeater road segment is predominantly composed of Volco-Brewster association soils, which have been previously discussed. East of the mountain portion of that segment, however, the Redona-Verhalen-Reagan soil association was encountered. This association is described as deep, level to gently sloping, noncalcareous to calcareous soils on valleys and plains. The Redona topsoils consist of reddish-brown, neutral sandy loam about 6 in thick, overlying a sandy clay loam grading to light-brown, calcareous clay loam with calcium carbonate inclusions. Verhalen soils have dark-brown, grading to light-brown, calcareous, clay surface layers up to 60 in thick. Reagan soils have light grayish-brown, calcareous, silty clay topsoils about 12 in thick, grading to a light-brown, calcareous, silty clay loam about 20 in thick. Approximately 59 percent of the association consists of soils that are more gravelly, more shallow, or less clayey occurring in small drainages or along narrow ridges.

Aboriginal sites located along this portion of the study area were situated within both soil zones. These sites appear to be oriented toward specific resource localities that result from either the increased elevation or from substantial runoff associated with the Sierra Vieja. This means that soil associations may not have influenced site locational preference in this area. The potential for subsurface cultural deposits on sites within this segment is considered low.

CLIMATE

The climate in the area is arid subtropical, with abundant sunshine all year long. From 70 to 80 percent of the days throughout the year are sunny. During the fall months, the number of sunny days is reduced to about 76 percent. During an average year, 193 days will be clear; 99 partly cloudy; and 73 cloudy. Winters are characterized by fair, dry weather with mild days and cool nights. Although heavy snows (7 to 13 in) have occurred, snowfall is rare and is considered of little importance. Freezes occur during December and January. The lowest recorded temperatures were -7, -2, and 4 degrees F at Van Horn, Alpine, and Presidio, respectively. Upper summer daytime temperatures range from warm (under 95 degrees F) at Van Horn to over 100 degrees F at Presidio. The average wind speed is 9 mph from the north, but strong winds from the west-southwest in the spring can average 11 mph. The average annual precipitation for this area ranges from 8 to 15 in per year, with about 75 to 80 percent occurring from May through October. Very little precipitation occurs from February through April. Showers greater than .10 in occur about once every 10 days during the summer, but irrigation is required to support plant life other than desert vegetation. Mean

relative humidity ranges from about 45 percent in January to about 30 to 38 percent in April. Because of nighttime cooling, the daily relative humidity increases at night with maximum values of 40 percent occurring in early morning near sunrise and minimum values of 10 percent occurring in the early evening near sunset (Kingston 1991; National Fibers Information Center 1987).

FLORA

Since the project area lies entirely within the Trans-Pecos mountain and basin ecological area of Texas (Gould 1969), it falls within the northern reaches of the Chihuahuan Desert (Hicks 1989:13). Desert scrubland, grasslands with some montane woodlands in the higher elevations, and juniper roughland-grassland comprise the primary vegetational zones in the project area. Dominant vegetation associated with the scrubland includes mesquite, yucca, catclaw acacia, prickly pear cactus, black grama, and tarbrush (McMahan et al. 1984). Plants commonly associated with the grasslands include blue grama, sideoats grama, Arizona cottontop, creosote bush, broom snakeweed, and whitethorn acacia. The plants of the juniper parks/woods include Gambel's oak, mountain mahogany, pine dropseed, blue grama, piñon, ricegrass, and heartleaf ground cherry.

Plants such as agave, sotol, yucca, Texas persimmon, prickly pear cactus, and ocotillo would have been economically important to the aboriginal inhabitants living in the project area (Hicks 1989:13; Mallouf 1985:6-9). Of these plants, agave, sotol, and yucca are found in the foothills (ca. 3,198-5,495 ft or 975-1,675 m above mean sea level [amsl]). In addition to these plants, Texas persimmon, prickly pear cactus, and ocotillo are found in the lower elevations (ca. 1,804-3,493 ft or 550-1,065 m amsl).

PAST ENVIRONMENT

Archeological evidence indicates human activity in West Texas for at least the last 10,000 years. Since the last major retreat of the Wisconsin ice sheets at the end of the Pleistocene, the climatic trend can generally be viewed as an overall increase in aridity. Though this general trend toward desertification is acknowledged throughout most of the greater Southwest, environmental changes have not always occurred in smooth, linear transitions. The overall transformation of postglacial pine and piñon woodlands to the current desert scrubland has been punctuated with oscillations in rainfall. Knowledge of conditions such as drought, wet periods, and seasonal changes in rainfall patterns during the term of human presence in West Texas is continually being refined by researchers. These fluctuations and their effects on the environment severely

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influenced prehistoric human adaptation, and even the most basic comprehension of such episodes is fundamental to interpretation of the archeological record.

Marmaduke (1978:14) draws on three lines of evidence in reconstructing the general character of environmental trends in West Texas over the past 10,000 years: (1) fossil pollen records, (2) faunal bone association, and (3) recent geological alluviation sequences. His caution (Marmaduke 1978:14), however, warrants quotation:

Environmental reconstruction is an art still in its infancy--fraught with inconsistencies, unknown or ill-defined evidences and uncertain meanings for humans. So far, all that may be outlined are the general trends whose specific effects may be speculated upon.

By about 10,300 years ago, the ice sheets of the Pleistocene had begun to retreat, bringing about a 2,500-year period of a gradually drying, semiarid, and possibly somewhat cooler climate than that of the present. Water was probably more abundant, with precipitation falling in a more stable pattern. During the earlier part of the period, piñon dominated the area but was gradually replaced by grassland savannas. Now-extinct bison and other typical grassland animals ranged freely over the area (Marmaduke 1978).

After about 7,800 years ago, the climate began a shift toward a more arid environment. Air masses from the south raised temperatures, and the stable pattern of rainfall was changed to one of sporadic thunderstorm episodes that broke the prevalent drought situation. Because of the drought conditions and a corresponding decrease in vegetational cover, the water that fell during the sporadic, heavy rains tended to run off quickly, resulting in increased erosion. The faunal community (particularly bison) dependent on the once-lush vegetation vacated the region (Marmaduke 1978).

From around 5,000 to 2,000 years ago, the available moisture in the Trans-Pecos increased slightly, although the rainfall patterns fluctuated between stable and erratic. This increase in moisture would likely have resulted in the formation of intermittent to semipermanent springs and watercourses. Although the overall climatic trend was one of increasing aridity and the xerophytic vegetation reflected the drier conditions, the savannas again became attractive to herd animals. As a result of the increased flora, bison returned to the southern plains (Marmaduke 1978).

As conditions continued to become drier, an apparent drought period between about 1,400 and 750 years ago encouraged a hiatus in the bison population. The arrival of grazing livestock about 200 years ago, however, accelerated the desiccation of the Trans-Pecos region. Overgrazing resulted in unrestricted erosion and arroyo cutting. Because of overgrazing, erosion, and human intervention in controlling natural brush fires, much of the savanna now has become desert scrubland (Marmaduke 1978).

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CHAPTER 3

CULTURAL OVERVIEW

The project area lies within what is generally referred to as the Trans-Pecos region of Texas. This region is bound on the north by the Texas-New Mexico state line, on the east by the Pecos River, and on the west and south by the Rio Grande. Three cultural subregions have been defined within the Trans-Pecos region (Hicks 1989:13) on the basis of prehistoric material remains reflective of adaptive subsistence strategies.

Because the eastern one-third of the Trans-Pecos region consists of grasslands that are actually part of the Great Plains (Hicks 1989:13), it has become known as the "Plains subregion." The "Puebloan subregion" in the northwestern Trans-Pecos covers an area from the Texas-New Mexico state line south along the Rio Grande to near Presidio, Texas, and east to the Quitman and Hueco mountains. The "Interior subregion," which encompasses this project, extends eastward from the Rio Grande to the plains south of Presidio. Mallouf (1985:4) refers to the Interior subregion as the Eastern Trans-Pecos and subdivides the area into Northern, Central, and Southern sectors. Although this definition of the "Eastern Trans-Pecos" may extend farther to the east than that of the Interior subregion, usage of the latter terminology excludes the plains on the eastern extremes of the Trans-Pecos region.

The Interior subregion of the Trans-Pecos region is generally defined by a culturally adaptive strategy centered on hunting and gathering, with an emphasis on succulent processing. To the west of the Interior subregion, in the Puebloan subregion, ceramic-producing prehistoric farmers have left vestiges of a much different material culture, and to the east, yet another set of "cultural footprints" has been left by plains-oriented nomads.

Throughout the Paleo-Indian and Archaic periods of prehistory, adaptive strategies, and consequently material remains, are fairly consistent across the entire Trans-Pecos region. In keeping with a focus on the

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project area, however, further discussion of the prehistoric sequence is centered on the Interior and Puebloan subregions, or western Trans-Pecos region.

The prehistory of the study area is based on the general chronological framework of the Trans-Pecos region (Winchell et al. 1992:10) and is broken down into five temporal periods (Table 1). These periods are principally defined by the presence of diagnostic projectile points, although they are intended to represent more generalized developmental stages. This chronological framework is cursory, however, and few supporting data beyond diagnostic artifacts are available for any given period. Temporal association of diagnostic projectile points has generally been derived from excavated cave and rockshelter stratigraphic contexts. Radiometric dating of any one period has also proven tenuous at best. Of 51 published radiocarbon dates from the Trans-Pecos area, only five appear to date prior to 2000 B.C., and a few were associated with diagnostic artifacts (Mallouf 1985:29-33).

Table 1. Prehistoric Periods for the Trans-Pecos Region

Temporal Period	Approximate Dates
Paleo-Indian	10,000 - 6,500 B.C.
Early Archaic	6,500 - 3,000 B.C.
Middle Archaic	3,000 - 500 B.C.
Late Archaic	500 B.C. - A.D. 1000
Late Prehistoric	A.D. 1000 - 1600

PALEO-INDIAN PERIOD

The majority of known Paleo-Indian materials found near the current study area are from Guadalupe Mountains National Park to the north and Big Bend National Park to the south. Both of these areas, being national parks, have received relatively intensive study efforts. "With the exception of a major cluster of sites in the vicinity of Van Horn, Texas, and isolated projectile point finds in the northern Baylor and southern Davis Mountains, Paleo-Indian occupation of the central portion of the Interior subregion remains unknown" (Hicks 1989:35).

The 3,500-year span of the Paleo-Indian period in the Trans-Pecos region has been divided into two basic subperiods. The earlier subperiod is identified with the Clovis population, based on diagnostic material

recovered from the type site at Clovis, New Mexico. The known occurrences of Clovis materials in the general area are limited to one reported Clovis point from Big Bend National Park and one from near Van Horn (Hicks 1989:36). In addition to these Clovis points, probable Clovis materials have recently been reported near Van Horn (Ing and Smith-Savage 1996:25).

The late Paleo-Indian period, however, is much better represented within the project area. The presence of these later peoples is based on diagnostic projectile point styles, such as the Folsom, Plainview, Golondrina, Angostura, Meserve, Midland, and other lanceolate forms. Although most of these point styles have been found throughout the Interior subregion, "Folsom materials tend to be confined to the northern half of the [Interior] area" (Hicks 1989:36). The Chispas site south of Van Horn has reportedly produced over 100 Folsom points, providing firm indication of late Paleo-Indian activity near the present study (Ing and Smith-Savage 1996:25).

Though generally accepted as a big-game hunting subsistence period across the greater southwest, Mallouf (1985) has suggested that during the late Paleo-Indian period, a broad-based, localized hunting and gathering subsistence economy may be represented in the western Trans-Pecos region. The location of Late Paleo-Indian sites in a variety of elevational/topographical settings, from high-altitude alluvial terraces to basin-floor playa edges, supports this contention.

ARCHAIC PERIOD

Toward the end of the Pleistocene, the climate became increasingly drier and warmer. With the environmental shift, the faunal and floral resources that had been the mainstay of the Paleo-Indian populations would also have undergone massive changes. The Archaic populations in the western Trans-Pecos region are essentially defined by technological modifications to the projectile point assemblages. These modifications likely reflect adaptive responses to a changing environmental situation.

Early Archaic Period

During the transition period to a drier climate, noticeable technological changes include the production of stemmed and either corner- or side-notched projectile points, in addition to the lanceolate points indicative of the prior Paleo-Indian period. Several of these lanceolate forms, such as Meserve and Lerma, are considered by some to represent transitional or Early Archaic projectile point types and often exhibit basal

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grinding (Winchell et al. 1992:12). The diagnostic styles representing a slightly later time period are characterized by stemmed and notched bases and include, among others, Martindale, Baker/Uvalde, Nolan, Bulverde, and Pandale (Hicks 1989:69-74).

Though a lack of securely dated, stratified deposits has severely limited archeological interpretation of the Early Archaic period, a general shift in subsistence strategy from the preceding Paleo-Indian period appears to be expressed. Hearth fields and burned-rock middens (accumulations of burned rock with associated stains) situated in low-altitude settings, provide evidence suggesting that a broad-based hunting and gathering economy adjusted to exploit the continually expanding desert biota.

Sites attributed to the Paleo-Indian period are relatively rare, with the majority of those on record located in Big Bend National Park. Materials excavated from two sites south of Alpine, Texas, may be affiliated with the Early Archaic period, but presently, these are not beyond question. Open campsites dating to this period have been reported along canyons in the Davis Mountains but are totally lacking near Van Horn (Hicks 1989:69-74). Unfortunately, limited data and deposition/superimposition problems obscure conclusive settlement pattern indications.

Middle Archaic Period

The Middle Archaic period in the study area is basically defined by the presence of large, stemmed, corner- or side-notched projectile point types, as well as some basal-notched forms. Examples of the Middle Archaic projectile point styles include Langtry, Val Verde, Castroville, Montell, Lange, Conejo, Almagre, Williams, Shumla, and Marcos (Hicks 1989:70).

This period represents a continuation of the broad-based hunting and gathering lifestyle of the general Archaic (Winchell et al. 1992:13). Processing of desert succulent plants is suggested by the association of burned-rock features and Middle Archaic period assemblages, not unlike those of the preceding period. Slightly larger populations are indicated during the Middle Archaic, as suggested by the increased use of rockshelters (Hicks 1989:72). Sites occur over a broader range of environmental settings during this period and a "fairly consistent patterning of sites" may indicate increased social organization (Mallouf 1985:115).

Late Archaic Period

Though the Late Archaic period had an economical base similar to those of earlier periods, population increases and reuse of sites is apparent. Site frequency during this period is evidently substantially higher than in preceding periods, and the presence of deeper burned-rock feature deposits is taken to represent multiple uses. "In general, Late Archaic site density is higher in all areas of the western Trans-Pecos region than during previous periods. Sites are now found in all environmental niches, and there are indications that some represent repeated and/or prolonged use" (Hicks 1989:73). In some portions of the area, incipient horticulture may have become part of the subsistence regime, but supporting evidence is limited.

Technological changes that help define the Late Archaic period are noted by the presence of smaller, side- and corner-notched points, as well as by the presence of some bifurcated forms. These diagnostic styles include the Figeroa, Ellis, Darl, Edgewood, Frio, Paisano, Palmillas, and Ensor.

LATE PREHISTORIC PERIOD

Many of the developments traditionally attributed to the Formative period in areas farther to the west, are absent throughout most of the Trans-Pecos region. The term that is generally used instead is the "Late Prehistoric" (or Neo-American) period. It spans the time frame from ca. A.D. 1000 to 1500 or later. This term encompasses the developments that in other areas have been included within the Protohistoric (Hicks 1989:113). In the Puebloan subregion of extreme western Trans-Pecos region, this period may be considered analogous to the Formative period of the Jornada Mogollon culture area of southern New Mexico and northern Chihuahua.

The appearance of the bow and arrow, and in the Puebloan subregion, ceramics and agriculture, signify technological advances that mark this cultural period (Mallouf 1985:128). Arrow points associated with the Late Prehistoric period include Clifton, Toyah, Scallorn, Perdiz, Livermore, Harrell, and Fresno types. Ceramics typical of the Mogollon culture area occur throughout the Puebloan subregion but seem to be focused primarily within the northern reaches of the Interior subregion, predominantly associated with locations of arable soils (Winchell et al. 1992:15). The majority of the Interior subregion, however, exhibits evidence of the continuation of Archaic-style hunting and foraging activities that are little changed by technological advances nearby.

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Site locations persist in all environmental zones, hearths continue to be common site features, and ring middens (circular accumulations of burned rock representing large roasting ovens) become frequent. More complex social and ceremonial systems are suggested by stylized rock art, the use of geographic features such as shrines, prepared burials, and ceremonial artifacts such as prayer sticks and elaborate rattles (Mallouf 1985:146). Excavations at Carved Rock Shelter near Alpine produced cobs of maize, tentatively associated with horticultural practices. Such farming endeavors would most likely be limited to springs and ciénegas along the mountain foothills in the Interior subregion, and, in that area, it is generally agreed that "horticultural products never figured significantly in the economy" (Hicks 1989:117).

Farming practices in the Puebloan subregion, however, are expected to have constituted a more substantial economic factor. The Rio Grande and Rio Conchas (along with a few associated tributaries) provided suitable settings for agricultural pursuits. The confluence of these major rivers, known as La Junta de los Rios (the junction of the rivers), apparently became the focus of prehistoric farmers who ultimately constructed adobe pueblos. This "cluster" of puebloan peoples has been defined as the Bravo Valley aspect and includes La Junta, Concepcion, and Conchos phases (Kelley 1985:150). While the latter phases of the Bravo Valley aspect continue into historic times, the primary phase is prehistoric. For the sake of congruency in discussion of this developmental sequence, the Bravo Valley aspect is included, in its entirety, in the Late Prehistoric-period section.

The La Junta phase (A.D. 1200-1400) comprises the only portion of the Bravo Valley aspect wholly attributable to the prehistoric period. Structural types include several forms that were constructed in pits during the La Junta phase, somewhat inhibiting temporal assignment of these sites based on architecture alone. The ceramic assemblage associated with La Junta phase remains, however, forms a reliable basis for temporal assignment. Ceramic types typically include El Paso Polychrome and El Paso brownware (most likely undecorated portions of polychrome vessels) and Chupadero Black-on-white, as well as decorated Chihuahuan wares, such as Playas Red, Playas Red Incised, Villa Ahumada Polychrome, Babicora Polychrome, Madera Black-on-red, Ramos Black, and others not specifically identified (Kelley 1985:156). The La Junta phase is considered directly linked to the El Paso phase of the Jornada Mogollon culture and is generally presumed to represent a migration of those cultural traits (or peoples) southward along the Rio Grande. It should be noted, however, that the Jornada culture region is not well defined in northern Mexico and that the movement of peoples eastward from northern Chihuahua should also be considered when tracing origins of the Bravo Valley aspect.

The Concepcion phase (A.D. 1400-1700) begins before, and continues after European contact, securing Protohistoric-period temporal affiliation. Architectural styles change slightly during this phase, but the documented changes may not constitute reliable indicators of specific temporal affiliation (Kelley 1985:156). Ceramic assemblages do change dramatically during the Concepcion phase, most notably through the absence of El Paso Polychrome (Johnson 1977:19). While the list of ceramics associated with this phase has not been well defined, Chinati Plain and its variants, Chinati Neck-filleted and Chinati Scored, as well as Capote Red-on-brown and Paloma Red-on-gray are represented. The coccoidal-bottomed Chinati wares have been described as reminiscent of Apachean and Navajo ceramics, which may suggest manufacture by the Jumano (Kelley 1985:158). The Jumano were described by the Spanish as hunter-gatherers who wintered at La Junta alongside the Puebloan agriculturists. The Jumanos are generally considered to represent Plains nomads, persisting in Archaic-style subsistence practices while trading and interacting with more sedentary groups. After about A.D. 1700, the use of the term Jumano is discontinued, and the local nomadic peoples are referred to as Apaches (Kelley 1985:159). After initial Spanish contact in 1580, artifacts of European origin, such as glass and metal, began to appear on Concepcion phase sites.

The Conchos phase (A.D. 1700-1800) is predominantly defined by the presence of Mexican Majolica, fragments of Spanish olive jars, local glazeware, white-slipped examples of Conchos Plain, and other ceramics bearing evidence of wheel manufacture. Architecturally, house types appear to be relatively similar to those of preceding phases, but, for the first time, structures are built completely above-ground.

Beginning during the Late Prehistoric period and continuing into historic times, a group of hunter-gatherers apparently occupied portions of the La Junta area. Known as the Cielo complex (A.D. 1300-1700), this group seems to have maintained a symbiotic relationship with Pueblo farmers living nearby (Ing and Smith-Savage 1996:27). Cielo complex sites are identified by rock enclosures (typically circular) with associated artifact assemblages lacking ceramics, and tend to be located in elevated locations. Unfortunately, this complex is poorly represented in published literature for the region and, as a result, is not well understood. The question regarding whether the Cielo complex represents a cultural group distinct from the La Junta agriculturalists or whether the observed difference in material culture is merely a result of variation in subsistence strategies has yet to be resolved (Mallouf 1992:14-17).

HISTORIC PERIOD

The Historic period in the Trans-Pecos region began with European contact in the sixteenth century. Cabeza de Vaca is credited with being the first Spaniard in the Trans-Pecos, when, after having been shipwrecked on the Gulf of Mexico coast and held captive by native inhabitants, he escaped and wandered through the Trans-Pecos area in 1535 (Hicks 1989:139). Subsequently, the formal expeditions of Rodriguez Chamuscado (1581), Espejo (1582), and Oñate (1598) followed several decades later, with Oñate's founding of Santa Fe marking the inception of colonization. By 1659, the first Trans-Pecos outpost and mission had been established in the El Paso area (Beckett and Corbett 1992:5). Indigenous peoples encountered in the Trans-Pecos area included agriculturists (first designated by the Spanish as the Patarabueyes), as well as nomadic bison hunters, later referred to as the Jumano. Both groups were reported in the area of the Rio Grande/Rio Concho confluence near present-day La Junta or Presidio, Texas.

Although plans for a series of Spanish presidios had first been suggested in 1667, none were established until 1729 when isolated settlements along the Spanish frontier were subjected to continuing raids by Apache and Comanche bands. The first attempted presidio along the Rio Grande, however, soon failed. Following the Pueblo Revolt of 1680, Spanish and sympathetic Pueblo Indians had retreated southward, which eventually led to the establishment of numerous missions in the El Paso area (Beckett and Corbett 1992:9). It was not until 1738 that presidios were successfully established along the Rio Grande south of the El Paso missions, the first being located some 30 mi (48 km) south of present-day Del Rio. In 1759, another presidio was constructed in the present-day La Junta region but reportedly failed to curtail the Apache depredations in the area. Attempts to establish presidios and ongoing campaigns against the Apache continued until 1791, when a peace treaty was signed. Southward pressure by the Comanches shortly thereafter led to encroachment on Apache territories, thus rekindling frictions and forcing the withdrawal of the Spanish from the Big Bend area (Hicks 1989:139). Meanwhile, along the Rio Grande, villages inhabited by the so-called Patarabueyes were being abandoned (Riley 1987:295-297). Undoubtedly, some of these peoples settled within the protective sphere of Spanish presidios (Beckett and Corbett 1992:15). It is not unlikely that others abandoned village life to return to a more nomadic subsistence, removing themselves from the focus of raiding parties.

Uncertainties surrounding these aboriginal groups plague archeological interpretations. It has been suggested that the Jumano were Apachean, or Athapaskan, speakers (Kelley 1952a:277-278; Riley 1987:297-298). Other researchers have argued that this historic-period group may have been derived from the northern Rio Grande pueblos (Whalen 1977:8) and was part of the Uto-Aztecan linguistic group. Regardless of their

cultural affiliation, both agricultural and nonagricultural peoples (other than the Apaches), were present during the Spanish exploration period.

It was not until after 1846 that Euro-Americans substantially settled the Trans-Pecos region. At that time, border and frontier defenses of the newly acquired state of Texas came under the administration of the United States (Bandy 1980:10). Construction of a series of military forts followed, which provided ample protection for the establishment and use of the Chihuahuan trail, a commerce and information artery that linked the Trans-Pecos and western Texas to Chihuahua, Mexico. By the 1880s, the threat of Indian attacks was under control and railroad construction was rapidly paving the way for an influx of settlers and supplies across the Trans-Pecos (Kennard 1973:20-28). Other developments during the nineteenth century that shaped the economic development of the region included the introduction of Hereford cattle breeding and barbed wire, the installation of water wells and irrigation technology, and finally, the development of the mining industry. Today, cattle and sheep ranching constitute one of the major sources of livelihood in the project area. The railroad, limited farming, tourism surrounding Big Bend National Park, and Border Patrol activities continue to support Texas towns such as Candelaria, Marfa, Alpine, and Van Horn.

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CHAPTER 4

PREVIOUS CULTURAL RESOURCES INVESTIGATIONS

REGIONAL

Studies in the prehistory of the Trans-Pecos region of Texas have been sporadic over the last 50 years. Recent research in the project area has been limited to archeological surveys in Big Bend National Park, reconnaissance on the Big Bend Ranch State Park (Ing et al. 1996), the investigations at Amistad Reservoir downriver from Big Bend National Park (National Park Service Archeologist James Mayberry, personal communication 1997), a few small-scale surveys, and an extensive reconnaissance project conducted in 1976 (Johnson 1977) (Figure 2).

During the 1800s, archeological interests were sparked by two reported discoveries. J. Russell Bartlett first described the rock art at Hueco Tanks in an 1854 publication (Lehmer 1958), and in 1895, a cache of 1,200 nearly identical arrow points was discovered on the summit of Mt. Livermore in the Davis Mountains (Janes 1930:8-9). It was not until the 1920s that the pioneering efforts of V.J. Smith, E.B. Sayles, and E.F. Coffin brought a scientific approach to the study of prehistory in the region. These investigations resulted in an initial description of the material culture and the construction of the first regional chronology (Sayles 1935). During the latter 1930s, Kelley et al. (1940) attempted to place the available archeological data into a cultural-historical and geological framework. This study introduced a series of cultural units defined according to the Midwestern Taxonomic System (McKern 1939) and related them to the geological sequence of Holocene alluviation described by Albritton and Bryan (1939). The better defined foci, which include Pecos River, Chisos, and Livermore, generally correspond to the Middle Archaic and Late Prehistoric periods that are currently recognized. This 1940 framework was reevaluated by subsequent reviews of Trans-Pecos archeology, but the basic framework remains unchanged.

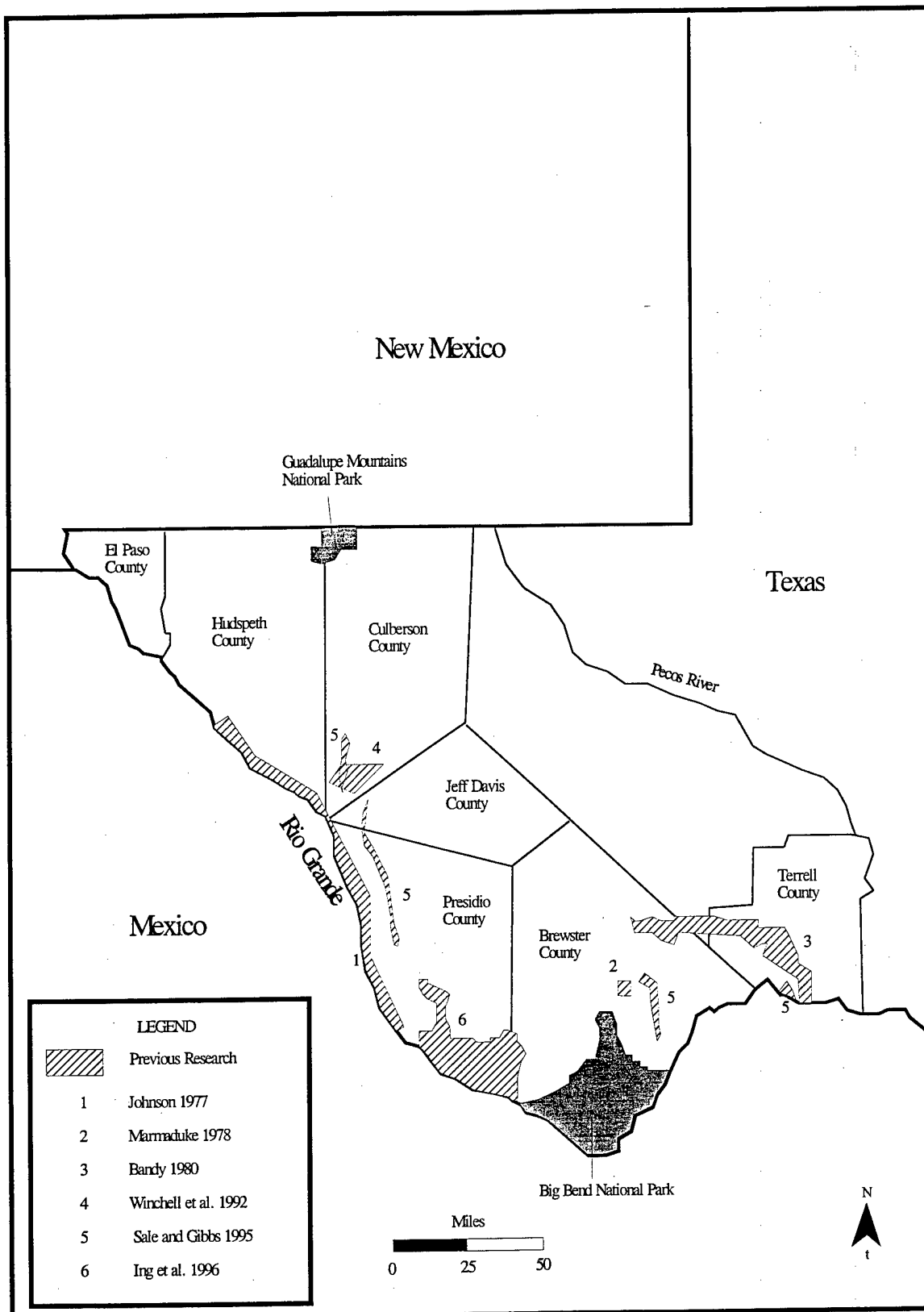


Figure 2. Previous surveys near the current study area.

Chapter 4: Previous Cultural Resources Investigations

The 1938 and 1939 excavation work conducted by Sul Ross University under the direction of Charles Kelley and Donald Lehmer was focused at the Millington and the Loma Alta sites near Presidio, Texas (Kelley 1985). Additional minor excavations were conducted in subsequent years at the Polvo site near Redford, Texas (Kelley 1949b; Shackleford 1955), the Shiner site on Alamito Creek (Kelley et al. 1940:73-81), and the Loma Seca site in Chihuahua, Mexico (Kelley 1951). As a result of these excavation projects, the Bravo Valley culture and the La Junta phase were defined.

Many of the early investigations in the Trans-Pecos focused on the Interior subregion, where numerous rockshelters and caves are located (Mallouf 1985:19). Research in areas to the north revealed a cultural-historical development quite distinctive from the Trans-Pecos interior. "Hueco Cave Dweller" assemblages located near El Paso were evaluated by Lehmer during the 1940s. Though now recognized as representative of Late Archaic and Transitional periods (Bradford 1980; Katz 1978), the Hueco phase was viewed as antecedent to the Jornada branch of the Mogollon. Three developmental phases within this Jornada cultural region were proposed by Lehmer (1958): the Mesilla, Doña Ana, and El Paso. These cultural constructs, although modified slightly and still the subject of debate, remain in use today.

Over the last several decades, research in the Trans-Pecos region has increased the data base and brought more clearly into focus relevant research problems and goals. Little new data have appeared sufficient, however, to alter significantly the syntheses generated from earlier research efforts. Marmaduke (1978) compared the Trans-Pecos and Central Texas regions. This work focused on an ecological explanation of the prehistoric adaptations rather than a formulation of the cultural-historical framework. More recently, Mallouf (1985) reviewed the archeological data base of the Eastern Trans-Pecos region in order to identify the strengths and weaknesses in the data, to provide suggestions for research priorities, and to identify new research problems and goals. Most of the work conducted since the 1960s (Baskin 1976; Cherry and Torrence 1973; Cliff and Fifield 1980; Creel 1981; Katz 1978; Marmaduke 1978; Marmaduke and Whitsett 1975) has focused on the northern and southern extremes of the region and has been locational and descriptive in nature. Excavations have generally been limited to minimal subsurface testing (Baskin 1978; Bradford 1980; Kelly 1963; Kelly and Smith 1963; Marmaduke 1978; Panowski 1981; Skinner et al. 1980), which provides little information for the resolution of regional research problems. Mallouf's (1985:35-39) review of major excavated sites includes only 15 sites, most of which were excavated prior to 1940. The antiquarian nature of many of the investigations and the limited scope of more recent excavations have contributed to the poor state of knowledge surrounding the archeology of the Trans-Pecos region.

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Results of an archeological reconnaissance south of the study area in Big Bend Ranch State Park (formerly Big Bend Ranch State Natural Area), conducted between 1988 and 1994, have recently been published (Ing et al. 1996). Designed to determine the general nature of the prehistoric and historic cultural resources and to select areas for recreation development within the approximately 270,000-acre park, this study, which deals with an extensive area comparable with the current study region, represents the most comprehensive archeological data yet published. While this study serves primarily in reaffirming the current knowledge of the western Trans-Pecos region, it presents a good discussion of previous research in the region. Of particular interest with regard to the present investigation, results of the State Park study demonstrate that evidence of the Bravo Valley aspect is extremely limited to the south of the Presidio area.

Other studies in the Interior subregion include excavation of several prehistoric sites along the Sanderson Canyon watershed northeast of Big Bend National Park (Bandy 1980) and a reconnaissance survey and limited test excavations along Bear Creek, between the Sanderson Canyon study area and Big Bend (Marmaduke 1978). Both of these studies contributed data relating to the hunting-gathering subsistence strategy employed over much of the Trans-Pecos Interior subregion.

The use of remote sensing data to predict site locations in unsurveyed portions of the Stockton Plateau was evaluated by Prewitt (1983), through the survey of 12,600 acres of the Downie Sixmile Ranch and an 11 percent sample of the Big Canyon Ranch. Prewitt concluded that 85 percent of the total expected site components could not be identified on small-scale color infrared aerial photographs. Conclusions concerning site prediction were cautious; however, the associations of landforms, soils, and resources (firewood, water, and hearth stones) seemed to indicate areas with the greatest potential for containing sites.

Although the paleoenvironmental sequence for the Trans-Pecos region is relatively well understood (Marmaduke 1978), the response of prehistoric peoples with regard to population densities, settlement patterns, and adaptive technologies is not well documented. The response of human populations in this region to the Altithermal period between ca. 8,000 and 5,000 B.P. is totally unknown; while the relationships between population densities, settlement-subsistence practices, inter-regional trade patterns, and the changing Late Holocene environment are poorly understood at best. In addition, most knowledge of prehistoric adaptation within the region primarily stems from the reconnaissance and survey orientation of all investigations (over 90 percent) conducted during the past 20 years.

LOCAL

The first archeological work within the current project area was conducted in 1948 by Charles Kelley, who performed a reconnaissance survey along the Rio Grande between Fabens and Redford, Texas (Kelley 1949a). During this study, 50 sites were recorded, and 5,689 sherds were collected. Excavations were conducted on four of the sites, including a pithouse site near Fort Quitman (Johnson 1977). Five of Kelley's sites (41PS3, 41PS4, 41PS8, 41PS11, and 41PS13) were within or adjacent to the ROW investigated during the current study in the Candelaria Border road segment (Table 2). According to Johnson (1977), the results of this reconnaissance survey were never completed, but portions of the study appear in other publications (Kelley 1949b, 1951, 1952a, 1952b, 1953).

Lands along the Rio Grande were investigated in 1977, when the International Boundary and Water Commission funded a reconnaissance survey (Johnson 1977). While focused on the flood plain itself, this project study area included sections of "... adjacent terrace and pediment remnants, and the alluvial fans, terraces, and floors of tributary arroyos and washes. . . . [and] also included canyon reaches where caves, rockshelters, or other suitable activity sites might be located" (Johnson 1977:4). This reconnaissance reportedly covered approximately 180 km of valley reaches and 27 km of canyon reaches, but accessibility, vegetative groundcover, and budgetary constraints limited coverage in some areas. Based on information disclosed by local informants, several larger sites were also investigated outside the primary corridor. The study resulted in documentation of 141 prehistoric and historic sites, including several that had been previously recorded by other researchers (Johnson 1977:36). Limited temporal information was gained from the Rio Grande reconnaissance, but site density, topographical distribution, and site attribute information contributed significantly to the local data base. The majority of the area covered by the current study along the Candelaria Border road was located within the scope of the Johnson reconnaissance survey. Fifteen previously recorded sites were located along the current study corridor, including five which were originally recorded by Kelley (1949a) and later updated by Johnson in 1977 (see Table 2).

In areas surrounding Ruidosa, Texas, several small archeological surveys have been conducted. The Centennial Museum at the University of Texas, El Paso, conducted two archeological surveys including the Johnson (1977) reconnaissance survey (mentioned above) and a 1980 study, which was conducted as part of the Rio Grande Channelization Project. Four sites were recorded during the 1980 study, but no known report exists (Warren and Moore 1994).

Table 2. Previously Recorded Site Summary

Site Number	UTM East	UTM North	Quad	Temporal Affiliation	Artifact Class	In ROW (Y/N)	Features	Site Size (m ²)	Distance to Rio Grande	RecordName/ Date	Comments
41PS3	528500	3342650	Candelaria	Late Prehistoric	L,C,G	N	ring middens	7,874	50 m west	Kelley 1948, Johnson 1977	ring middens, EP Poly, Villa Ahumada, Playas Red Incised, Chihuahuan Plain Brown, Chihuahuan Plain slipped ware. Current study info matches previous data.
41PS4	530500	3342250	Candelaria	Late Prehistoric	L,C	Y	ring middens, hearths	30,000	100 m west	Kelley 1948, Johnson 1977	ring middens, hearths, Chisos point. Current study info matches previous data.
41PS8	523400	3349400	McCutchen Ranch	Late Prehistoric, Historic	L,C	N	hearths	200,000	100 m west	Kelley 1948, Johnson 1977	Kelly reported a Mexican stone house with Late Prehistoric period artifact scatter. Johnson reported only a lithic scatter. Stone house was not relocated during revisitation, but lithic scatter was relocated. Shown as Campo de la Ventana on the USGS topo.
41PS11	526750	3346800	McComb Canyon	Late Prehistoric	L,C,G	Y	one large ring midden	20,000	100 m southwest	Kelley 1948, Johnson 1977	Kelly reported 1 large ring midden, EP Poly, EP Brown, Three Rivers R/t, Villa Ahumada, Chupadero B/w, Corrugated, Conchos Plain, triangular projectile point. Johnson study reports adobe structure. Adobe structure was not relocated during revisitation, but otherwise matches previous findings.
41PS13	515100	3365050	Quinn Creek	Late Prehistoric	L,C,G	Y	hearths, middens, bedrock mortars	6,804	500 m west	Kelley 1948, Johnson 1977	El Paso Poly, El Paso undifferentiated, Chupadero B/w, Casa Colorado B/w, Three Rivers R/t, Chihuahuan brownware, Brushed brownware. Rerecorded during current project.
41PS54	524800	3347900	McComb Canyon	Late Prehistoric, Historic	L,G,H	N	rock structures	80,000	300 m south	Johnson 1977	Late Prehistoric projectile point, unknown square rock structures. Revisitation located a light scatter of lithics, but the structures were not relocated.
41PS366	514400	3367000	Quinn Creek	Unknown Prehistoric	L	N	hearths	26,000	650 m west	Johnson 1977	A lithic scatter with associated hearths was located. Previous information matches current data.

Table 2. Previously Recorded Site Summary

Site Number	UTM East	UTM North	Quad	Temporal Affiliation	Artifact Class	In ROW (Y/N)	Features	Site Size (m ²)	Distance to Rio Grande	RecordName/ Date	Comments
41PS369	514300	3366500	Quinn Creek	Historic	H	Y	adobe structure	2,500	900 m west	Johnson 1977	Previous site information matched current data with exception of location. Revisitation located the adobe structure approximately 200 m NNW of previous plotting. Plotted location was examined but no site was present.
41PS370	514680	3365850	Quinn Creek	Historic	H	N	adobe structure and graves?	22,500	900 m southwest	Johnson 1977	Previous data indicate an eroded adobe structure with graves. Revisitation found no structure or graves, but did find a can scatter over the entire area. The area had been affected by sheetwash erosion, and these features may have eroded away.
41PS382	523400	3350600	McCutchen Ranch	Unknown Prehistoric	L	Y	Hearths	9,600	200 m west	Johnson 1977	Three hearths and a scatter of lithics were located on both sides of the road. Current data match previous findings.
41PS383	525250	3347625	McComb Canyon	Unknown Prehistoric	L,H	Y	middens, boulder mortar	15,000	10 m southeast	Johnson 1977	Burned rock middens, boulder mortar, and lithic scatter, with historic whiteware. Previous recording matches revisitation.
41PS384	527700	3345150	Candelaria	Unknown Prehistoric, Historic	L,G,H	Y	burned rock midden, 11 bedrock mortars	10,000	150 m west	Johnson 1977	Previous information indicated a lithic/ground stone scatter with a historic structure. Revisitation indicates that the site should be plotted 100 m to the NW of its current depiction. Current site plotting was examined and no site was located. A large midden of FCR was located amongst boulders (shelters?) with 11 bedrock mortars ground into them. In addition to the historic structure, materials including cans and an aqua AB bottle were observed.
41PS385	528150	3345050	Candelaria	Late Prehistoric	L,C,G,	N	burned rock midden	2,500	150 m southwest	Johnson 1977	Previous information indicated a lithic/ground stone/ceramic scatter with burned rock midden. Revisitation confirms this information.

Table 2. Previously Recorded Site Summary

Site Number	UTM East	UTM North	Quad	Temporal Affiliation	Artifact Class	In ROW (Y/N)	Features	Site Size (m ²)	Distance to Rio Grande	RecordName/ Date	Comments
41PS387	530320	3337220	Candelaria	Late Prehistoric	L, C	Y	hearths	3,000	150 m west	Johnson 1977	Previous information indicated a lithic/ceramic scatter in a severely graded/eroded area. The site was not relocated during the current survey possibly due to dense underbrush/sheetwashing.
41PS388	530500	3335200	Candelaria	Unknown Prehistoric	L	N	hearths	150,000	100 m west	Johnson 1977	Previous information indicated a lithic scatter with hearths. Current findings match previous data.
41PS561	532790	3380150	Vieja Pass	Unknown Prehistoric	L	Y		6,600	22 km west	Winchell et al. 1992	Lithic scatter matches previous findings.
41PS562	530760	3379920	Vieja Pass	Unknown Prehistoric	L	Y		16,800	22 km west	Winchell et al. 1992	Lithic scatter matches previous findings.
41PS666	534300	3318000	Las Conchas	Unknown Prehistoric	L	Y	hearths, bedrock mortars	9,600	4 km west	Warren and Moore 1994	Previous information did not record three hearth features which were located on revisit.
41JD151	518780	3393380	Ninety-Six Ranch	Unknown Prehistoric	L	Y	midden	1,800	18 km west	Sale and Gibbs 1995	Current findings match previous data.
41JD152	519040	3393280	Ninety-Six Ranch	Unknown Prehistoric	L	Y	hearth	100	18 km west	Sale and Gibbs 1995	Current findings match previous data.
no number	511780	3380400	Bennett Ranch	Historic		Y		10,000	700 m west		Old Daniels House, Dunnigan House, Hawkeye Townsend House (all same structure) relocated.
no number	513600	3368100	Quinn Creek	Historic		?		?	600 m west		Talus House - not relocated
CMI-4	513100	3374000	Quinn Creek	Historic		Y		15,625	700 m west		Chimino House -not relocated
CMU-4	514300	3366450	Quinn Creek	Historic		N		40,000	550 m west		House (in location which fits description of 41PS369) not relocated.

Chapter 4: Previous Cultural Resources Investigations

In 1981, archeological survey work was conducted by the Texas Department of Transportation, in which 14 new sites were recorded, and five previously recorded sites were updated. Unfortunately, no report has been published for this project (Warren and Moore 1994). Warren and Moore (1994) conducted a survey of approximately 2 mi (3.2 km) of FM 2810 and two proposed well pad locations near Ruidosa, Texas. A major portion of these areas was resurveyed during the current study along the Ruidosa segment. Two sites were recorded, including 41PS666 which was revisited during the present investigation (see Table 2) and 41PS667.

Several previous JTF-6 road improvement projects have been conducted in the vicinity of the current project area. Approximately 60 mi (96 km) of roadway, located in the vicinity of the present study area, were surveyed in 1991 (Winchell et al. 1992). Previously surveyed portions of the ROW located on the Sierra Vieja segment were inventoried during this study. Thirty-one prehistoric cultural properties were located during the 1991 study, but only one (Archaic-Late Prehistoric) site contained temporally diagnostic artifacts. A second site was assigned to the Archaic period, based on projectile points in the possession of a local collector. Though field personnel were assured of these specimens' place of origin, this temporal assignment should be viewed as tenuous. Only a single site located along the 1991 route contained a hearth feature; five sites were classified as open campsites, based on the presence of tools and related debris observed. The remaining sites were considered to represent lithic procurement and/or lithic reduction areas. Two sites, 41PS561 and 41PS562, are located within the Sierra Vieja segment and were revisited during the present study.

Following the 1991 investigation, an additional 31.5 mi (50.7 km) of unpaved roads were studied north of the current study area for a previous JTF-6 road improvement project (Edwards and Peter 1993). Only two prehistoric cultural properties were located as a result of the survey. Both sites (41HZ499 and 41HZ500) consisted of low-density lithic and ceramic artifact scatters, and no thermal features were observed in either case. The presence of red-slipped ceramics on both of these sites (probably Playas Redware) tentatively provides for Doña Ana-phase temporal placement, Jornada Mogollon culture, Late Prehistoric period.

In 1993, GMI conducted an intensive cultural resource inventory survey along approximately 146 mi (235 km) of existing dirt roads for JTF-6 improvements (Sale and Gibbs 1995). The project included ranch roads south of Sanderson, Alpine, Marfa, and Van Horn, four mountaintop helicopter landing zones, one proposed Border Patrol check station, a small arms firing range, and approximately 60 mi (96 km) of railroad ROW.

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Ninety-six archeological sites were located during the project. Eighty-seven of these were prehistoric, two were historic, and seven were both prehistoric and historic.

Two of the previously surveyed areas (the Marfa and Van Horn segments) were located in the vicinity of and, in some cases, overlap the present study area. The Marfa segment partially overlaps the current study area on the north end, but diverges to the south along Van Horn creek, paralleling the current study area to the east. Two previously recorded sites from this project were revisited during the present study (41JD151 and 41JD152).

CHAPTER 5

SURVEY METHODOLOGY

The cultural resources survey was conducted along approximately 90 mi (145 km) of existing road rights-of-way and 1.5 mi (2.4 km) of proposed new road rights-of-way in Presidio and Jeff Davis counties, Texas. A 10-m-wide survey corridor was examined on either side of existing roadcuts. When barriers such as fence lines were encountered, a 20-m-wide ROW on the opposite side of the road was inventoried. Previously disturbed steep slopes and salt cedar-choked flats, which were not upgraded during construction along the Rio Grande floodplain, were not surveyed because of low site probability and difficult access. To provide sufficient clearance for construction of a new road, a 30-m corridor was examined along the new proposed ROW near the southern end of the Candelaria Border Road. Since improvements are planned at numerous drainage crossings along the Candelaria segment, areas within 50 to 100 m (dependent on topography) of these drainages were inspected. In addition, proposed locations for seven borrow pits, two K-Span buildings, two bivouac areas, one airstrip, one helipad, and one equipment parking area were examined for cultural resources. Site locations and isolated occurrences were plotted on USGS 7.5-minute quadrangle maps, and *State of Texas Archeological Data Forms* were completed. Pace and compass maps were drawn for each site, and UTM coordinates were determined for each site using a Global Positioning System (GPS) or by extrapolating from existing topography on existing USGS maps. Site boundaries within the survey corridor were flagged with red surveyor's tape, and overview photographs were taken of each site. Diagnostic artifacts were sketched and/or photographed in the field. No artifacts were collected. No shovel tests were conducted during this project.

Prehistoric site types documented during the survey included artifact scatters, artifact scatters with features, and rock shelters. Historic site types included artifact scatters, rock structures, and a small cemetery (five graves). To distinguish between archeological sites and isolated occurrences, two criteria were used: surficial artifact density and the potential for buried deposits. Low-density artifact scatters (less than 10

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artifacts of the same material or artifact type) lacking diversity of artifact types were generally not recorded as sites. Isolated features, such as hearths which lacked associated artifact assemblages and did not include evidence of intact deposits (i.e., in eroded contexts), were similarly recorded as isolates.

Previously recorded sites were relocated using existing records obtained from the Texas Archeological Research Laboratory (TARL) data base. Reconnaissance was conducted within and surrounding all site locations shown on TARL maps, resulting in the correction of locational inaccuracies in several instances. In other cases, no cultural resources could be located in the vicinity of previously plotted locations. After consulting TARL personnel (Carolyn Spock, personal communication 1997), these locations were considered inaccurate and disregarded. Corrected information on the sites that could be relocated will be supplied to TARL for file updating. Previously recorded sites located within the ROW were flagged with red surveyor's tape for avoidance.

SURVEY COVERAGE

Chispas Road Segment

The Chispas Road segment consists of approximately 14 mi (23 km) of existing bladed county road (see Figure 1). This segment extends from the paved road FM 170 on the north end to the Candelaria Border Road intersection. Geo-Marine, Inc., had previously surveyed the northern 7.5 miles of this segment (Sale and Gibbs 1995), and was not resurveyed during this project. A 10-m-wide corridor on both sides of the southern 6.5 miles of road was intensively surveyed for cultural resources.

Candelaria Border Road Segment

The Candelaria Border Road segment consists of approximately 45 mi (72 km) of improved and unimproved county road (see Figure 1). This segment extends south from the Chispas Road intersection to the town of Candelaria. A 10-m-wide survey corridor along both sides of the road was thoroughly examined for cultural resources, except where vegetation, topography, or fence lines barred access. In these cases, a 20-m-wide corridor was surveyed on the opposite side of the road, where possible. Within the Rio Grande floodplain, portions of this ROW were completely covered with salt cedar that was previously farm land, and could not be surveyed. These sections of the road were not widened during the road improvement. In several

instances, steep grades were not inspected because of difficulties encountered in traversing the cobble-strewn slopes and low probability of archeological sites.

A 1.5 mi (2.4 km) section near the southern portion of this segment was examined for a proposed new road, and a 30-m-wide ROW corridor was inspected along this path. Two locations targeted for construction of K-Span buildings, two helicopter landing areas, two bivouac locations, and seven borrow areas were also investigated along the Candelaria Border Road (see Appendix C for topographical maps depicting specific locations of all inventoried areas).

Ruidosa Road Segment

The Ruidosa Road segment consists of approximately 21 mi (34 km) of improved county road (see Figure 1). This segment extends east from the town of Ruidosa, Texas, to the paved section of FM 2810. A 10-m-wide survey corridor on both sides of the road was thoroughly examined for cultural resources, except where vegetation, topography, or fence lines barred access. Survey along portions of this road near the west end was confined to the existing roadcut because of fence lines. Portions of the Hot Springs Airport, located 1.5 mi (2.4 km) north-northwest of Ruidosa, were also examined for cultural resources. A 20-m-wide corridor was examined along both sides of the southern end (400 m) of the airstrip for a proposed bivouac. A proposed Ruidosa K-Span building location consisting of 1,800 m² was also examined for cultural resources. The proposed site for the K-Span building is located within a previously disturbed area approximately 1 mi (1.6 km) north of Ruidosa.

Sierra Vieja Repeater Road Segment

The Sierra Vieja Repeater Road segment consists of approximately 11.5 mi (18.5 km) of unimproved and two-track road (see Figure 1). From the south end of the line, this segment extends northwest from the Miller Ranch (located east of Valentine) to the Sierra Vieja repeater station on the crest of Sierra Vieja, then north and east descending into Indian Peak Canyon to a water well situated 2 mi (3.2 km) east of the foothills. A 10-m-wide corridor was examined on both sides of the road for cultural resources. Steep topography inhibited survey coverage along portions of this ROW.

PREVIOUS DATA PROBLEMS

Several sites depicted on TARL maps along the Candelaria Border Road near Pilares, plotted within the vicinity of the current project ROW, do not have TARL numbers. Two of these sites are labeled as "CM," followed by a letter and numeric designation. It was determined through consultation with TARL that these letters refer to the Centennial Museum at the University of Texas at El Paso. These designations were used during the Johnson (1977) survey, but were not given site numbers because of locational inaccuracies and data inadequacies at the time of documentation.

Four of these sites are located within the current project ROW and an attempt was made to relocate these sites. Site CMI-4 was depicted on the TARL maps as Chiminco House, but no house was observed during revisitation. The site did contain several possible water-control features and a scatter of late 1800s historic artifacts, but the area appeared to have been bladed. Site CMU-4 had no description, but the location on the Tarl maps of site CMU-4 matches the location of nearby site 41PS369, an adobe structure. A third site, which did not have a letter or number code but did have a "CM" designation, included several buildings, fence corrals, and a barn, thought to be affiliated with three separate occupations of the site. The families who lived at the site (chronologically, as shown on the map plotting) include Daniels, Dunnigan, and Hawkeye Townsend. The fourth site, which has no number, is depicted on the TARL maps simply as "Talus House." No artifacts were located within the area shown on the map upon revisitation.

As a result of reconnaissance in the areas depicted on the TARL maps during the present investigation, these locations (aside from the Daniels house) are considered to be inaccurate. It is suspected that the plottings were transferred from 15-minute maps (or larger), contributing to mislocation in the TARL files. The locations are calculated into the total previously recorded sites because they may be buried or misplotted.

Reported historic structures (two rock, one adobe), in addition to prehistoric components on three sites recorded during previous investigations, (Johnson 1977; Kelley 1949a) were not relocated during the current study. In each case, the prehistoric components reported on these sites (41PS8, 41PS11, and 41PS54) were observed during reconnaissance, but no structural indications were noted. While it is not altogether unlikely that stone construction materials have been salvaged during the last 20 years, adobe is not readily recyclable.

Five previously recorded prehistoric sites were mislocated on file maps. Both 41PS13 and 41PS369 were misplotted by approximately 200 m, and 41PS384 was mislocated by 100 m. Two additional sites, 41PS370 and 41PS387, could not be not relocated and are considered to have been misplotted.

ARCHEOLOGICAL VISIBILITY

Throughout most of the study area, igneous materials (particularly rhyolites) were scattered across the ground surface. In some areas, these materials appeared to be fairly siliceous, tending to fracture conchoidally. Colluvial action, cattle traffic, natural weathering, and road blading have all contributed to breakage of these materials along the inspected roadways. Debitage resulting from the systematic reduction of raw material by prehistoric peoples is often readily identifiable, based on the patterned fracture scars remaining on such materials. Proper identification of the source of damage to rocks that exhibit single or a few fracture scars, however, is often problematic. Damaged rocks, and portions thereof, were frequently observed along the ROW during this study. To avoid misrepresenting the level of human activity involved, only those examples considered to be unquestionably cultural were documented. While this practice may have resulted in omission of a portion of the isolated occurrence data, this part of the data set should be considered minor and, perhaps, insignificant.

The angular nature of rhyolite rubble on site surfaces also inhibited recognition of thermal features in some cases. Thermally altered rock is most often recognized by its angular form, attributed to fractures created by heating and cooling. On sites where high densities of natural, angular rhyolites littered the surface, thermal features may have been present but unrecognized during fieldwork.

Along major drainages and near the Rio Grande floodplain, quartzite river cobbles were common. These cobbles were frequently utilized as ground stone tools (particularly manos) by prehistoric populations. Distinguishing such tools from naturally smoothed examples can be difficult, and only those cobbles exhibiting indisputable use-wear were documented as ground stone tools.

In areas where substantial soils were present, evidence of considerable erosion (up to 1 m of downgrading) was frequently noted. Features located within these areas were often difficult to define or distinguish from one another, due to bisection by arroyo cutting and/or smearing as a result of sheetwashing. Under such circumstances, feature definition may be rather tenuous. The artifact assemblages on sites in eroded settings

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cannot be considered complete, and artifacts documented on these sites should be viewed as remnants of the original assemblages.

CHAPTER 6

RESULTS OF INVESTIGATIONS

A total of 27 new archeological sites (Figure 3 and Table 3) and 42 isolated occurrences (IOs) was identified as a result of the survey. Twenty-one of these sites are attributable to prehistoric activities, and five sites are attributable to historic activities. In addition, one site included both prehistoric and historic components. As a result of shortcomings in previous records (including mislocation), one previously recorded site was rerecorded and is incorporated in the following descriptions.

Site 1 (41PS758)

Site 1 is a 1,980 ft² historic site situated on a low finger ridge that overlooks the Rio Grande, at an elevation of 2,900 ft (604 m) amsl. Soils are silty loams, with sand present in adjacent drainages. Vegetation within the site area includes acacia, mesquite, prickly pear, and cholla cacti and covers approximately 50 percent of the site area.

The site consists of two historic features and an associated artifact assemblage (Figure 4). The site assemblage consists of approximately 40 historic artifacts, including aqua, brown (beer bottle), dark green (bottle base with kick-up), and purple glass; fragments of a whiteware ceramic cup; blue-decorated whiteware bowl fragments; glazed brownware ceramic jar fragments; three tobacco tins and sardine or meat cans (sanitary-seal); barbed wire (two-strand, flat barb); condensed milk cans; and a strap-hinge remnant. Based on the presence of aqua, dark green, and purple glass, the site is suspected to represent habitation occurring prior to 1900. The milk and other sanitary-seal cans may indicate later visitation (post-1910) and are not likely associated with the original occupation.

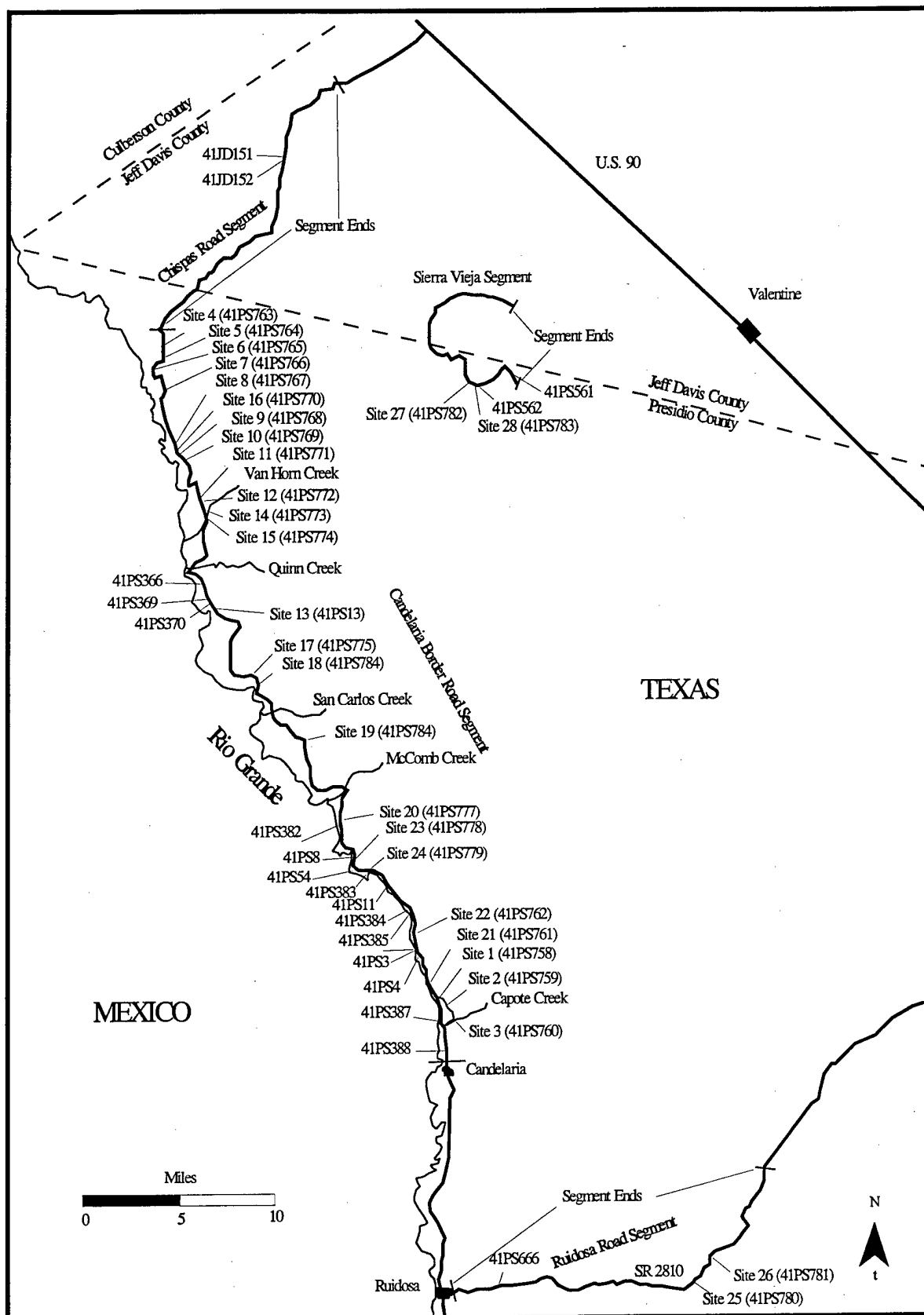


Figure 3. Sites documented (as denoted by field number) during this survey and previous surveys.

Table 3. Site Summary Table

Site #/ Trinomial	UTM East	UTM North	Quad	Eligible NRHP	Temporal Affiliation	Arti. type	Arti. #	FCR #	Site Size	Nearest Drainage	Meters to Rio Grande	Feature Types/ Comments/Diagnostics
Site 1 (41PS758)	530200	3338860	Candelaria	potential	Historic (pre-1900)	H	40	0	1980 ft ²	10 m S unnamed	200 m west	2 structures - aqua/purple glass, white ware cup, tin cans (ca. 1900)
Site 2 (41PS759)	530210	3338410	Candelaria	potential	Unknown Aboriginal	L, G, H	17	40	625 m ²	90 m E unnamed	310 m west	rockshelter
Site 3 (41PS760)	531000	3337410	Candelaria	ineligible	Unknown Aboriginal	L	29	100	1,105 m ²	300 m SE Capote Creek	790 m west	hearth
Site 4 (41PS763)	511340	3382160	Bennett Ranch	ineligible	Unknown Aboriginal	L	20	150	8,450 m ²	200 m S unnamed	2000 m west	2 FCR features, 1 rock circle
Site 5 (41PS764)	511330	3381700	Bennett Ranch	potential	Late Prehistoric	L, C, G	75	245	4,550 m ²	90 m E unnamed	1420 m west	EP brownware w/3 ground sherds
Site 6 (41PS765)	510650	3380730	Bennett Ranch	potential	Historic	N/A	0	0	660 ft ²	580 m W Rio Grande	580 m west	5 graves
Site 7 (41PS766)	511460	3379750	Bennett Ranch	potential	Late Prehistoric	L, C	23	150	756 m ²	280 m W unnamed	1160 m west	3 hearths (no stain) EP brownware
Site 8 (41PS767)	511840	3377000	Bennett Ranch	ineligible	Late Archaic	L	100+	0	609 m ²	290 m W unnamed	380 m west	Kent-type projectile point
Site 9 (41PS768)	512940	3375310	Soldier Spring	potential	Late Prehistoric	L, C	220+	1000	6,930 m ²	10 m N unnamed	700 m west	4 FCR features, 1 rock semi-circle, EP brownware, Chihuahuan Polychrome

Table 3. Site Summary Table

Site #/ Trinomial	UTM East	UTM North	Quad	Eligible NRHP	Temporal Affiliation	Arti. type	Arti. #	FCR #	Fea #	Site Size	Nearest Drainage	Meters to Rio Grande	Feature Types/ Comments/Diagnostics
Site 10 (41PS769)	513080	3374790	Soldier Spring	ineligible	Unknown Aboriginal	L	25	0	0	135 m ²	200 m S unnamed	960 m west	lithic scatter
Site 11 (41PS771)	514150	3372800	Quinn Creek	potential	Late Archaic	L	1000+	400	10	9,020 m ²	90 m W Van Horn Creek	1350 m west	10 FCR features Late Archaic projectile point
Site 12 (41PS772)	513150	3372320	Quinn Creek	potential	Late Archaic	L	200+	0	0	4,000 m ²	110 m E Van Horn Creek	1370 m west	lithic scatter, 2 Late Archaic projectile points
Site 13 * 41PS13	515140	3365080	Quinn Creek	potential	Late Prehistoric	L, C, G	1000+	one million	9	11,340 m ²	10 m S unnamed	520 m west	4 ring middens, 1 sheet midden, 4 FCR conc., EP brownware & bichrome, Chupadero B/w, Chihuahuan wares
Site 14 (41PS773)	514260	3372150	Quinn Creek	ineligible	Unknown Aboriginal	L	75	0	0	1,462 m ²	100 m E Van Horn Creek	870 m west	lithic scatter
Site 15 (41PS774)	514300	3371900	Quinn Creek	ineligible	Unknown Aboriginal	L	500+	0	0	3,600 m ²	170 m E Van Horn Creek	1920 m west	lithic scatter
Site 16 (41PS770)	512030	3376650	Soldier Spring	ineligible	Unknown Aboriginal	L	21	0	0	320 m ²	10 m E unnamed	1280 m south	lithic scatter

Table 3. Site Summary Table

Site #/ Trinomial	UTM East	UTM North	Quad	Eligible NRHP	Temporal Affiliation	Arti. type	Arti. #	FCR #	Fea#	Site Size	Nearest Drainage	Meters to Rio Grande	Feature Types/ Comments/Diagnostics
Site 17 (41PS775)	517330	3360910	Quinn Creek	ineligible	Historic	H	20	0	1	4,059 ft ²	80 m N unnamed	2650 m west	1 depression, purple, aqua glass, tin cans, ceramic
Site 18 (41PS776)	517760	3360340	Quinn Creek	potential	Multi- component Late Prehistoric and Historic (ca. 1900- 1920)	L,C, G,H	850	20000	29	93,095 m ²	10 m E unnamed	40 m west	1 hist feature w/stain, aqua, purple, glass; 28 prehistoric features (FCR and ring middens), 1 Toyah projectile point, EP; corrugated, Jornada Brown, EP, and Chihuahuan polychromes
Site 19 (41PS784)	520850	3356620	McCutchen Ranch	potential	Unknown Aboriginal	N/A	0	500	3	407 m ²	100 m W unnamed	2820 m west	3 eroded hearths
Site 20 (41PS777)	523290	3351090	McCutchen Ranch	potential	Late Archaic	L,G	100's	1000+	3	3,040 m ²	10 m N unnamed	130 m west	2 FCR features, 1 bedrock mortar feature
Site 21 (41PS761)	529320	3340070	Candelaria	potential	Historic (ca. 1910)	H	1	0	1	690 ft ²	110 m w Rio Grande	110 m west	rock habitation structure
Site 22 (41PS762)	528170	3343640	Candelaria	ineligible	Historic (ca. 1890s)	N/A	0	0	2	399 ft ²	100 m W Rio Grande	100 m west	2 parallel cobble walls
Site 23 (41PS778)	524720	3348240	McComb Canyon	potential	Late Prehistoric	L,C, G,	100	1000+	2	2,664 m ²	unnamed runs thru site	560 m west	2 FCR ring middens, untyped brownware site

Table 3. Site Summary Table

Site #/ Trinomial	UTM East	UTM North	Quad	Eligible NRHP	Temporal Affiliation	Arti. type	Arti. #	FCR #	Fea#	Site Size	Nearest Drainage	Meters to Rio Grande	Feature Types/ Comments/Diagnostics
Site 24 (41PS779)	525120	3347710	McComb Canyon	potential	Unknown Aboriginal	L, G,	53	5000	3	3,392 m ²	60 m W unnamed	520 m south	2 ring middens 1 hearth
Site 25 (41PS780)	546990	3318470	Sierra Parda	potential	Unknown Aboriginal	L	2	270	4	1,241 m ²	unnamed on north boundary	west	1 burned rock midden, 3 hearth
Site 26 (41PS781)	548740	3320680	Cuesta del Burro West	potential	Late Archaic	L	1000+	0	0	7,425 m ²	150 m N Pinto Canyon	west	lithic scatter, 2 Late Archaic-style, 1 Early Archaic-style projectile points, (** potential Early Archaic component)
Site 27 (41PS782)	530624	3380130	Vieja Pass	ineligible	Late Prehistoric	L, G, C	100+	0	0	400 m ²	1,800 m S/SW Vieja Spring	N/A	lithic/ground stone scatter with 1 polished brownware sherd
Site 28 (41PS783)	530800	3379850	Vieja Pass	ineligible	Unknown Aboriginal	L, G	200+	0	0	1,200 m ²	1,700 m S/SW Vieja Spring	N/A	lithic/ground stone scatter

* Previously Recorded Site

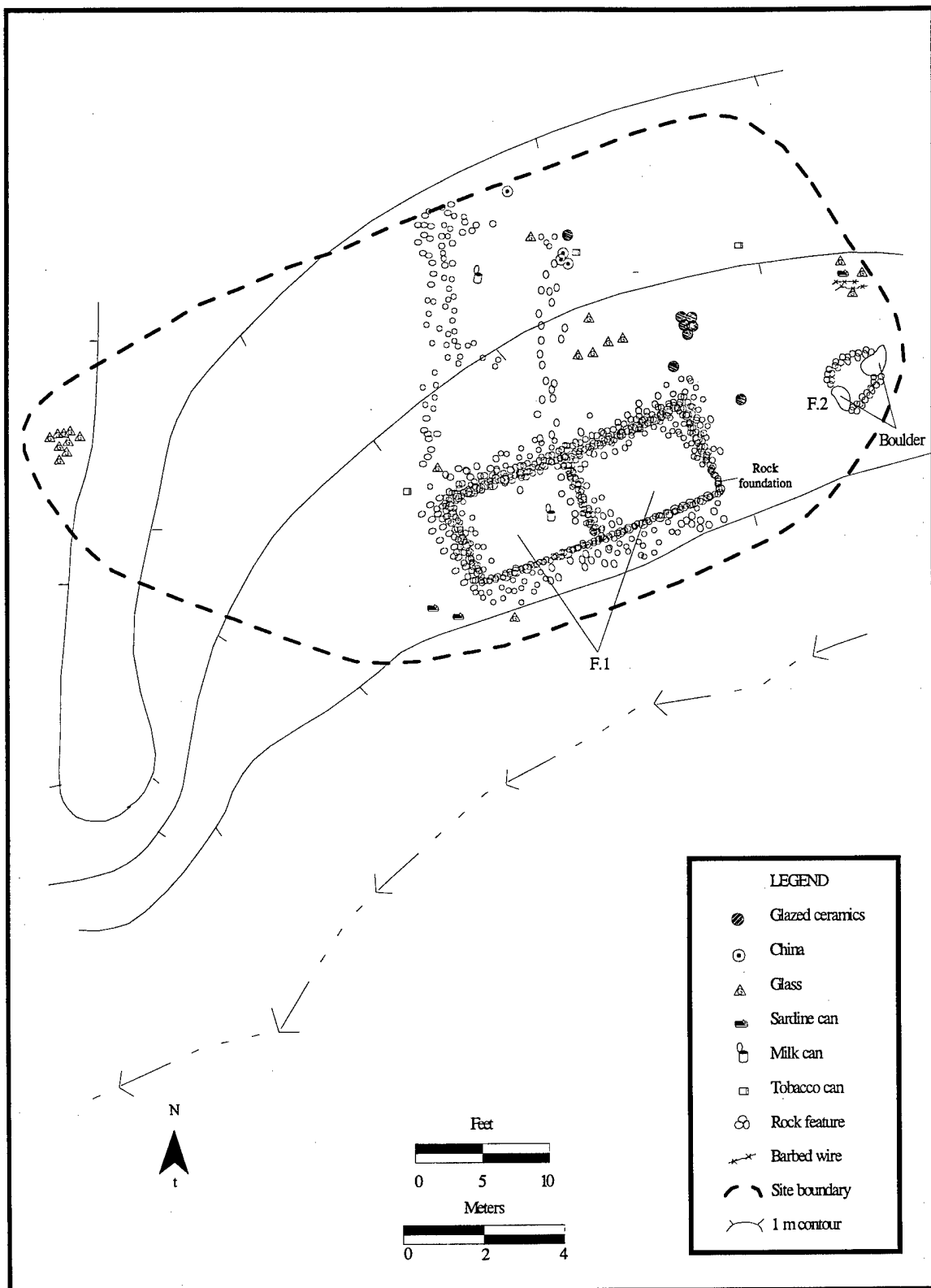


Figure 4. Plan map of site 1 (41PS758).

Archeological Survey for JTF-6 Road Improvements in Presidio and Jeff Davis Counties, Texas

The site contains two structural features: a two-room rectangular rock house (Feature 1) and a somewhat circular rock course (Feature 2). Feature 1 is constructed of large cobbles that range from 50 to 100 cm in diameter, stacked up to four courses high. The structure is approximately 20 ft (6.1 m) long, 7 ft (2.1 m) wide, and has a partition wall dividing the feature in half. No doorway or windows were visible in the remains. Feature 2 is a somewhat circular rock enclosure, four courses high and 5 ft (1.5 m) in diameter, located 10 ft (3.1 m) northeast of Feature 1. The rocks used to construct Feature 2 are slightly larger than those used in Feature 1. The function of Feature 2 is unknown.

This site has been minimally impacted by a drainage to the south, with approximately 80 percent of the site left intact. Based on the site's potential to be associated with events or persons considered important in terms of broad patterns of history, site 1 (41PS758) is recommended as potentially eligible for inclusion on the NRHP under Criterion A.

Site 2
(41PS759)

Site 2 is a 625 m² rockshelter situated on an east-facing cliff overlooking a wide drainage, at an elevation of 3,000 ft (914 m) amsl. Soils consist of detrital shale, with a talus slope beyond the mouth of the rockshelter including eolian soils in matrix. Vegetation within the site area consists of creosote bush, acacia, mesquite, grasses, and forbs, which cover approximately 50 percent of the site area.

The site consists of one feature and an associated artifact assemblage (Figure 5). The lithic artifact assemblage consists of 12 pieces of angular debris and flakes, one hammerstone, and one whole slab metate and two fragments. All the artifacts were located along the talus slope beyond the mouth of the rockshelter, with the exception of the ground stone. Lithic materials include rhyolite, quartzite, and chert. A flat metal axe-like blade was found within the rock shelter and represents a potential second component (Historic) on the site. Based on the absence of any diagnostic artifacts, the site is temporally classified as Unknown Aboriginal.

A 5 x 15 m area of darkened soil and approximately 50 fire-cracked rocks (Feature 1) surrounding the drip line of the cave comprised the only feature noted. A small, excavated pit and associated fill mound was located just west of Feature 1. No charcoal or stratigraphy was evident within the pit.

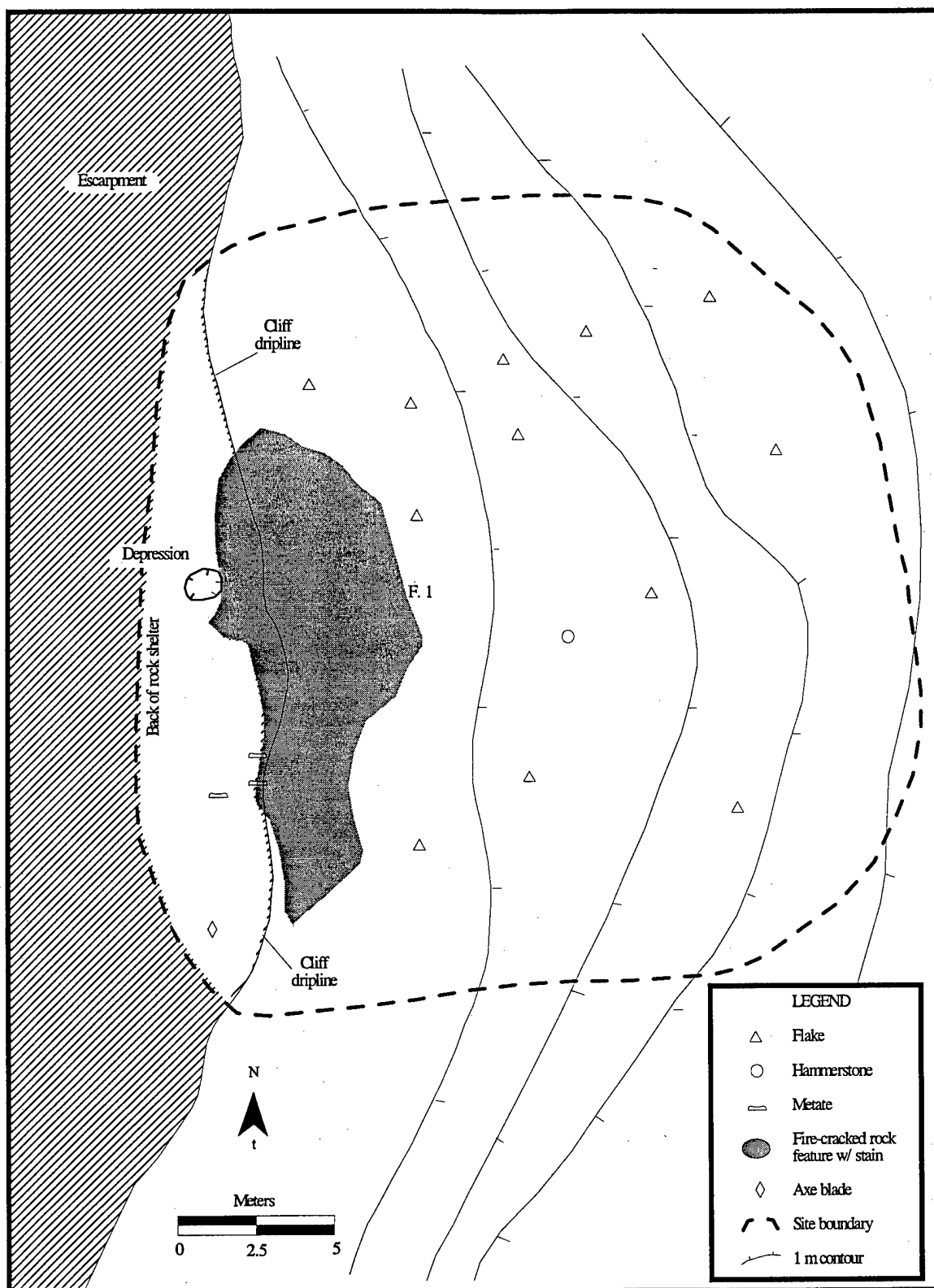


Figure 5. Plan map of site 2 (41PS759).

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This site has been impacted by vandalism (the excavated pit found within the rockshelter), although it has been protected from most natural impacts because of its sheltered location. Approximately 95 percent of the site is estimated to remain intact. Based on the site's potential to yield further important information regarding prehistoric use of the area (Criterion D), as demonstrated by the presence of a thermal feature and stain, Site 2 (41PS759) is recommended as potentially eligible for inclusion on the NRHP.

Site 3

(41PS760)

Site 3 is a 1,105 m² prehistoric site situated along the western, terminal edge of a low-lying, gravel-capped ridge, at an elevation of 2,940 ft (896 m) amsl. Soils are angular gravels of thermally altered conglomerates and rhyolites. Vegetation within the site area consists of creosote bush, mesquite, cacti, and forbs, which cover approximately 10 percent of the site area.

The site consists of one fire-cracked rock feature and an associated lithic artifact scatter (Figure 6). The lithic artifact assemblage included 29 pieces of reduction debitage (predominantly angular debris) that appear to be from a single piece of brown chert. The artifacts were located 30 m east of Feature 1 and were concentrated in a 2 x 2 m area. Based on the absence of temporally diagnostic artifacts, the site is temporally categorized as Unknown Aboriginal.

The site contains one fire-cracked rock feature (Feature 1) that consists of approximately 100 pieces of rhyolite, concentrated in a 2 x 3 m area. The rocks range from 3 to 15 cm in diameter, and many of the larger rocks were not cracked. A thin layer of soil separates a few of the rocks from bedrock, but the feature appears to be eroded.

This site has been marginally impacted by erosion, with approximately 65 percent of the site area estimated to be intact. Based on its limited potential to yield further information regarding prehistoric use of the area, as indicated by the eroded nature of the hearth feature, site 3 (41PS760) is considered ineligible for inclusion on the NRHP.

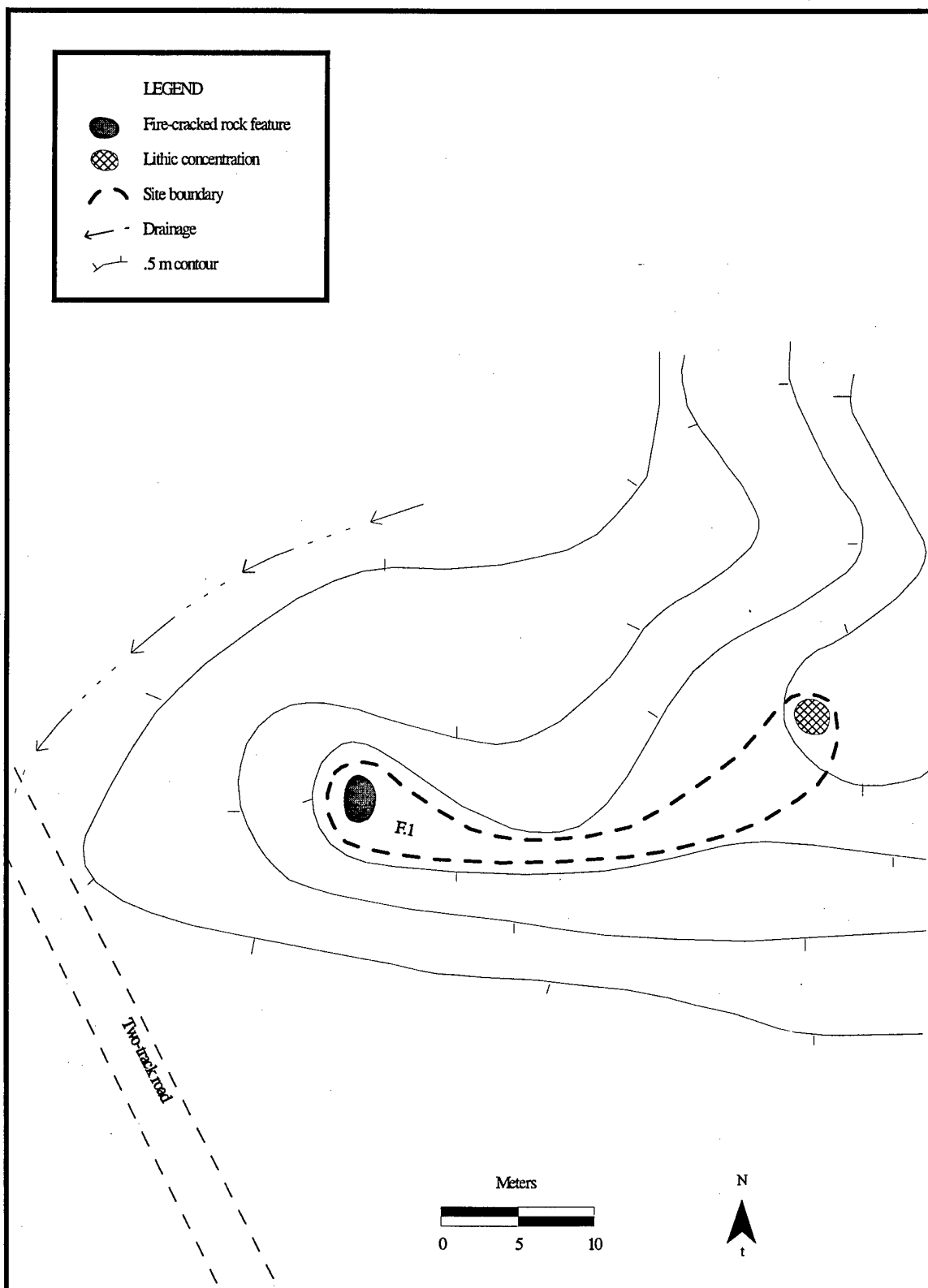


Figure 6. Plan map of site 3 (41PS760).

Site 4
(41PS763)

Site 4 is an 8,450 m² prehistoric site situated along a colluvial fan north of a low-lying ridge, at an elevation of 3,160 ft (963 m) amsl. Soils are sand with a surface gravel matrix and cobble concentrations. Vegetation within the site area consists of creosote bush, mesquite, *Yucca elata*, and forbs, which cover approximately 10 percent of the site area.

The site consists of three features and an associated lithic artifact assemblage (Figure 7). The lithic artifact assemblage consists of approximately 20 items, including rhyolitic flakes, angular debris, and cores. The debitage is predominantly large, secondary reduction flakes that appear to be the result of material testing activities. Several naturally occurring rhyolite cobble mounds are present on the site, including two that were at least 5 m in diameter. Several of the flakes were found at the top of these mounds, suggesting that the mounds served as material source areas. At least 100 pieces of fire-cracked rock were observed on the site, most being associated with the three features. Based on the absence of temporally diagnostic artifacts, the site is classified as Unknown Aboriginal.

The site contains two fire-cracked rock concentrations (Features 1 and 2) and one rock-ring feature of unaltered cobbles (Feature 3). Feature 1 is a 1 x 1.5 m deflated fire-cracked rock concentration in the west-central portion of the site. It contains approximately 50 pieces of rhyolite that range in size from 4 to 10 cm. No staining was associated with this feature. Feature 2 is also a deflated fire-cracked rock concentration, containing approximately 50 rhyolite rocks in a 1.5 x 2 m area. The rocks are similar in size to those found on Feature 1, and no staining was observed. Feature 3 is a 1.5 m rock circle composed of 50 unaltered rhyolite cobbles that range in size up to 15 cm in diameter. No staining was observed. Approximately 30 scattered cobbles are located east of the circle and may be related. No artifacts were found in direct association with any of the features, although one bifacial rhyolite core was located in a shallow drainage 5 m northwest of Feature 1.

This site has been impacted by erosion and road construction, with approximately 10 percent of the site area remaining intact. Based on the site's limited potential to yield further information regarding prehistoric use of the area, site 4 (41PS763) is considered ineligible for inclusion on the NRHP.

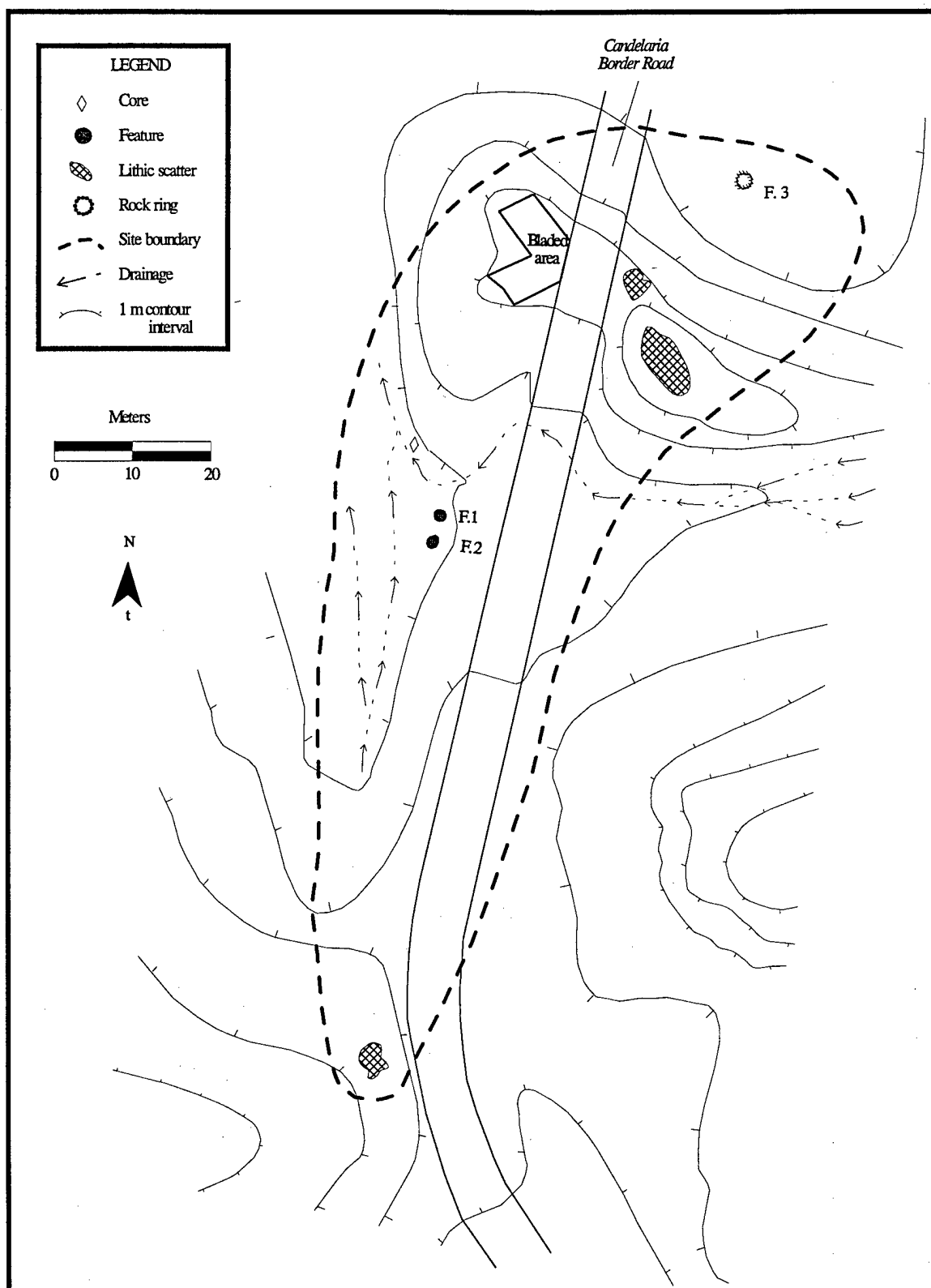


Figure 7. Plan map of site 4 (41PS763).

Site 5
(41PS764)

Site 5 is a 4,550 m² prehistoric site situated in a wide canyon, at an elevation of 3,100 ft (945 m) amsl. Soils are loamy silts, with an increased amount of sand in the southeast portion of the site. Vegetation within the site area consists of creosote bush, four-wing saltbush, mesquite, and forbs, which cover approximately 20 percent of the site area.

The site consists of four fire-cracked rock features and an associated artifact scatter (Figure 8). The site assemblage includes 65 lithics, eight ceramics, and two ground stone artifacts. The lithic artifact assemblage is comprised of flakes representing all reduction stages, angular debris, and cores. Lithic materials include rhyolite, quartzite, and a minor amount of chert. Most of the site's lithic artifact assemblage was situated between Features 2 and 3. The ground stone consisted of two cobble mano fragments, one of which was located within Feature 2. The ceramics consisted solely of El Paso brownware sherds, including three ground examples. All of the sherds were localized in a 2 x 2 m area and are suspected to represent a single vessel. Modern trash, including beer bottles, an antifreeze container, beer cans, and a plastic milk jug, was also scattered on the site. Based on the presence of El Paso brownware sherds, the site is temporally assigned to the Late Prehistoric period.

The site contains four fire-cracked rock features. Feature 1 is an eroded concentration of approximately 50 pieces of rhyolite and quartzite in a 1 x 1 m area. Feature 2 is also eroded and contains approximately 100 rhyolite, quartzite, and vesicular basalt fire-cracked rocks in a 3 x 3 m area. Feature 3 contained approximately 75 pieces of rhyolite and vesicular basalt fire-cracked rock in a 3 x 5 m area that was eroded by sheetwash. Feature 4 measures 2 x 5 m and contains 20 visible cobbles of vesicular basalt, rhyolite, and limestone. The feature is almost completely buried by sand overburden. No staining was evident in any of the features, and cobble size ranged from 1 to 15 cm in diameter. No artifacts were found in the features, with the exception of the mano found in Feature 2.

This site has been impacted by sheetwash and a roadcut located near the eastern portion of the site, with approximately 50 percent of the site estimated to remain intact. Based on the site's potential to yield further important information regarding prehistoric use of the area, as demonstrated by the presence of thermal features and soil accumulation in Feature 4 which may mask undetected, intact deposits, site 5 (41PS764) is recommended as potentially eligible for inclusion on the NRHP.

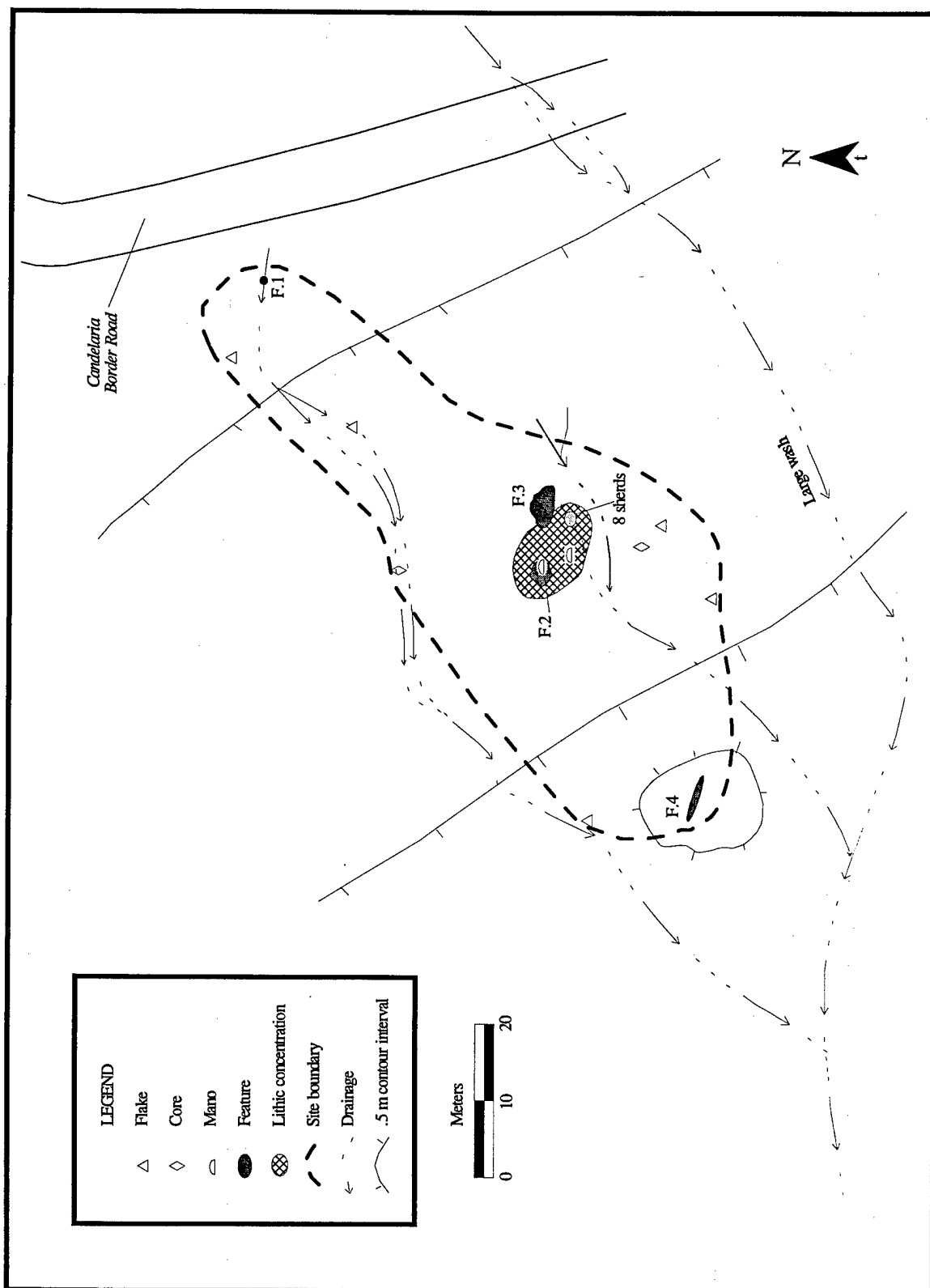


Figure 8. Plan map of site 5 (41PS764).

Site 6
(41PS765)

Site 6 is a 660 ft² historic site situated on a colluvial fan at an elevation of 3,120 ft (951 m) amsl. Soils consist of sand in a gravel matrix. Vegetation includes creosote bush, mesquite, acacia, *Yucca elata*, and forbs, which cover approximately 15 percent of the site area.

The site consists of five graves (Figure 9), most likely associated with the old Daniels House 200 m to the south. The house is identified on the TARL maps with the letters "CM" and no site number. There is also a notation indicating that the house was later called the Dunnigan House, and later, the Hawkeye Townsend House. No further information on the house or its former occupants is available.

The graves are delineated by cobble/boulder mounds that stand approximately 2 ft high. Features 1, 2, and 3 are approximately 7 ft long and 3 ft wide and have weathered wooden crosses at their southern ends. These three features are parallel to one another and are approximately 4 ft apart. Features 4 and 5 are smaller than the other three features and are located 3 ft to the north of them. Feature 4 measures 4 ft wide x 6 ft long and has the deteriorated remains of a wooden cross at its southern end. Feature 5 is located 3 ft west of Feature 4 and measures 2 ft wide x 3 ft long. No wooden cross was found associated with this feature. Features 1 through 4 have what appears to be the deteriorated remains of wooden crosses at the bases of the current ones, suggesting that the graves have been maintained and the crosses restored.

Though the site has been impacted by erosion, approximately 95 percent of the site is estimated to remain intact. Since the persons buried in the graves have yet to be identified, the possibility of association with locally important persons or events cannot be ruled out. Therefore, site 6 (41PS765) is considered potentially eligible for inclusion on the NRHP under Criterion B.

Site 7
(41PS766)

Site 7 is a 756 m² prehistoric site situated along the side of a drainage on a small terrace overlooking the Rio Grande floodplain at an elevation of 3,000 ft (914 m) amsl. Soils are silty loams with rhyolite gravels and river cobbles intermixed. Vegetation includes mesquite, creosote bush, acacia, forbs, and grass, which cover approximately 30 percent of the site area.

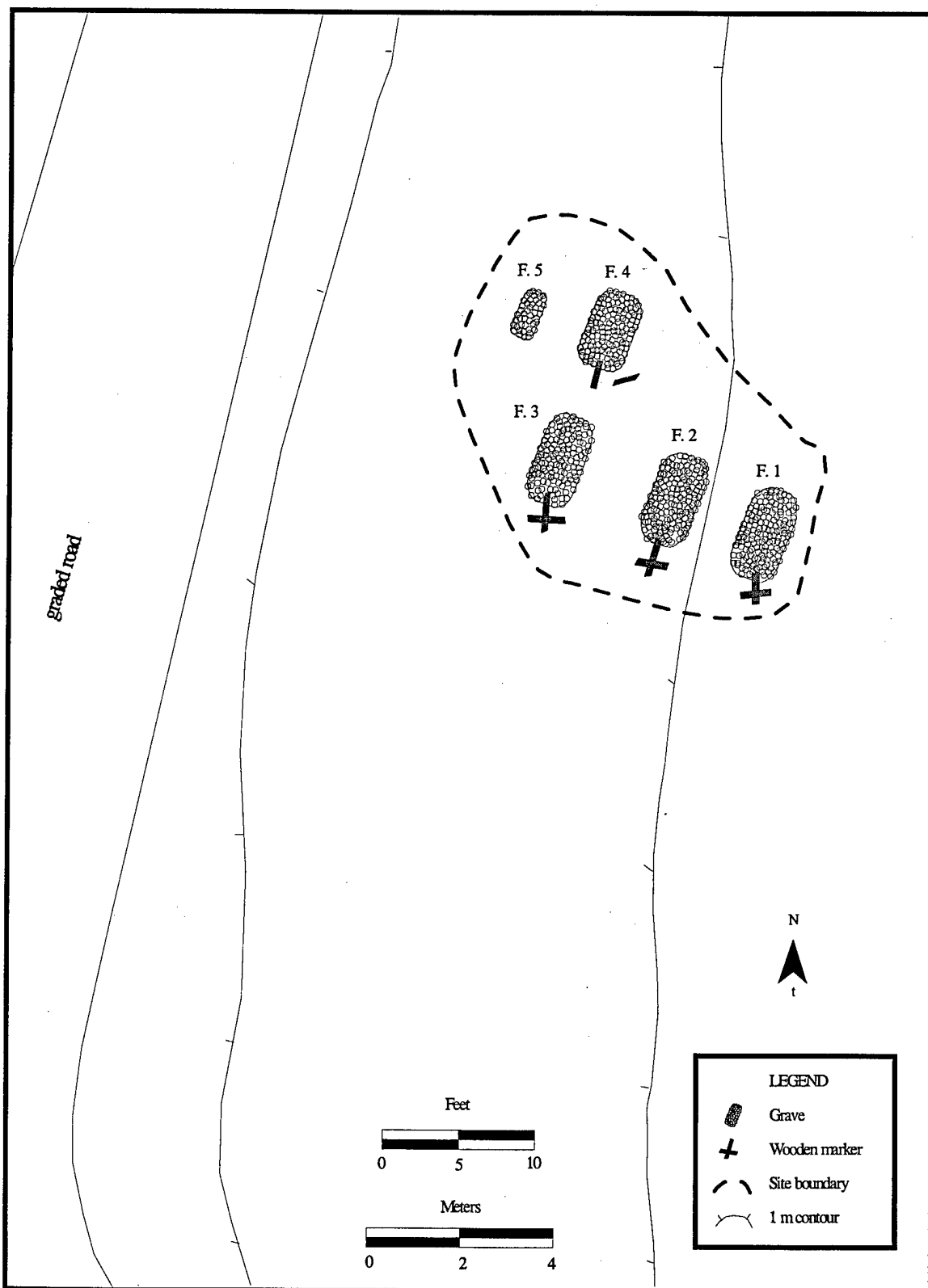


Figure 9. Plan map of site 6 (41PS765).

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The site consists of three thermal features and associated lithic and ceramic artifact assemblage (Figure 10). The lithic artifact assemblage contains 20 items, including flakes in all reduction stages, angular debris, and one chopper/hammer tool. Lithic materials include predominantly quartzite and rhyolite, with a few examples of jasper noted. The ceramic assemblage consists of three El Paso brownware jar sherds that were found near Feature 2. The majority of the artifacts were concentrated between Features 2 and 3. Modern trash was also found on the site and consisted primarily of beer cans and bottles. Based on the presence of ceramics, the site is temporally assigned to the Late Prehistoric period.

The three fire-cracked rock features range from 1 to 4 m in diameter and are composed of quartzite and limestone. No staining was noted in the features, although two of them (Features 1 and 2) are partially buried. Feature 1 is a 2 x 2 m concentration east of Candelaria Border Road, which bisects the site. Features 2 and 3 lie on the west side of Candelaria Border Road, and both are eroding into a drainage.

Feature 2 is 1 x 1 m, and the three sherds found on the site are located 2 m southwest of the feature. Feature 3 is 1 x 4 m with no artifacts in association. No staining was observed in any of the features.

Although the site has been impacted by the roadcut and the drainage, approximately 80 percent of the site remains intact. Based on the potential for the site to contain further important information, as suggested by the presence of thermal features, site 7 (41PS766) is recommended as potentially eligible for inclusion on the NRHP.

Site 8
(41PS767)

Site 8 is a 609 m² prehistoric site situated on a low bench overlooking the Rio Grande river channel, at an elevation of 3,110 ft (948 m) amsl. Soils are sandy, with a gravel matrix. Vegetation includes creosote bush, mesquite, and acacia, which cover approximately 10 percent of the site area.

The site consists of a lithic artifact scatter with no features (Figure 11). The site assemblage contains over 100 artifacts including flakes in all stages of reduction, angular debris, cores, one biface, and one Late Archaic-style projectile point (Figure 12). Lithic materials were predominantly rhyolite, although quartzite and jasper were also present in smaller quantities. Based on the presence of a Late Archaic-style Kent-type projectile point (Suhm and Jelks 1962:199-200), the site is temporally assigned to the Late Archaic period.

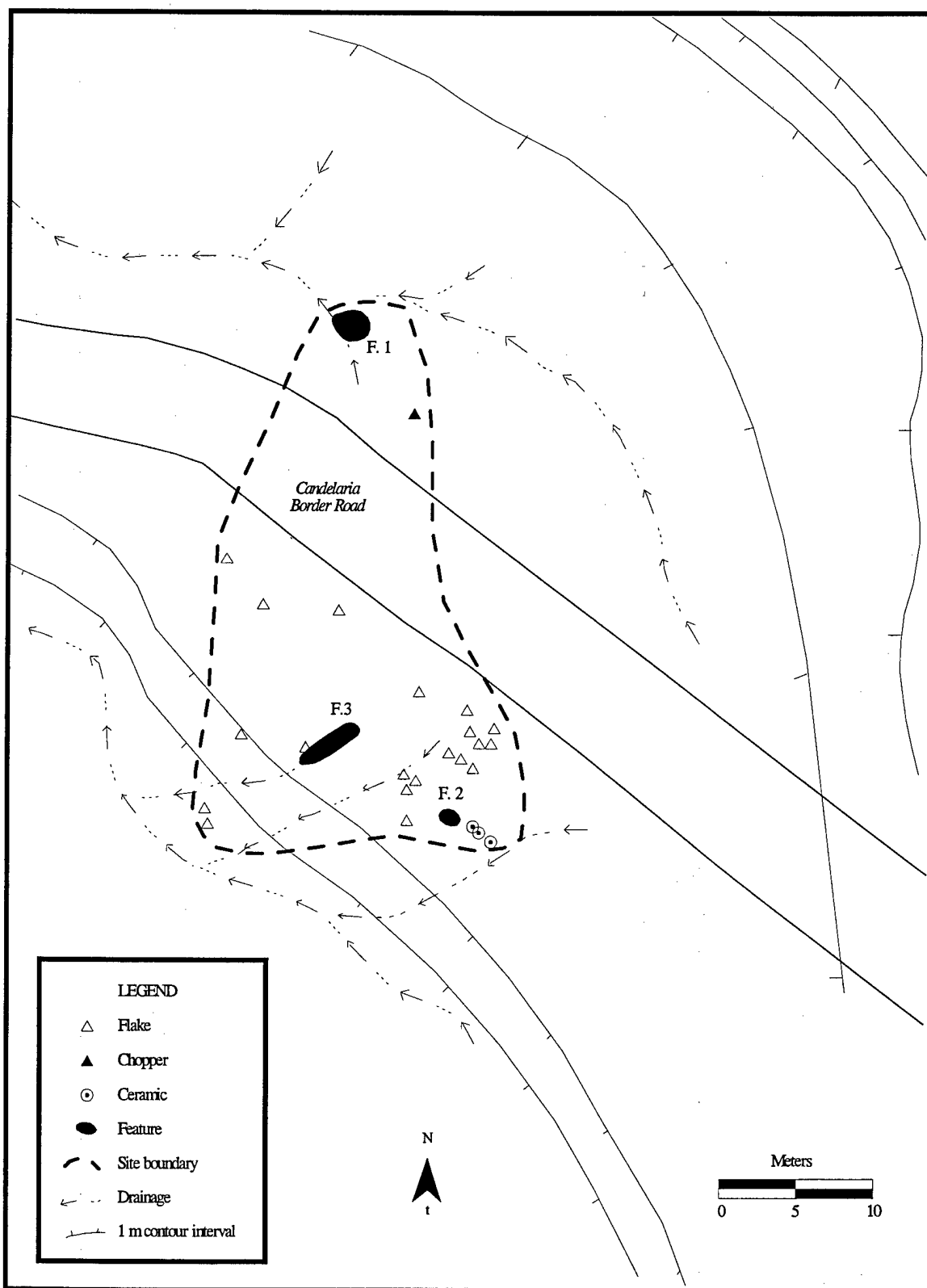


Figure 10. Plan map of site 7 (41PS766).

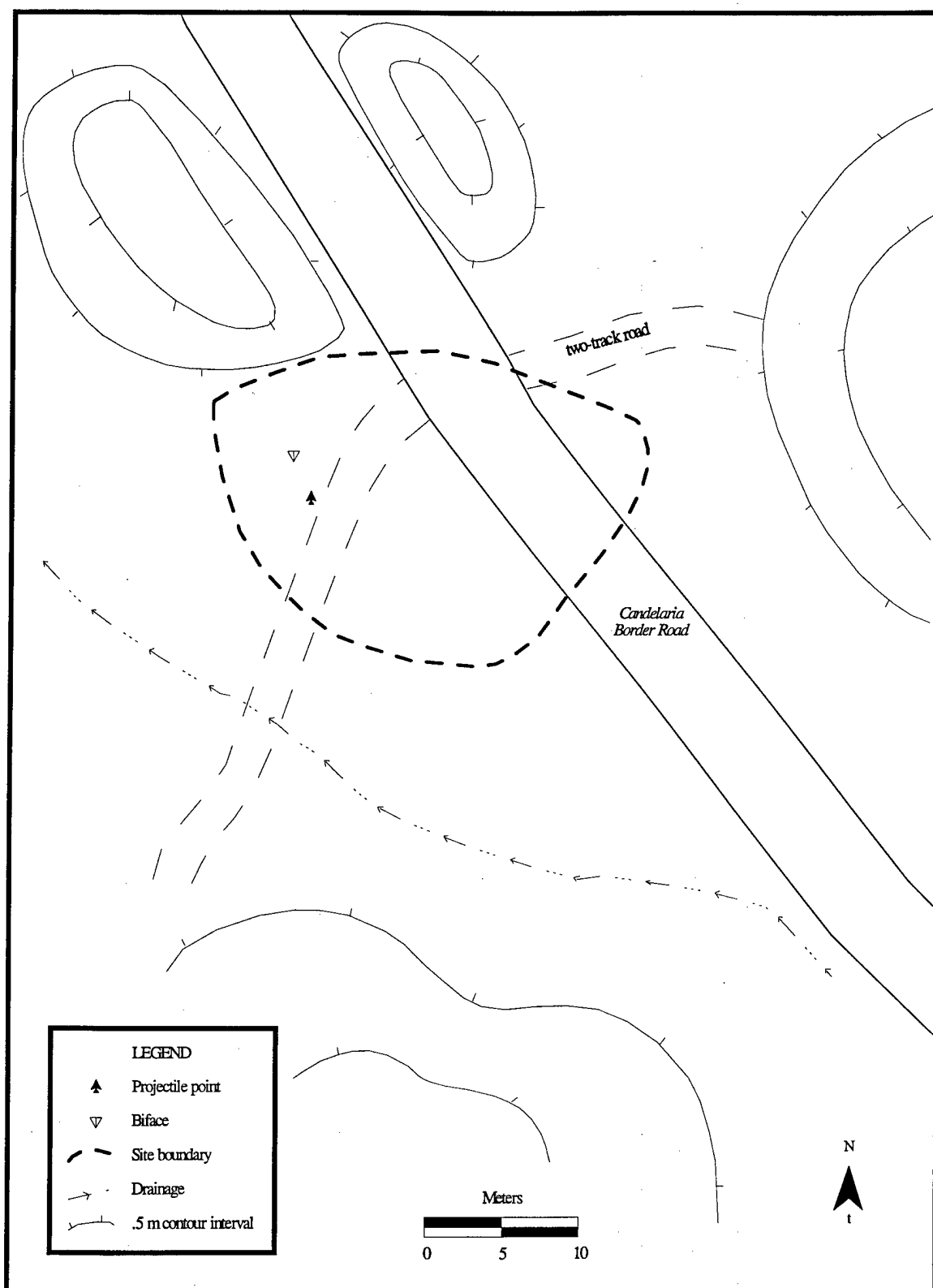


Figure 11. Plan map of site 8 (41PS767).



Figure 12. Late Archaic-style Kent-type projectile point from Site 8 (41PS767) (Scale 1:1).

Approximately 50 percent of the site is estimated to remain intact, despite erosion and roadcut disturbance. Based on the site's limited potential to provide further important information, site 8 (41PS767) is considered ineligible for inclusion on the NRHP.

Site 9
(41PS768)

Site 9 is a 6,930 m² prehistoric site situated along the edges of an alluvial fan, at an elevation of 3,040 ft (927 m) amsl. Soils are calcic sandy loams over a nearly white calcic substrate. Vegetation includes mesquite, creosote bush, and cacti, which variably cover approximately 5 to 20 percent of the site area.

The site consists of five features and an associated lithic and ceramic artifact scatter (Figure 13). Over 200 lithic artifacts were noted, including flakes, angular debris, and cores, primarily confined to the north and west side of the site. The flakes were predominantly primary and secondary reduction stages, although some tertiary stage flakes were noted. Lithic materials include rhyolite, quartzite, chert, and basalt. The ceramic assemblage consists of 20 sherds, most of which were El Paso brownware, although one El Paso Bichrome, one tiny fragment of polychrome (possibly Chihuahuan), and several sherds with black paint were also noted. Based on the presence of ceramics, the site is temporally assigned to the Late Prehistoric period.

The site contains five features. Feature 1 is a rhyolite and quartzite fire-cracked rock concentration that measures 4 m in diameter. Feature 2, also a rhyolite and quartzite fire-cracked rock concentration, is 1.5 m in diameter, and many of the rocks are not heat altered. Feature 3 is a 1 x 1 m rhyolite and quartzite fire-cracked rock concentration with one basalt cobble included. Feature 4 is made up of distinctively different lithic material than the other features. It is a 1-m-diameter semicircle of 15 vesicular basalt cobbles. Feature 5 is 1 x 2 m concentration of rhyolite and quartzite cobbles that are not heat altered. No staining was evident

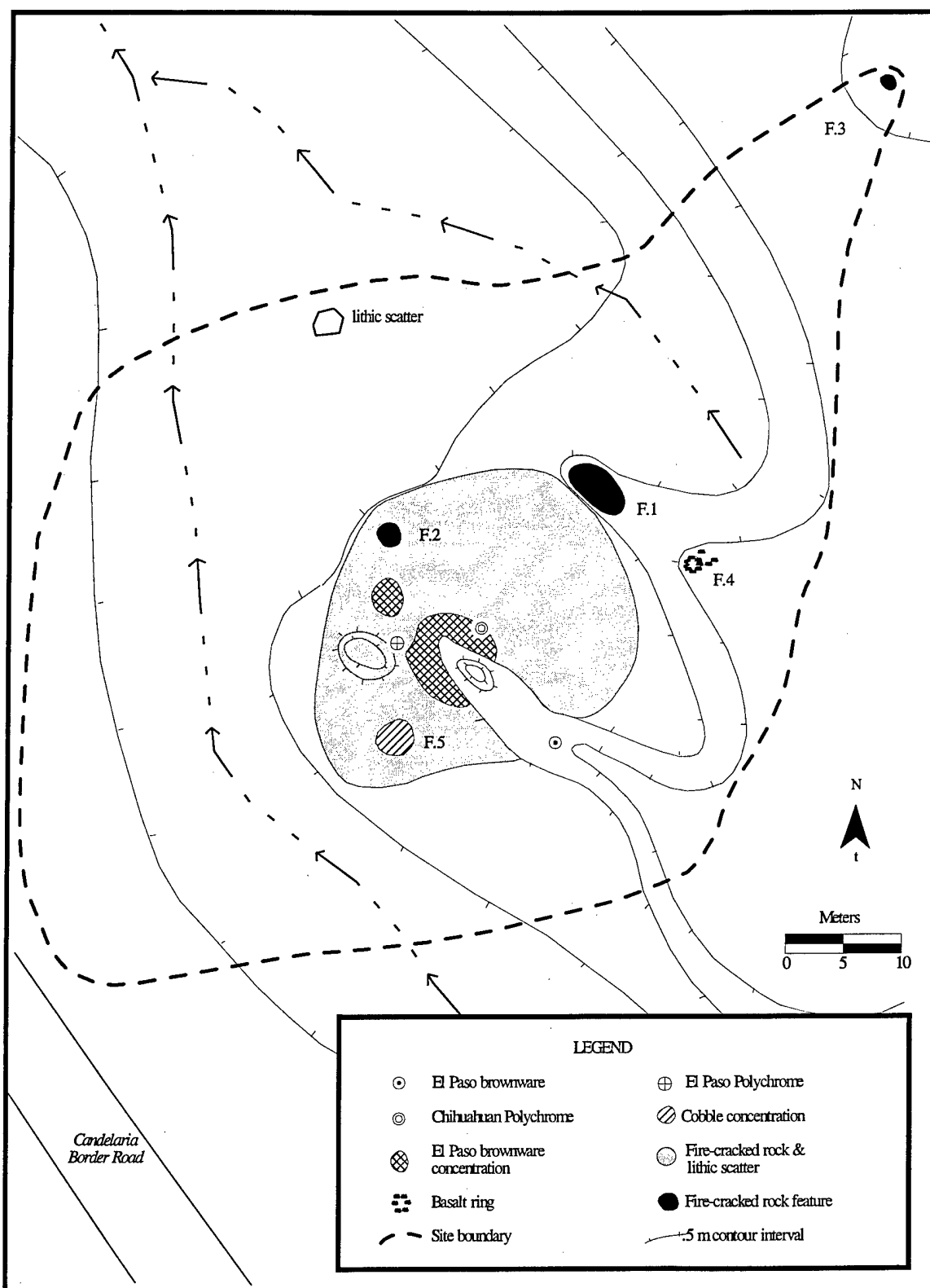


Figure 13. Plan map of site 9 (41PS768).

in any of the features. Areas in the northern and eastern portions of the site contain intact soils that may have additional buried cultural deposits.

The site has been impacted by erosion, with approximately 25 percent of the site remaining intact. Based on the potential for the site to contain further important information, as suggested by the presence of thermal features and areas of intact soils, site 9 (41PS768) is recommended as potentially eligible for inclusion on the NRHP.

Site 10
(41PS769)

Site 10 is a 135 m² prehistoric site situated in a wide drainage at the edge of an alluvial bench, at an elevation of 3,120 ft (951 m) amsl. Soils are sandy loams in a rhyolite gravel matrix. Vegetation includes creosote bush and cholla cacti, which cover approximately 20 percent of the site area.

The site consists of a low-density lithic artifact scatter with no features (Figure 14). The site assemblage consists of three pieces of angular debris, one core, and 21 primary and secondary reduction flakes. Lithic materials were predominantly rhyolite, although a few quartzite and one chert flake were noted. Based on the lack of temporally diagnostic artifacts, the site is categorized as unknown aboriginal.

Construction of Candelaria Border Road 5 m east of the site and erosion from a drainage have impacted the site, but approximately 70 percent of the site is estimated to remain intact. Based on the lack of artifact diversity and thermal features, site 10 (41PS769) is considered to have limited potential to provide further important information and is considered ineligible for inclusion on the NRHP.

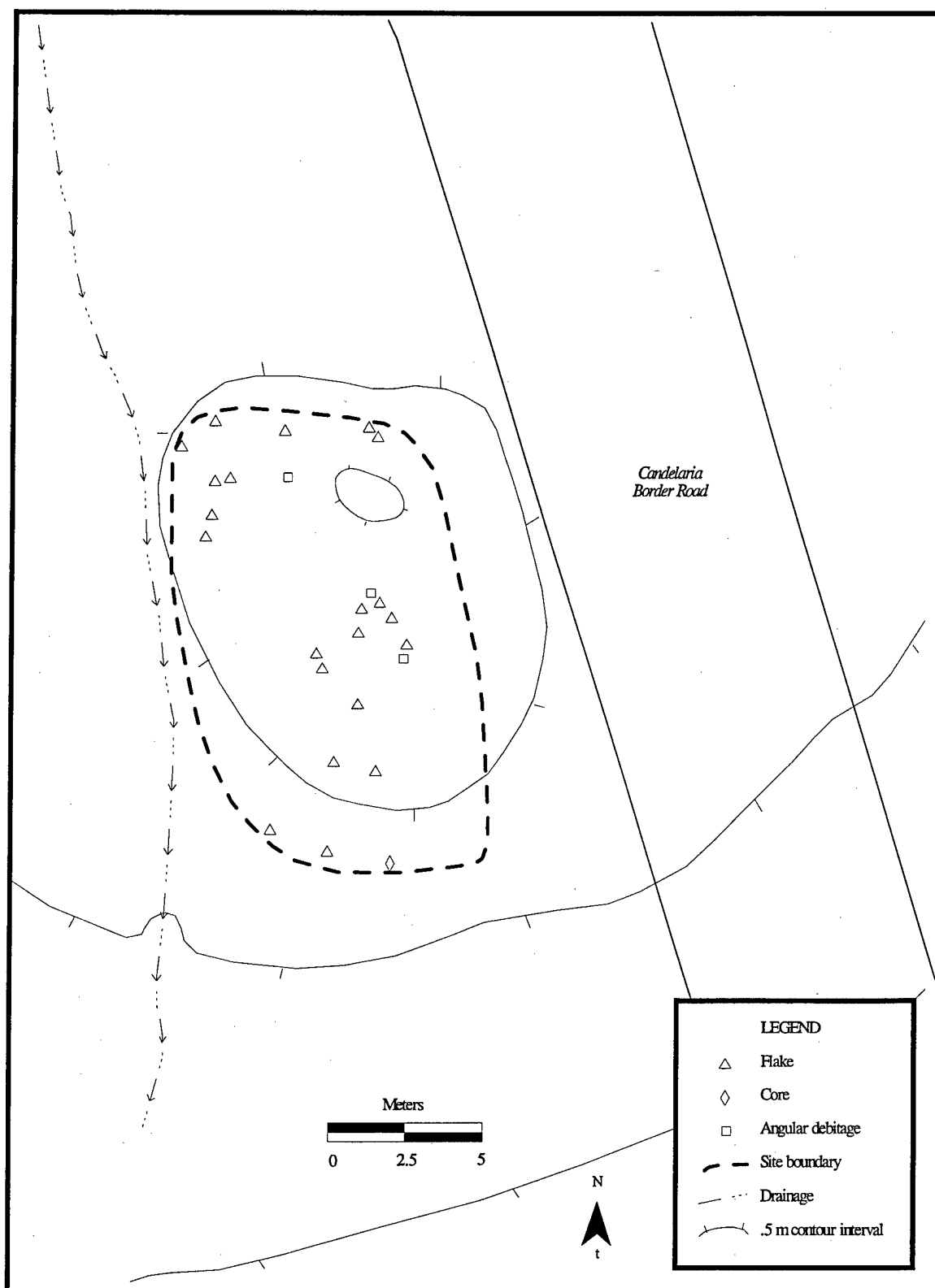


Figure 14. Plan map of site 10 (41PS769).

Site 11
(41PS771)

Site 11 is a 9,020 m² prehistoric site situated along a southward-sloping alluvial bench, at an elevation of 3,200 ft (975 m) amsl. Soils are gravel-capped sandy loams. Vegetation includes creosote bush, ocotillo, acacia, yucca, cacti, and forbs, which cover approximately 10 percent of the site area.

The site consists of 10 fire-cracked rock features and an associated lithic artifact assemblage (Figure 15). The site assemblage consists of over 1,000 lithic artifacts, including a Late Archaic-style projectile point (Figure 16), a utilized chalcedony flake, a scraper, the distal end of a biface, cores, flakes, and angular debris. The flakes represent all stages of reduction, but primary and secondary stages are predominant. Lithic materials include rhyolite, rhyolitic chert, and highly siliceous cherts (green, tan, and reds), with rhyolite being the most prominent material. The artifacts were generally scattered throughout the site area, although an area of moderate density was noted in the southern tip of the site. Based on the projectile point style, the site is temporally assigned to the Late Archaic period.

The site contains 10 thermal features that range in size from less than 1 m to over 5 m in diameter. The features are fairly eroded and are located on the northwestern edge of the site, where there is an elevational break between the relatively flat bench in the site area and steeper slopes to the south. All the fire-cracked rock in the features is of locally abundant rhyolite, and ranges in size from 2 to 10 cm in diameter. No staining was noted in any of the features.

The site has been impacted by erosion and road construction, with approximately 50 percent of the site estimated to remain intact. Based on the potential for the site to contain further important information, as suggested by the extensive, diverse artifact assemblage and the presence of thermal features, site 11 (41PS771) is considered potentially eligible for inclusion on the NRHP.

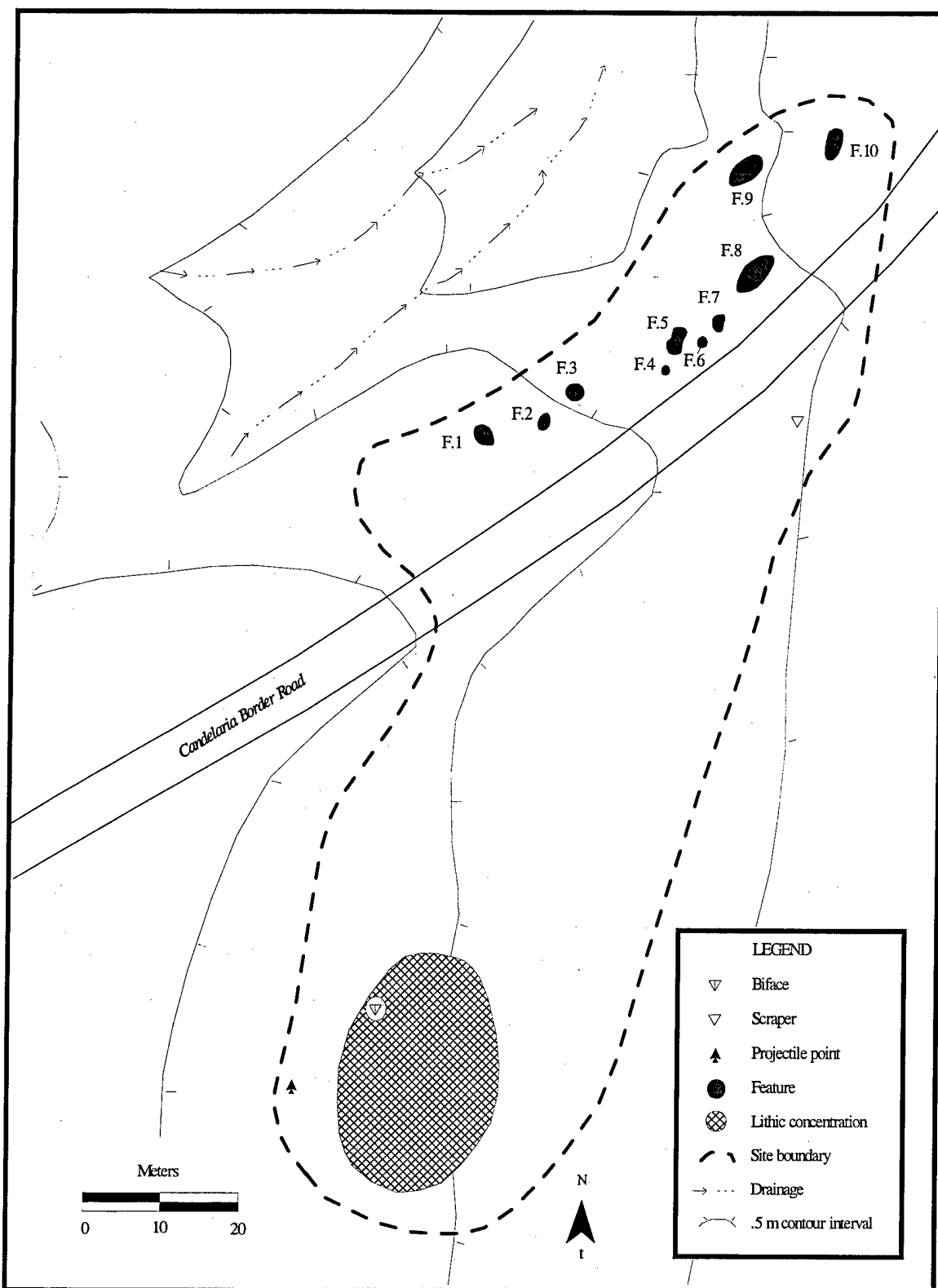


Figure 15. Plan map of site 11 (41PS771).

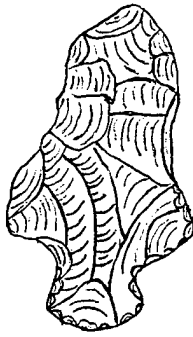


Figure 16. Untyped Late Archaic-style projectile point from site 11 (41PS771) (Scale 1:1).

Site 12
(41PS772)

Site 12 is a 4,000 m² prehistoric site situated on a ridge overlooking drainages to the east and west, at an elevation of 3,200 ft (975 m) amsl. Soils are sandy, with a rhyolite and quartzite cobble matrix. Vegetation includes creosote bush, mesquite, ocotillo, *Yucca baccata*, acacia, agave, hedgehog cacti, and forbs, which cover approximately 30 percent of the site area.

The site consists of a low-density lithic scatter with no features (Figure 17). The site assemblage consists of approximately 200 lithic artifacts, including flakes in all stages of reduction, angular debris, bifacial cores, two biface fragments, and two Late Archaic-style projectile point fragments (Figure 18a-b). Lithic materials include quartzite, chert, rhyolite, and a small amount of chalcedony. The artifacts were generally scattered throughout the site area, although an 8 x 10 m concentration was noted in the northeastern half of the site. Based on the projectile point styles, the site is temporally assigned to the Late Archaic period.

Road construction (Candelaria Border Road bisects the site) and erosion have impacted the site, with approximately 85 percent of the site estimated to remain intact. Based on the site's limited potential to provide further important information, site 12 (41PS772) is considered ineligible for inclusion on the NRHP.

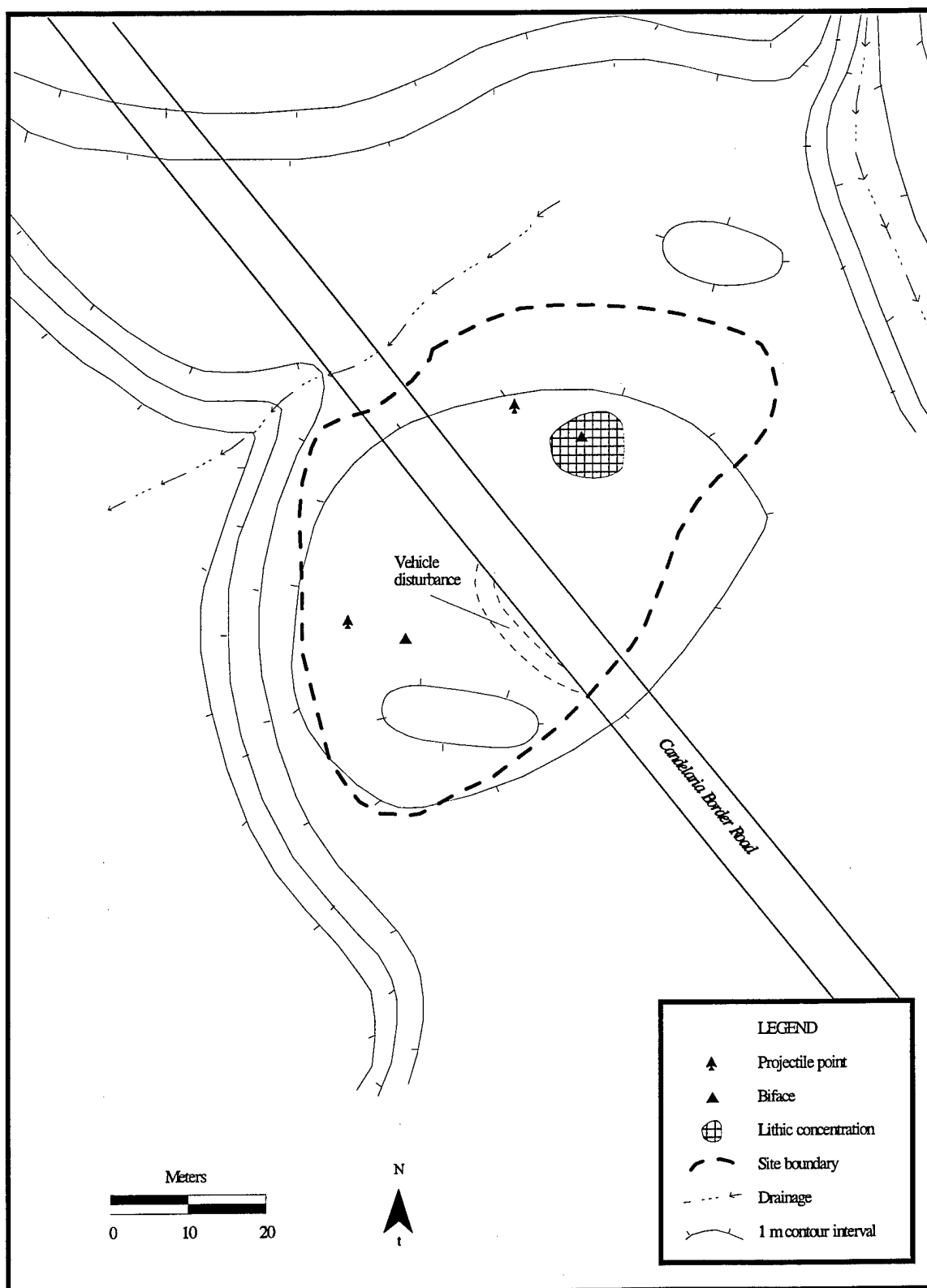


Figure 17. Plan map of site 12 (41PS772).

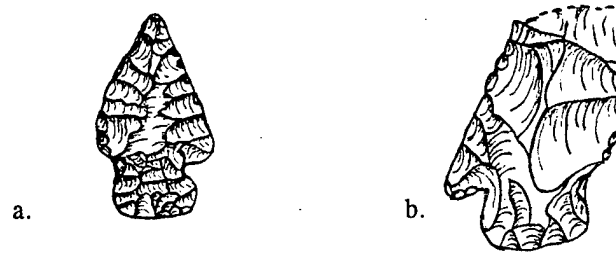


Figure 18. Untyped Late Archaic-style projectile points from site 12 (41PS772) (Scale 1:1).

Site 13
(41PS13)

Site 41PS13 was originally recorded by Kelley in 1948 (see site description, TARL files) as containing possible multiple house pits or midden circles with scattered debris. Kelley described the site as a series of rectangular pits outlined by piles of hearthstones up to 2 ft high. He reported collecting a “small sack” of sherds that included El Paso Polychrome and brownware, Chupadero Black-on-white, Three Rivers Red-on-terracotta, and Chihuahuan brownware. Johnson rerecorded the site in 1977 (see site description, TARL files) and defined it as a Neo-American period camp/processing site approximately 1.5 ha (3.7 acres) in size that contained hearths, burned rock, ground stone, chipped stone, bifaces, angular debris, and prehistoric pottery. Due to the mislocation of the site on the original records, as well as discrepancies and inadequacies in the earlier documentation of the site, 41PS13 was rerecorded during the current survey.

41PS13 (Site 13) is an 11,340 m² prehistoric site situated on an alluvial fan east of the Rio Grande floodplain, at an elevation of 3,020 ft (920 m) amsl. Soils are gravel-capped, sandy loams. Vegetation within the site area includes mesquite, creosote bush, and cacti, which variably cover approximately 5 to 40 percent of the site area.

The site consists of at least nine features and several fire-cracked rock concentrations or burned-rock middens too dispersed, sheetwashed, and eroded to be discerned as individual features, with an associated scatter of lithic, ceramic, and ground stone artifacts of at least 1,000 items (Figure 19). The lithic artifact assemblage is dominated by primary and secondary stage reduction debitage, although some tertiary-stage reduction was noted. Two large (4 x 10 cm) flakes with unimarginal retouch (possibly agave knives); one brown chert, palm-sized scraper; and a chert biface fragment comprised the only chipped stone tools identified on the site. Lithic materials were predominantly rhyolite, rhyolitic chert, and quartzite, but chert and chalcedony were

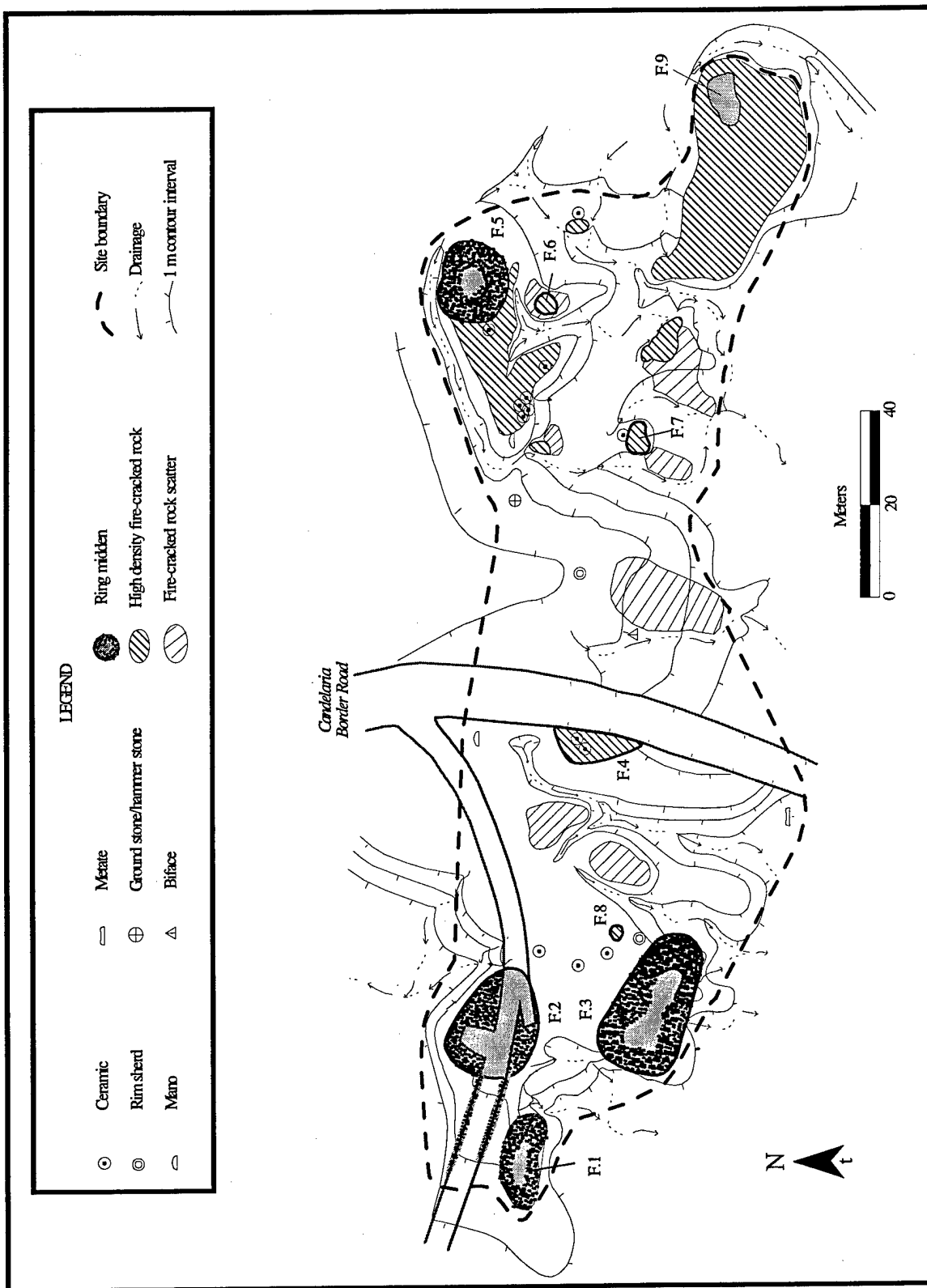


Figure 19. Plan map of site 13 (41PS13).

also noted. Ground stone included two unifacial, sandstone one-hand manos; one quartzite, nonportable slab metate; and one quartzite mano/hammerstone with pecked edges. The ceramic assemblage was very sparse but included a wide variety of types, including El Paso brownware, El Paso Polychrome, a Chupadero Black-on-white bowl sherd, and an assortment of fine-tempered Chihuahuan wares including polychromes and polished and incised brownwares. Based on the presence and types of ceramics, the site is temporally assigned to the Late Prehistoric period.

Nine features were delineated and assigned feature numbers. Concentrations and scatters of fire-cracked rock were prevalent throughout the site area, but heavy erosion made it difficult to distinguish separate features from disarticulated portions of burned-rock middens. Although most of the features were eroded and dispersed, four fairly intact ring middens (Features 1, 2, 3, and 5) and one sheet midden with a stained mound of fire-cracked rock at its northeast edge (Feature 9) were identified. The remaining features (Features 4, 6, 7, and 8) were small fire-cracked rock features. The sheet midden (Feature 9) measured 20 x 35 m and contained approximately 50,000 fire-cracked rocks. The ring middens ranged in size from 12 x 14 m to 15 x 25 m, and all contained at least 10,000 fire-cracked rocks. Staining was evident in all the features except Features 1, 4, and 7.

The site has been impacted by extensive sheet erosion, road construction, and bulldozing; approximately 25 percent of the site is estimated to remain intact. Based on the potential for the site to yield further important information, as demonstrated by the diverse artifact assemblage and the presence of staining and thermal features, site 13 (41PS13) is considered potentially eligible for inclusion on the NRHP.

Site 14
(41PS773)

Site 14 is a 1,462 m² prehistoric site situated on a low ridge top overlooking Van Horn Creek, at an elevation of 3,180 ft (969 m) amsl. Soils are silty loams in a gravel matrix. Vegetation within the site area includes creosote bush, ocotillo, mesquite, and forbs, which cover approximately 30 percent of the site area.

The site consists of a moderate-density lithic artifact scatter with no features (Figure 20). The lithic artifact assemblage is composed of 75 pieces of angular debris and flakes (in all stages of reduction), cores, one biface, and a large chopper/core tool. Lithic materials include quartzite, rhyolite, and a small quantity of jasper. The artifacts are generally scattered throughout the site area, although a 10 x 15 m area of dense

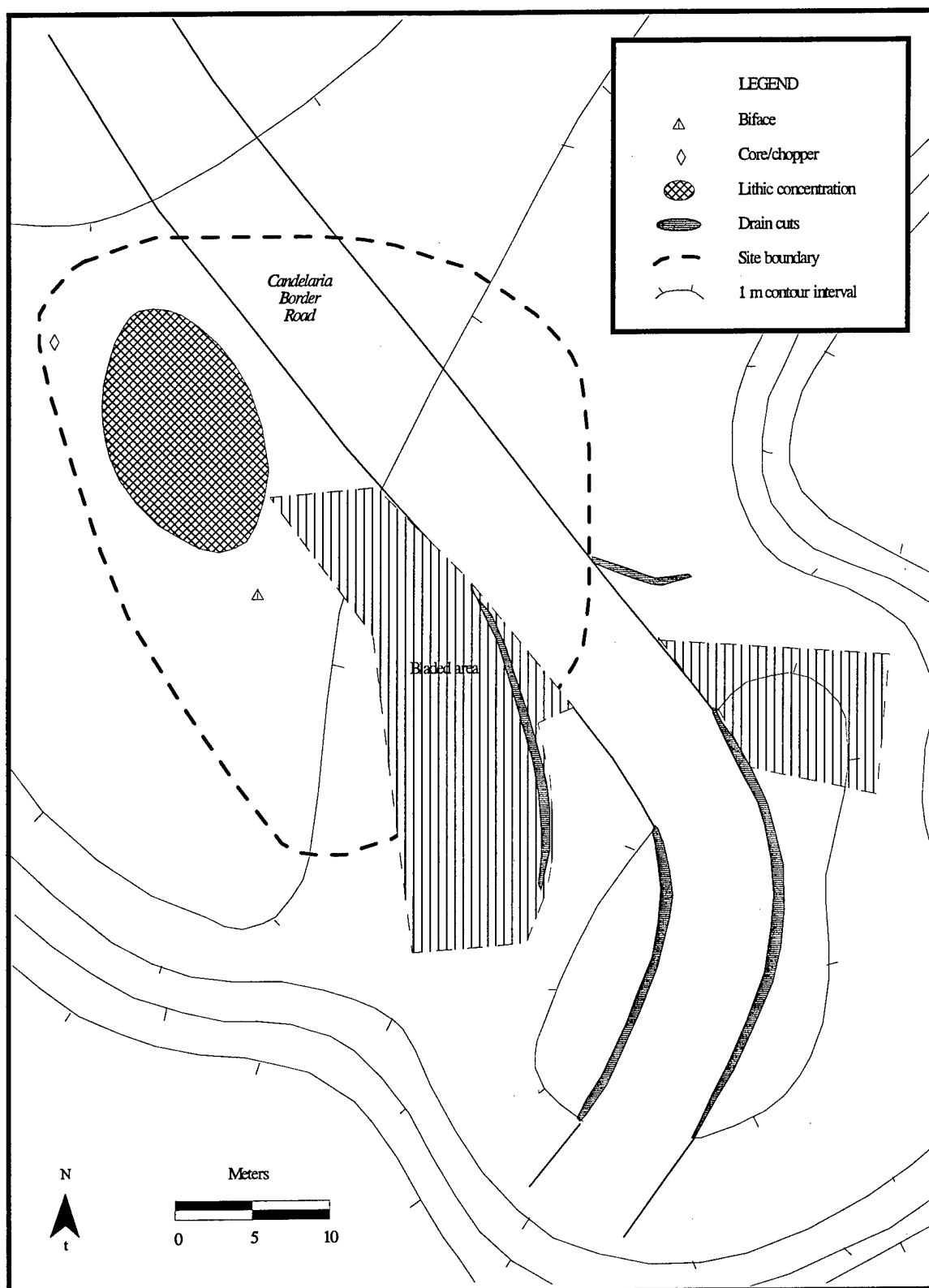


Figure 20. Plan map of site 14 (41PS773).

concentration was noted in the northwest portion of the site. Based on the absence of temporally diagnostic artifacts, the site is classified as Unknown Aboriginal.

This site has been impacted by blading and road construction, leaving approximately 30 percent of the site intact. Based on the site's limited potential to provide further important information, site 14 (41PS773) is considered ineligible for inclusion on the NRHP.

Site 15
(41PS774)

Site 15 is a 3,600 m² prehistoric site situated on the slope of an alluvial bench overlooking Van Horn Creek, at an elevation of 3,100 ft (945 m) amsl. Soils are silty loams, with a rhyolite and quartzite gravel/cobble matrix. Thirty-five percent of the site area is covered with creosote bush, acacia, mesquite, and forbs.

The site consists of a high-density lithic artifact assemblage composed of over 500 items, including flakes, angular debris, cores, bifaces, and hammerstones (Figure 21). The majority of the flakes were large and represented primary stage reduction, although secondary stage reduction debitage was also noted. Rhyolite comprised the dominant lithic material, but quartzite and a small amount of jasper were also represented. The artifacts were scattered across the site, although a 12 x 15 m concentration was noted along a small ridge line in the northwest portion of the site, and another concentration (9 x 16 m) was identified in the eastern portion of the site. The site is classified as Unknown Aboriginal because of the lack of temporally diagnostic artifacts. This site has been disturbed by blading and road construction, with 90 percent of the site estimated to remain intact. Based on the site's limited potential to provide further important information, site 15 (41PS774) is considered ineligible for inclusion on the NRHP.

Site 16
(41PS770)

Site 16 is a 320 m² prehistoric site situated on a low bench overlooking a drainage, at an elevation of 3,070 ft (936 m) amsl. Soils are silty/sandy loams, with a gravel matrix. Creosote bush, mesquite, prickly pear, pencil cholla, and forbs cover 30 percent of the site area.

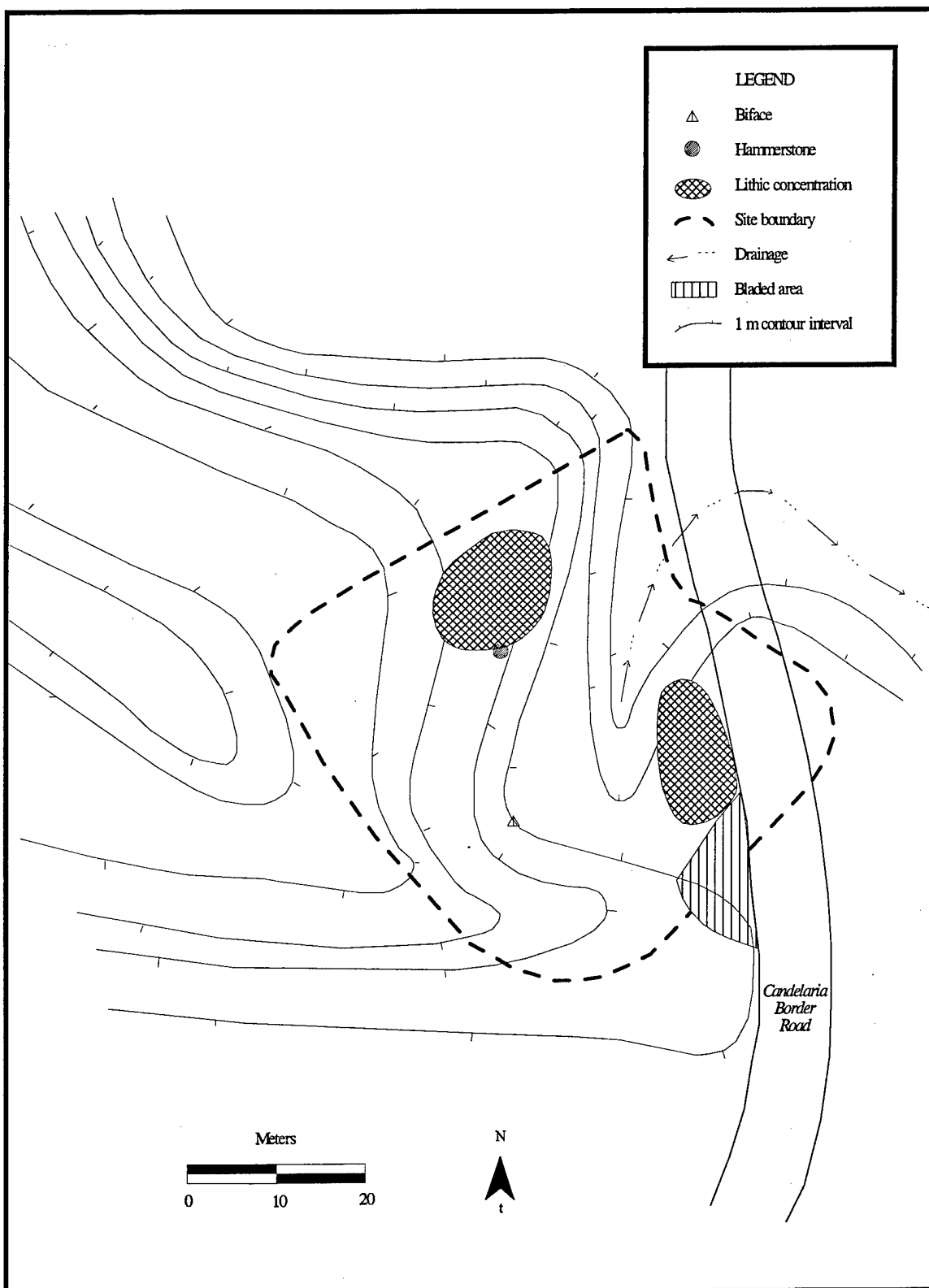


Figure 21. Plan map of site 15 (41PS774).

The site consists of a low-density lithic artifact scatter with no features (Figure 22). The site assemblage consists of 21 artifacts, including primary and tertiary flakes and angular debris (tested nodules). Rhyolite is the most abundant lithic material, but quartzite, chert, and chalcedony are also present. Because of the lack of temporally diagnostic artifacts, the site is classified as Unknown Aboriginal.

This site has been impacted by erosion and by Candelaria Border Road (2 m east of the site), but an estimated 90 percent of the site remains intact. Due to the extremely limited artifact assemblage and lack of thermal features the site's potential to provide further important information is minimal; therefore site 16 (41PS770) is considered ineligible for inclusion on the NRHP.

Site 17
(41PS775)

Site 17 is a 4,059 ft² historic site situated on a flat, alluvial fan overlooking the Rio Grande floodplain, at an elevation of 2,980 ft (908 m) amsl. Soils are calcic sandy loams with a gravel/cobble surface veneer. Vegetation within the site area includes creosote bush, mesquite, and ocotillo, which cover approximately 15 percent of the site area.

The site consists of one feature and approximately 20 associated historic artifacts (Figure 23). The historic assemblage is composed of white-glazed stoneware; sanitary-seal tin cans; a blue, enamelware pot handle; a galvanized washtub; fragments of transferware; and light purple and clear glass fragments. Many of the artifacts were scattered along an old fence line that runs northeast/southwest through the site.

Feature 1 is a 10-ft-diameter depression of unknown origin and function. It may be associated with the old, downed fence line that intersects the eastern edge of Feature 1. A railroad tie, 2 x 4 lumber fragments (some of which are nailed together with wire nails), and flattened Model T fenders were found within Feature 1. An area containing recent trash was also noted on the site, and the remains of a relatively modern structure (now razed) were noted approximately 50 m west of the site.

The site has been impacted by a road cut (Candelaria Border Road bisects the southern portion of the site) and erosion, with approximately 80 percent of the site estimated to remain intact. Due to the limited nature and suspected recent affiliation, the site's potential to provide further important information is considered extremely limited, and therefore site 17 (41PS775) is considered ineligible for inclusion on the NRHP.

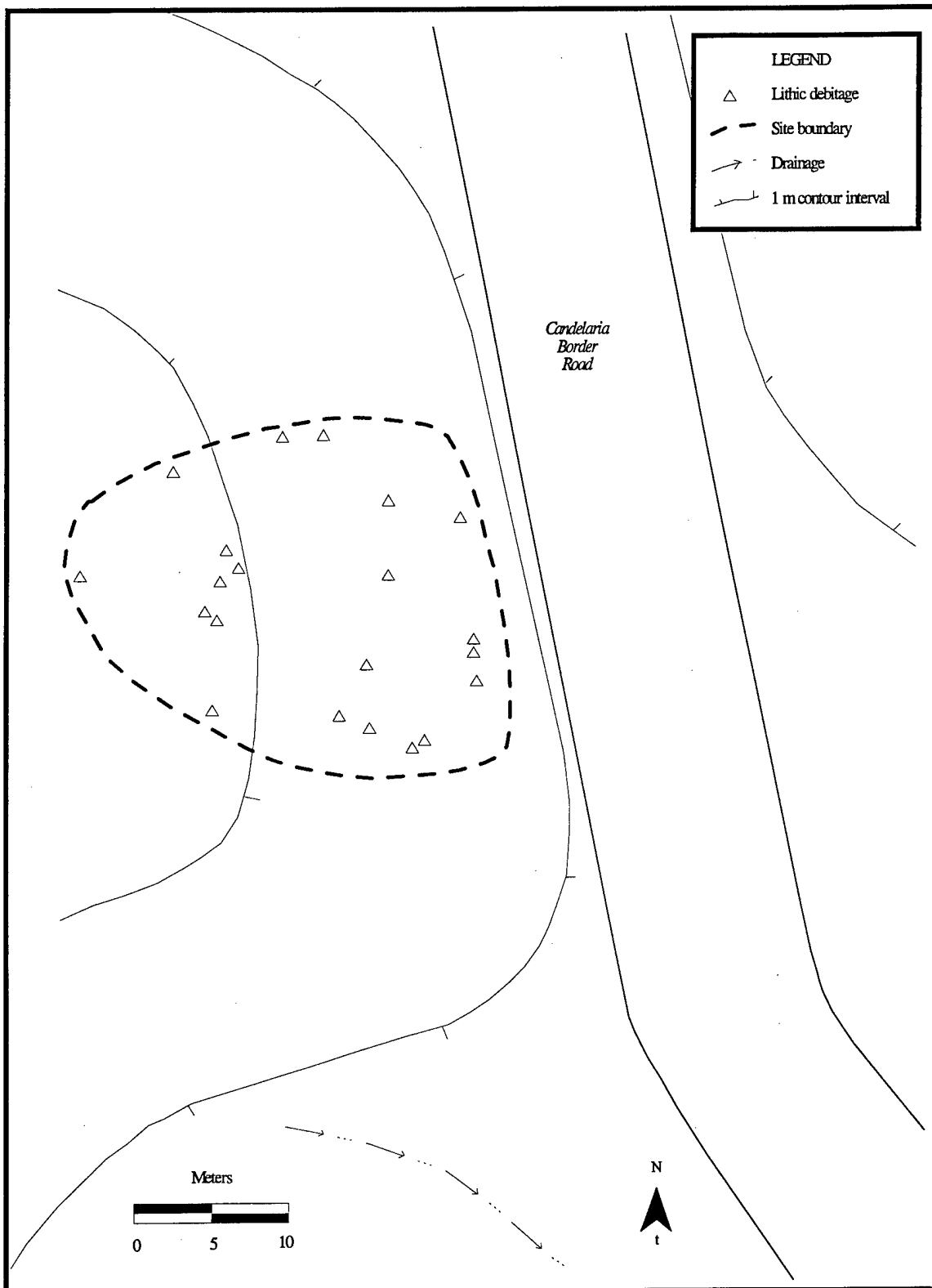


Figure 22. Plan map of site 16 (41PS770).

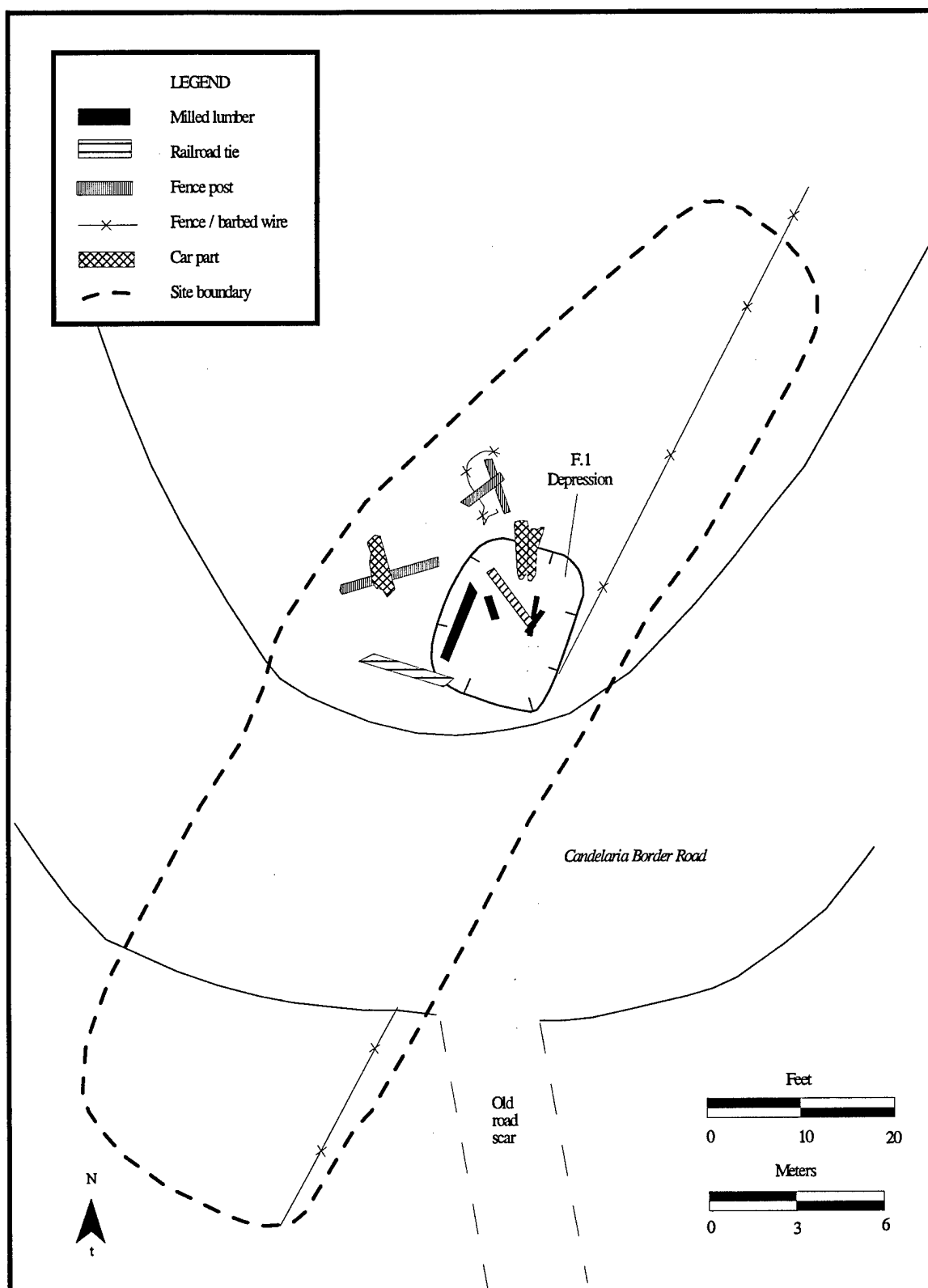


Figure 23. Plan map of site 17 (41PS775).

Site 18
(41PS776)

Site 18 is a 93,095 m² multicomponent prehistoric/historic site situated between two west-flowing drainages in an area of extreme sheetwashing, at an elevation of 2,980 ft (908 m) amsl. Soils are silty loams. Vegetation within the site area includes mesquite and crucifixion thorn, which cover up to 10 percent of the site area.

The prehistoric component consists of 28 features and an associated, high-density lithic, ceramic, and ground stone artifact scatter (Figure 24). The site assemblage contains at least 750 artifacts that are primarily located in the vicinity of the features, although this is due to heavy erosion evident throughout the site area. The lithic artifact assemblage contains approximately 550 items, including flakes in all stages of reduction, angular debris, cores, one Toyah-type projectile point (Figure 25), and unifacial one-hand manos. Lithic materials include quartzite, chert, rhyolite, and chalcedony. The ceramic assemblage consists of over 100 sherds and is dominated by El Paso brownware and Jornada brownware, although small amounts of corrugated brownware, El Paso Polychrome, Chihuahuan Polychrome, and micaceous brownware were also found. Based on the presence of temporally diagnostic ceramics and the projectile point, the prehistoric component of the site is temporally assigned to the Late Prehistoric period.

The prehistoric component of the site consists of 28 features, including at least four ring middens (Features 6, 8, 21, and 27) and 24 other fire-cracked rock features, including six identified as burned-rock middens, based on frequencies of 500 or more fire-cracked rocks (Features 2, 17, 18, 19, 20, and 22), six with stains (Features 1, 6, 19, 21, 25, and 28), and one fire-cracked rock feature that contains historic artifacts (Feature 23). Feature sizes range from 1 to 20 m in diameter.

The historic component on the site consists of one stained area (Feature 29) and an associated historic artifact assemblage, including historic artifacts found within a fire-cracked rock feature (Feature 23). The historic assemblage contains over 100 artifacts, including aqua, purple, amber, green, brown, and dark green glass, milk glass, whiteware, stoneware, and (Mexican) glazed brownware. Historic metals include one sanitary-seal can, wire nails, boards, and 1890s barbed wire (two-strand with flat barbs). Two upright posts are also present but may represent remnants of an old fence line.

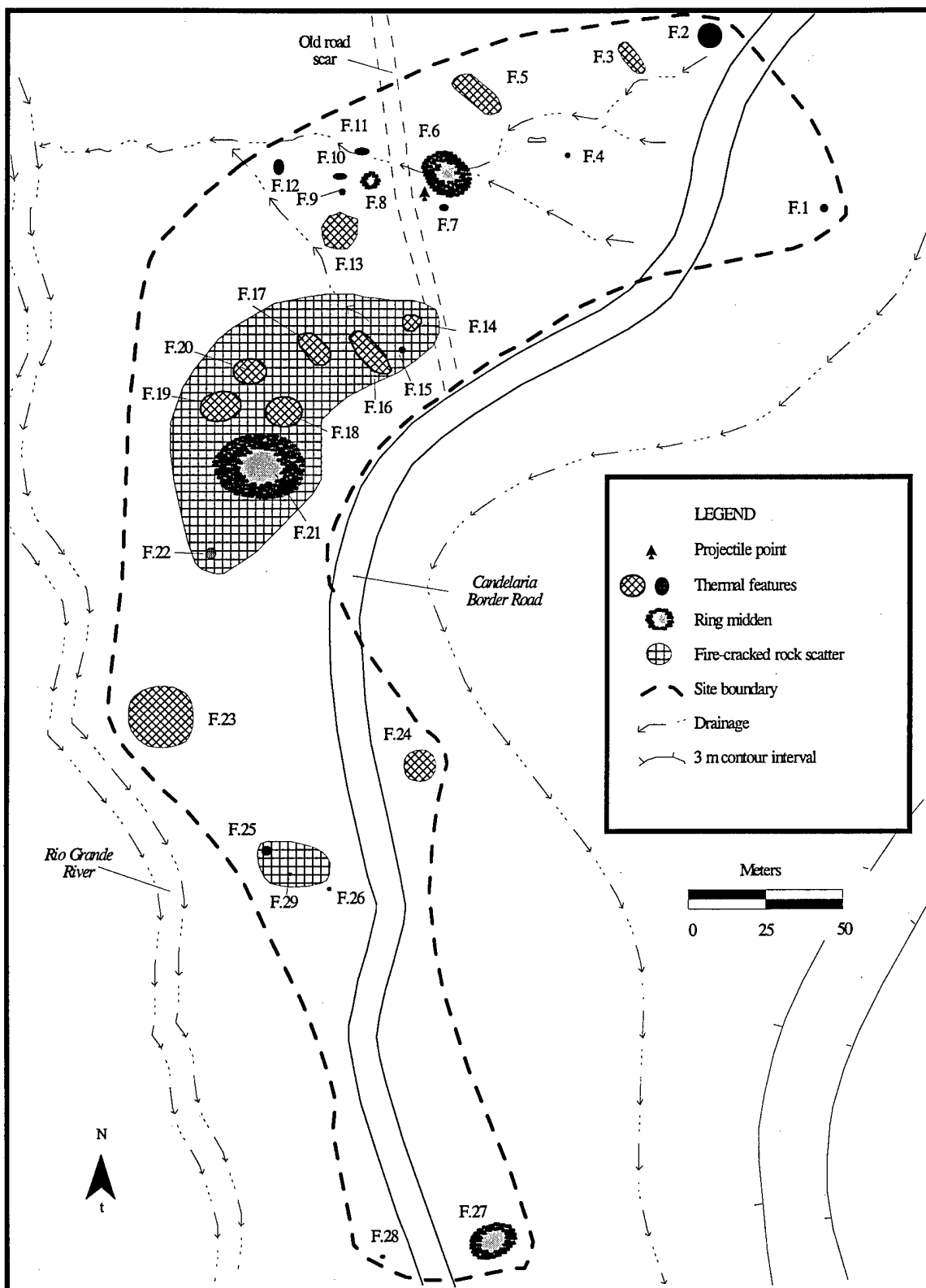


Figure 24. Plan map of site 18 (41PS776).



Figure 25. Late Prehistoric-style Toyah-type projectile point from Site 18 (41PS776) (Scale 1:1).

The stain feature associated with the historic component (Feature 29) measures approximately 1 m in diameter and does not include fire-cracked rock. The historic component is estimated to date from the early 1900s to the 1920s, based on the artifact assemblage.

This site has been impacted by heavy sheetwash erosion and the Candelaria Border Road, which winds through the site area. Approximately 10 to 15 percent of the site is estimated to remain intact. Based on the potential for the site to contain further important information, as suggested by thermal features, staining, and the high density and diversity of artifacts, site 18 (41PS776) is considered potentially eligible for inclusion on the NRHP.

Site 19
(41PS784)

Site 19 is a 407 m² prehistoric site situated along a bisected alluvial fan, at an elevation of 2,840 ft (866 m) amsl. Soils are clayey loams, with varying amounts of surface gravel matrix. Creosote bush and prickly pear cover approximately 5 percent of the site area.

The site consists of three hearth features, with no associated artifact assemblage (Figure 26). The features contain densely concentrated rhyolite fire-cracked rock and are heavily eroded. Feature 1 is 1.5 m in diameter, composed of approximately 200 fire-cracked rocks, and includes charcoal visible on the surface. Feature 2 consists of 150 fire-cracked rocks in a 2 x 4 m area, with no staining or charcoal evident. Feature 3 contains 150 fire-cracked rocks in a 2 x 2 m area, with no staining or charcoal evident. Because of the lack of temporally diagnostic artifacts, the site is classified as Unknown Aboriginal.

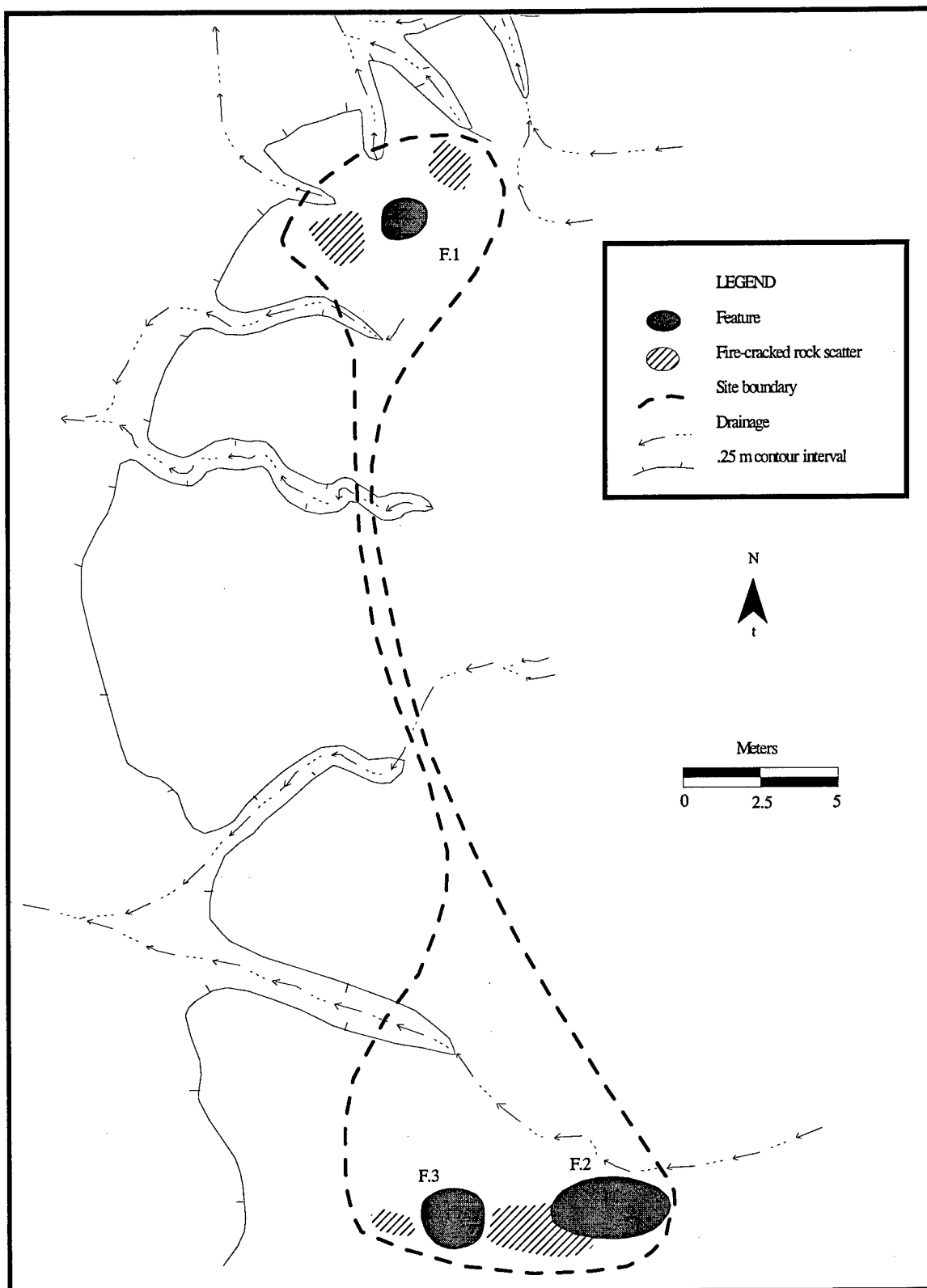


Figure 26. Plan map of site 19 (41PS784).

Archeological Survey for JTF-6 Road Improvements in Presidio and Jeff Davis Counties, Texas

The site is heavily eroded, with only 5 percent of the site estimated to remain intact. Based on the potential for the site to contain further important information, as suggested by thermal features and staining, site 19 (41PS784) is considered potentially eligible for inclusion on the NRHP.

Site 20
(41PS777)

Site 20 is a 3,040 m² prehistoric site situated along the crest and westward slope of a narrow ridge, at an elevation of 2,920 ft (890 m) amsl. The site surface consists of gravels less than 1 m deep over sandstone bedrock. Vegetation includes creosote bush, mesquite, acacia, ocotillo, cacti, and forbs, which cover approximately 15 percent of the site area.

The site consists of three features and a moderate to high-density lithic artifact assemblage (Figure 27). The lithic artifact assemblage includes hundreds of items, including flakes in all stages of reduction, angular debris, cores, bifaces, and two distal Late Archaic-style projectile point fragments. Lithic materials were primarily locally available rhyolite and rhyolitic chert, although a few flakes of chalcedony and one example of obsidian were also noted. Most of the microcrystalline debitage was relatively small, compared to the rhyolite debitage. Three unifacial, one-hand manos were also present. Based on the projectile point styles, the site is temporally assigned to the Late Archaic period.

The site contains three features: two fire-cracked rock features (Features 1 and 2) and two bedrock mortars (Feature 3). The thermal features include more than 1,000 highly concentrated fire-cracked rocks of local rhyolite. Feature 1 is 10 m in diameter, and Feature 2 is 5 m in diameter and has been mechanically disturbed. Other thermal features may be present, but the angular nature of the natural cobble surface makes them difficult to distinguish. Feature 3 consists of two mortar holes (15 cm wide x 30 cm deep) in a sandstone bedrock/boulder near the southern edge of the site.

The site has been impacted by erosion, blading, and road construction, with approximately 20 percent of the site estimated to remain intact. Based on the presence of thermal features, as well as the assemblage density and diversity, the site may contain further important information. Therefore, site 20 (41PS777) is considered potentially eligible for inclusion on the NRHP.

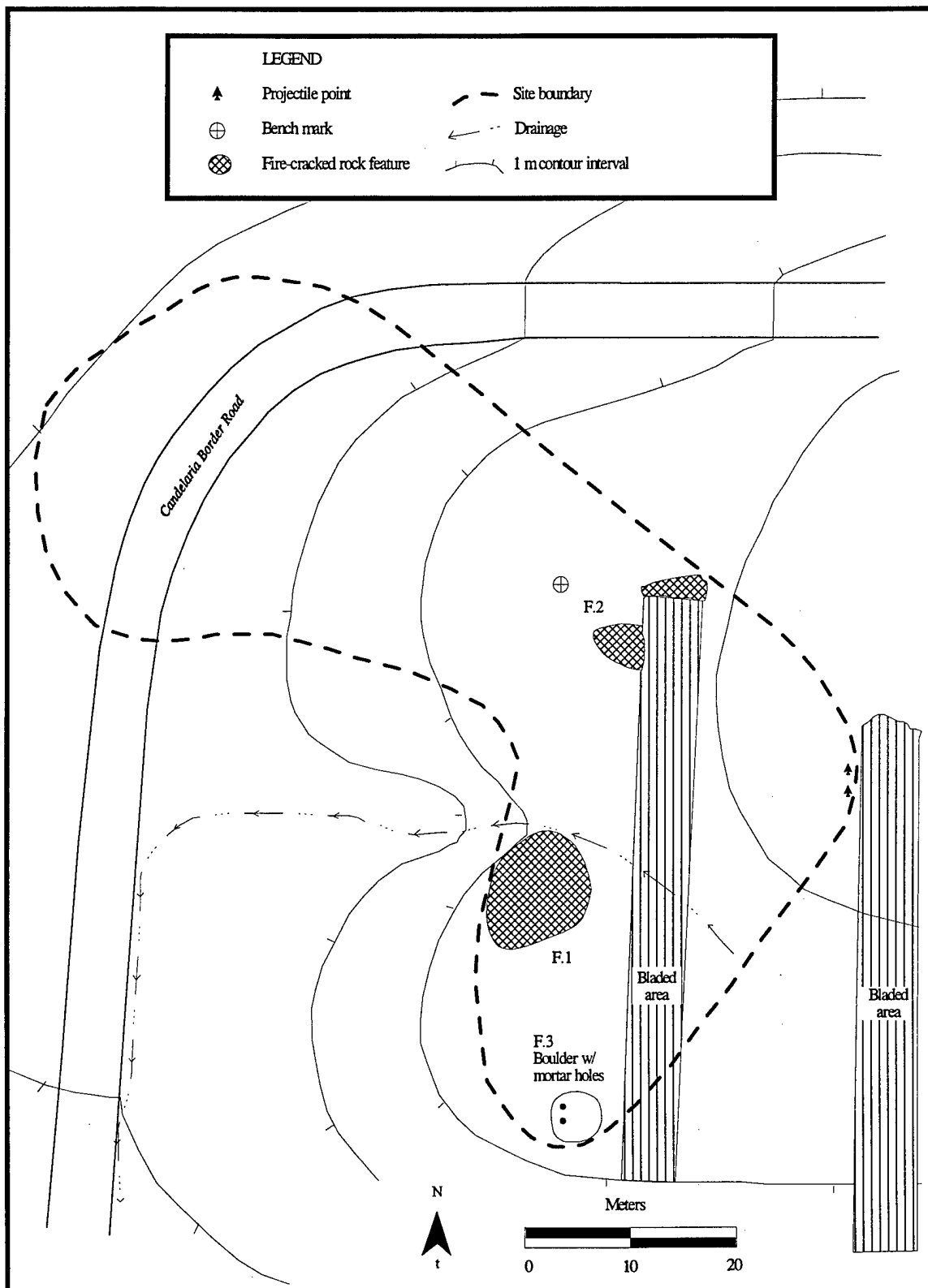


Figure 27. Plan map of site 20 (41PS77).

Archeological Survey for JTF-6 Road Improvements in Presidio and Jeff Davis Counties, Texas

Site 21
(41PS761)

Site 21 is a 690 ft² (210 m²) historic site situated on a westward-sloping alluvial fan, at an elevation of 2,880 ft (878 m) amsl. Soils are sandy loams. Vegetation covers approximately 15 percent of the site area and includes mesquite, creosote bush, and whitethorn.

The site consists of one historic feature and a single artifact: one light purple possible milk glass fragment (Figure 28). This glass is suspected to date to around 1910. Sanitary-seal cans (post-1910) are present some distance from the feature but are thought to relate to a modern corral about 200 ft to the north of the site.

Feature 1 is a one-room, square-shaped rock structure, 16 x 16 ft. It is constructed of large, angular, rhyolite rocks up to 1 m in diameter. Small rocks are visible in the wall matrix in some places, suggesting that gravel or mud mortar may have been present. The walls are about 2 ft thick and stand 3 to 5 ft high.

This site has been impacted by erosion. Approximately 50 percent of it is estimated to remain intact. Based on its potential to yield further important information regarding early settlement of the Rio Grande valley, site 21 (41PS761) is considered potentially eligible for inclusion on the NRHP.

Site 22
(41PS762)

Site 22 is a 399 ft² (122 m²) historic site, situated on a steep westward-sloping hillside directly adjacent to the Rio Grande, at an elevation of 2,940 ft (896 m) amsl. The site surface consist of cobbles and rubble over bedrock, with no visible soils. Vegetation within the site area includes mesquite and acacia, which cover approximately 90 percent of the site area.

The site consists of two features (cobble walls), with no associated artifacts (Figure 29). The cobble walls are parallel and are 8 ft apart. The western wall (Feature 1) is about 20 ft long, and the eastern wall (Feature 2) is about 16 ft long. The walls stand 3 to 5 ft tall and are constructed of large cobbles with mud and gravel mortar. There were no indications of connecting north and south walls. The site's location on a steep hillside seems unsuitable for habitation. While it is suspected that the walls could be part of a river gauging

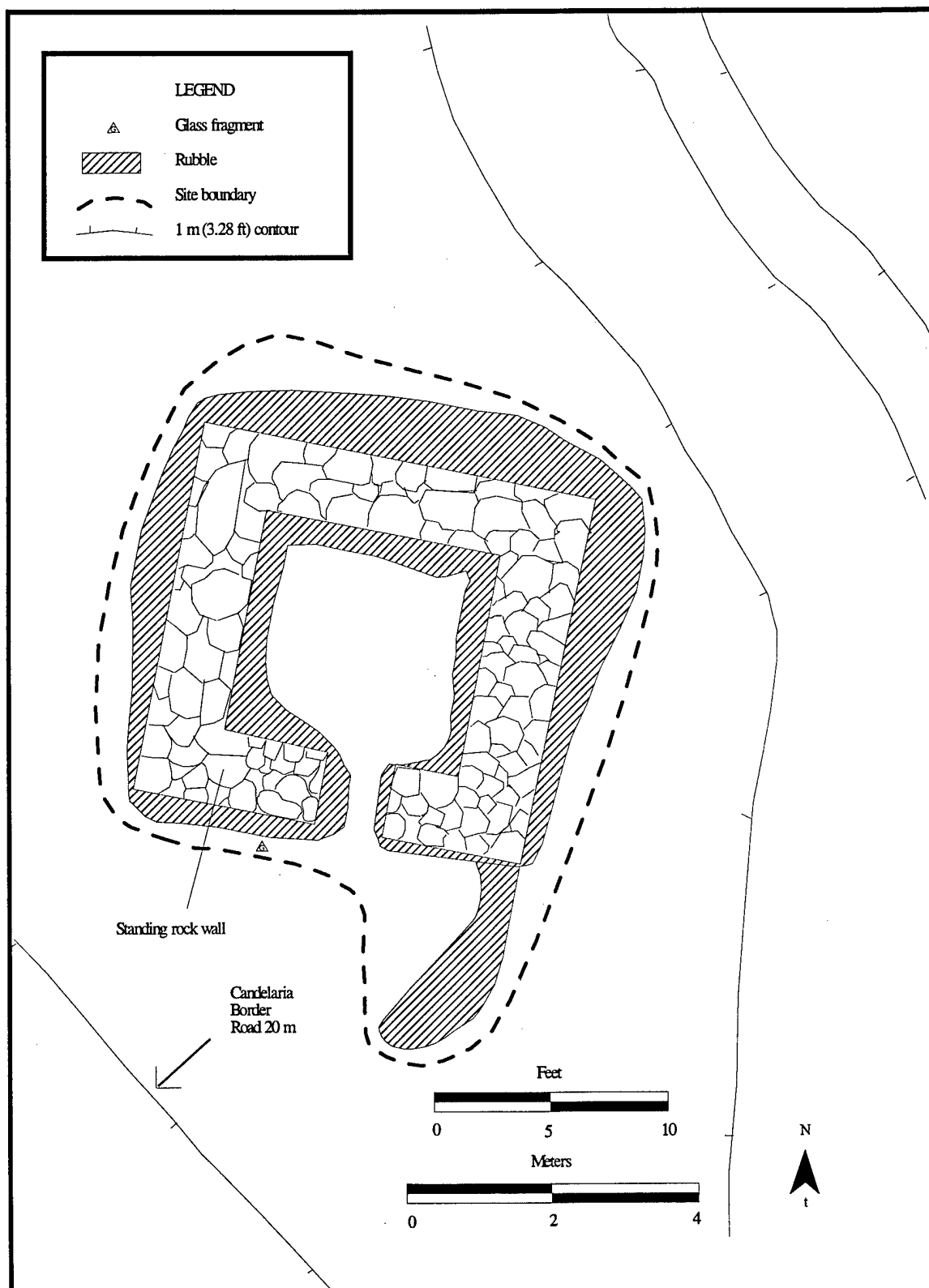


Figure 28. Plan map of site 21 (41PS761).

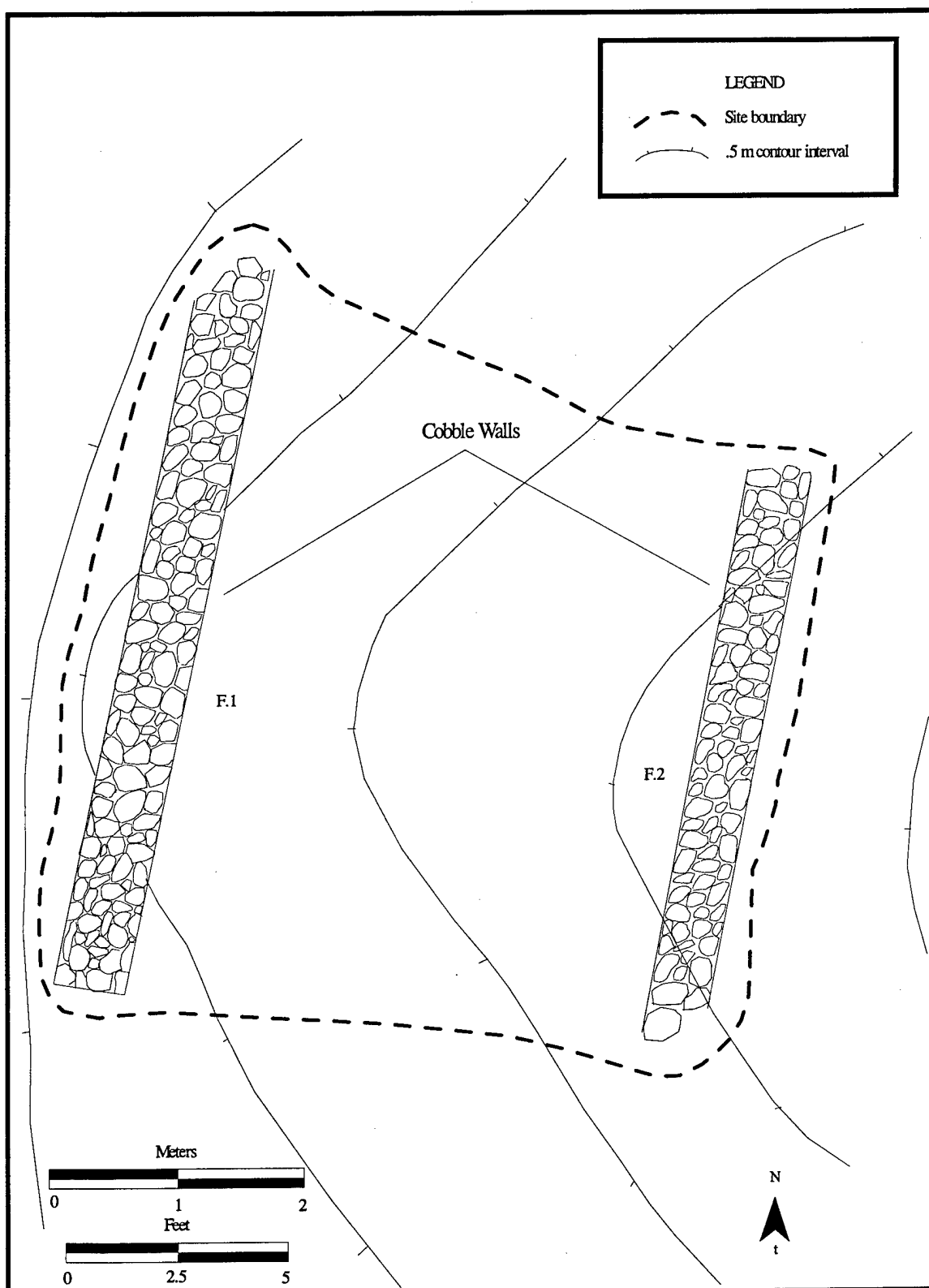


Figure 29. Plan map of site 22 (41PS762).

station, representing a practice initiated by the USGS in the area in 1889 (Everitt 1977), their function remains unknown.

The site has been impacted by erosion and road construction (Candelaria Border Road is 2 m west of the site), with approximately 30 percent of the site estimated to remain intact. Based on the site's limited potential to provide further important information, site 22 (41PS762) is considered ineligible for inclusion on the NRHP.

Site 23
(41PS778)

Site 23 is a 2,664 m² prehistoric site situated on a westward-sloping alluvial fan, at an elevation of 2,920 ft (890 m) amsl. Soils are gravelly/sandy loams. Vegetation includes creosote bush, mesquite, and cacti, which variably cover between 5 and 75 percent of the site area.

The site consists of two features and an associated lithic and ceramic artifact assemblage (Figure 30). The site assemblage contains approximately 100 artifacts. The lithic assemblage includes angular debris, flakes in all stages of reduction, cores, and several ground stone items, including several unifacial one-hand mano fragments of quartzite and sandstone; one quartzite, bifacial mano fragment; and a sandstone, basin metate that is fractured in-place. Lithic materials include rhyolite, rhyolitic chert, quartzite, and chalcedony. The ceramic assemblage consists of four (untyped) brownware sherds. Two of the ceramics appeared to be bowl sherds with smudged interiors: one was indented and corrugated, and one was incised. All of the ceramics were found in Feature 1. Based on the presence of ceramics, the site is assigned to the Late Prehistoric period.

The site contains two features. Feature 1 is a ring midden that has been severely impacted by bulldozing. It measures 30 x 35 m, although the boundary and size of Feature 1 is considered tentative because of the bulldozer disturbance. Feature 1 contains a tight concentration of fire-cracked rock and staining in the northwest corner (suspected to represent the deeper elements of the now mostly displaced feature) and an area of concentrated staining and fire-cracked rock west of the concentration that appears to represent "pushed" feature deposits. It is suspected that these remains represent a ring midden, disturbed by blading so that only the basal elements (a burned-cobble concentration) remain in situ. All of the ceramics were found within this disturbed feature area. Feature 2 is a fairly intact ring midden, measuring 22 x 24 m. The western edge

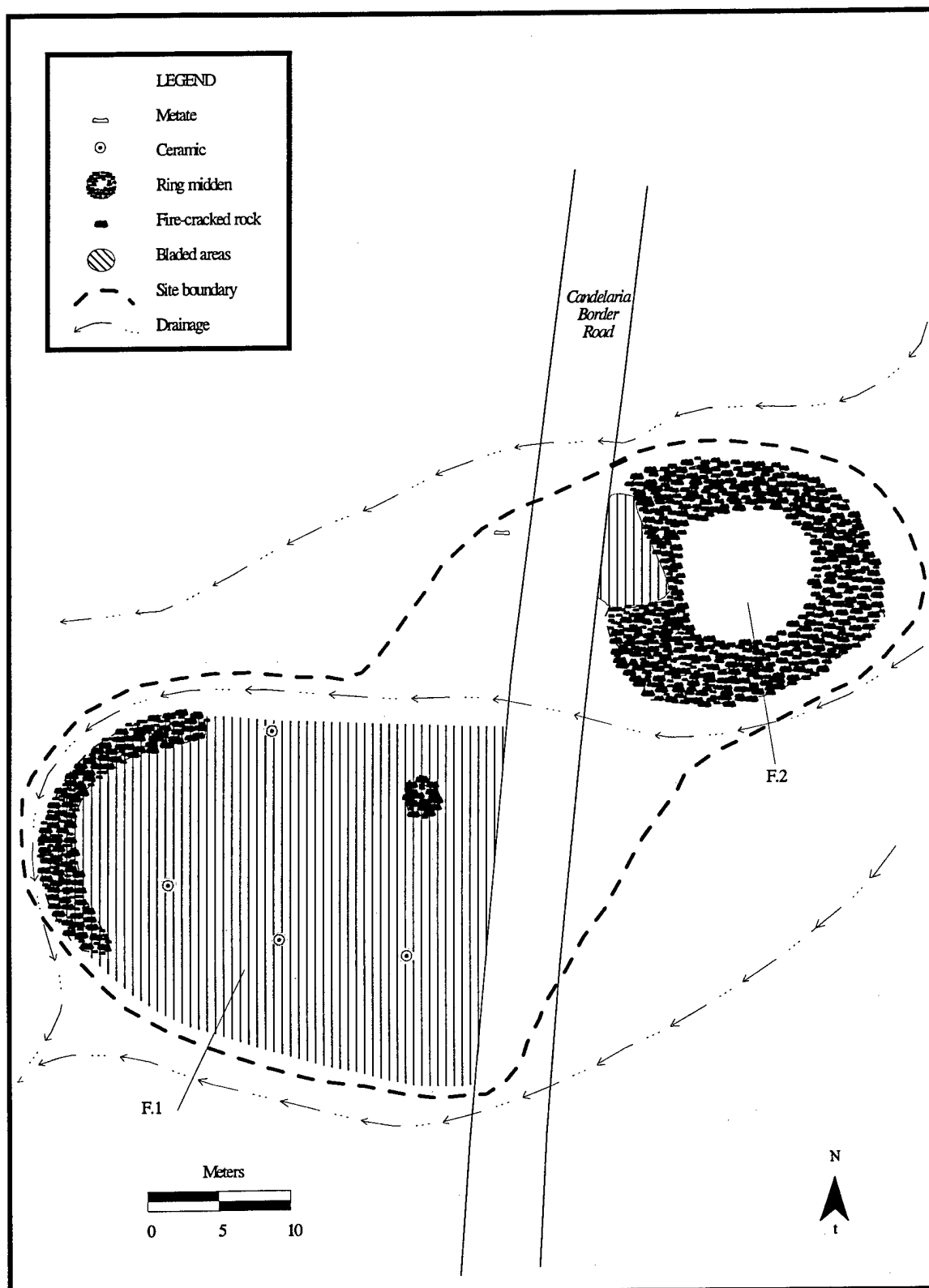


Figure 30. Plan map of site 23 (41PS778).

of Feature 2 has been impacted by bulldozing and cut by Candelaria Border Road. The road cut reveals staining at least 1 m below the existing feature surface.

This site has been impacted by erosion, road construction, and bulldozing (particularly on Feature 1), with approximately 30 percent of the site remaining intact. Based on the potential for the site to contain further important information, as suggested by thermal features and staining, Site 23 (41PS778) is considered potentially eligible for inclusion on the NRHP.

Site 24
(41PS779)

Site 24 is a 3,392 m² aboriginal site situated on a wide bench overlooking the Rio Grande floodplain, at an elevation of 2,980 ft (908 m) amsl. Soils are silty loams. Vegetation within the site area is limited to mesquite, which covers approximately 50 percent of the site area.

The site consists of three features and an associated lithic and ground stone artifact scatter (Figure 31). The site assemblage consists of 53 artifacts and includes flakes (primary and secondary reduction stages) and angular debris. Lithic materials include rhyolite, quartzite, and chert. Three ground stone fragments of indeterminate form were located in association with Feature 1, and a one-hand mano fragment was found on the west side of the site. Based on the lack of temporally diagnostic material, the site is categorized as unknown aboriginal.

Feature 1 is a 3 x 5 m burned-rock midden that is eroding into a drainage and includes staining. Three indeterminate ground stone fragments were found in association with this feature. Feature 2 is located 10 m north of Feature 1 and is nearly identical to it. Feature 3 is a 1 x 1 m fire-cracked rock hearth with no staining evident. Fire-cracked rock is also scattered throughout the site area.

This site has been impacted by Candelaria Border Road and an old road cut, with 50 percent of the site estimated to remain intact. Based on the potential for the site to contain further important information, as suggested by thermal features and staining, Site 24 (41PS779) is recommended as potentially eligible for inclusion on the NRHP.

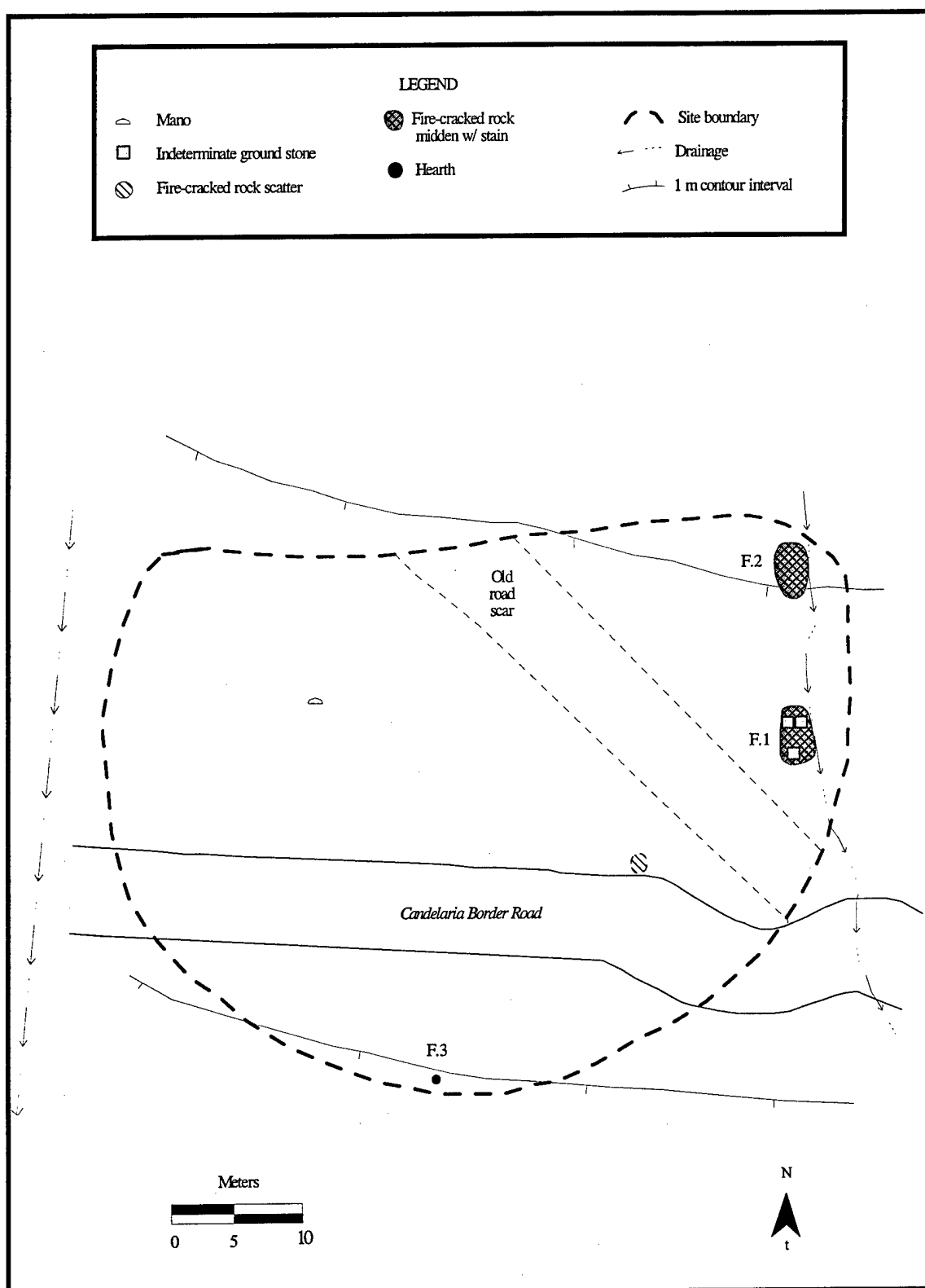


Figure 31. Plan map of site 24 (41PS779).

Site 25
(41PS780)

Site 25 is a 1,241 m² prehistoric site situated along the first bench above the Pinto Canyon drainage on a north- and west-sloping alluvial fan, at an elevation of 4,200 ft (1,280 m) amsl. Soils consist of a gravel/cobble/boulder matrix over sandy loams. Vegetation within the site area includes acacia, creosote bush, and mesquite, which variably cover 50 to 80 percent of the site area.

The site is composed of four thermal features and two lithic artifacts (Figure 32). The lithic artifacts consist of two chert secondary flakes. Based on the lack of temporally diagnostic artifacts, the site is categorized as Unknown Aboriginal.

The four fire-cracked rock/stain features range in size from 1 to 4 m in diameter, and all include staining. Feature 1 may represent a small roasting pit or burned-rock midden, which measures 4 m in diameter and contains approximately 200 fire-cracked rocks. Feature 2 is 1 m in diameter and contains 20 fire-cracked rocks. Feature 3 contains 20 fire-cracked rocks and is spread over a 1.5 x 2 m area alongside and falling into a shallow drainage. Feature 4 contains 30 fire-cracked rocks and is dispersed over a 2 x 3 m area along the edge and bottom of a wash. Heavy vegetative cover may mask additional features and artifacts.

This site has been impacted by erosion, cattle, and FM 2810, which bisects the site. Although only 20 percent of the site is estimated to be intact, the potential for the site to contain further important information is suggested by the thermal features and staining. Therefore, site 25 (41PS780) is considered potentially eligible for inclusion on the NRHP.

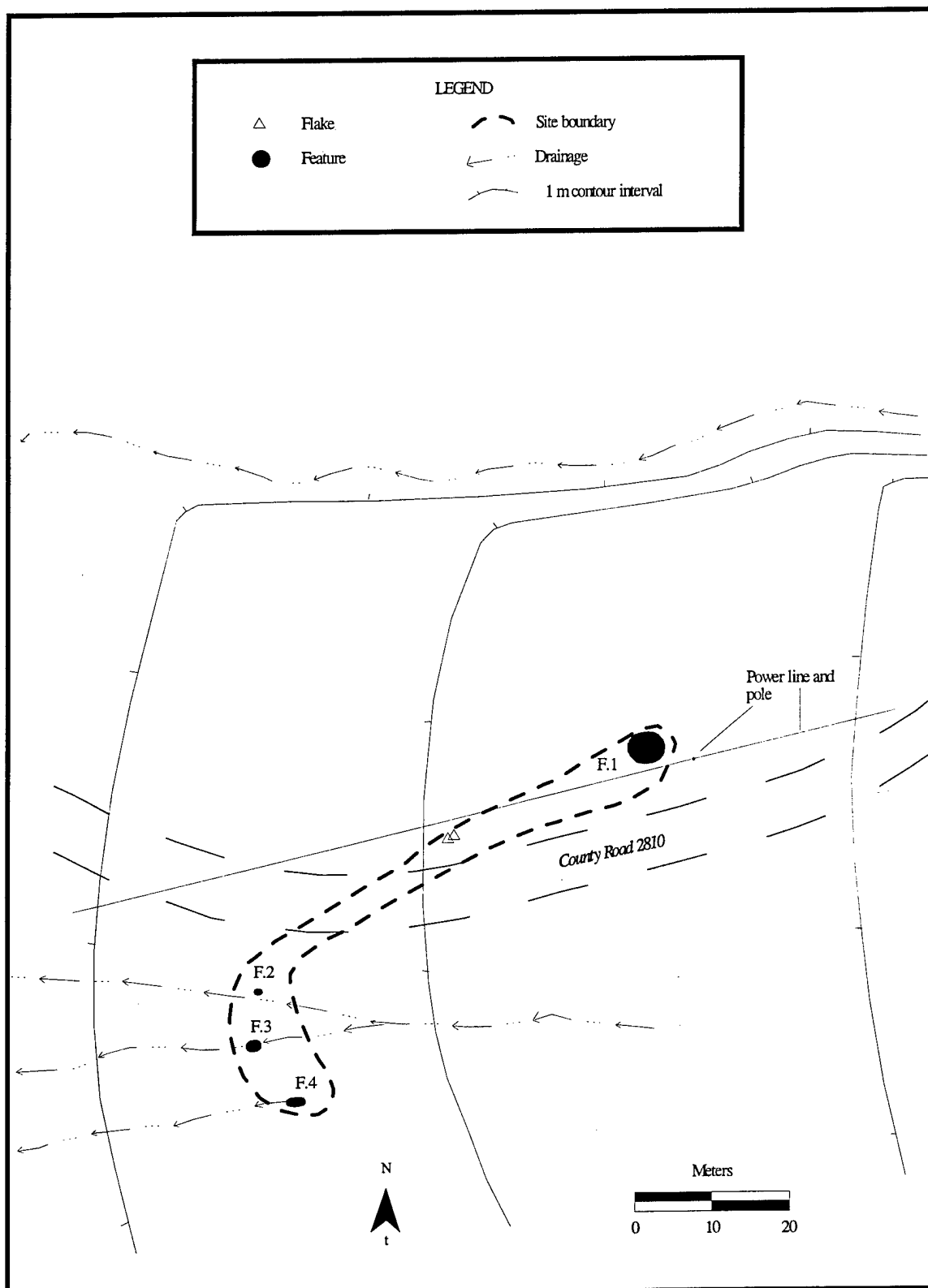


Figure 32. Plan map of site 25 (41PS780).

Site 26
(41PS781)

Site 26 is a 7,425 m² prehistoric site situated on a relatively flat bench along a westward-sloping alluvial fan overlooking Pinto Canyon, at an elevation of 4,480 ft (1,366 m) amsl. Soils are gravelly, calcic loams, with blocky, angular, limestone rubble matrix. Vegetation includes acacia, yucca, and forbs, which cover approximately 30 percent of the site area.

The site consists of an extensive, high-density lithic artifact scatter localized in two discrete loci, with no features (Figure 33). The site assemblage is composed of over 1,000 artifacts, including flakes, angular debris, cores, bifaces, and projectile points. The flakes represent all stages of reduction. The debitage in Locus 1 was predominantly small secondary and tertiary stage flakes and angular debris, although a Late Archaic-style projectile point base (Figure 34a), an Early Archaic-style projectile point midsection (Figure 34b), a biface fragment, and a bifacial-thinning flake were noted. Lithic materials in Locus 1 included mostly tan-colored chalcedonic chert derived from nodular cores, with a few examples of chert. Locus 2 also included a high proportion of secondary and tertiary stage flakes and contained dozens of biface-thinning flakes, two bifaces, and a Late Archaic-style projectile point base (Figure 34c). The lithic materials in Locus 2 were predominantly microcrystalline cherts (red, tan, black, and gray). The nodular-derived nature of the assemblage and the presence of natural chert outcrops in the site vicinity suggest that the site may have served as a quarry/production/retooling locality. Based on the presence of diagnostic projectile points, the site is temporally assigned to the Late Archaic period, with a potential Early Archaic component.

Site impacts include erosion, road, and power-line construction, with 70 percent of the site estimated to remain intact. Based on the site's limited potential to provide further important information, site 26 (41PS781) is considered ineligible for inclusion on the NRHP.

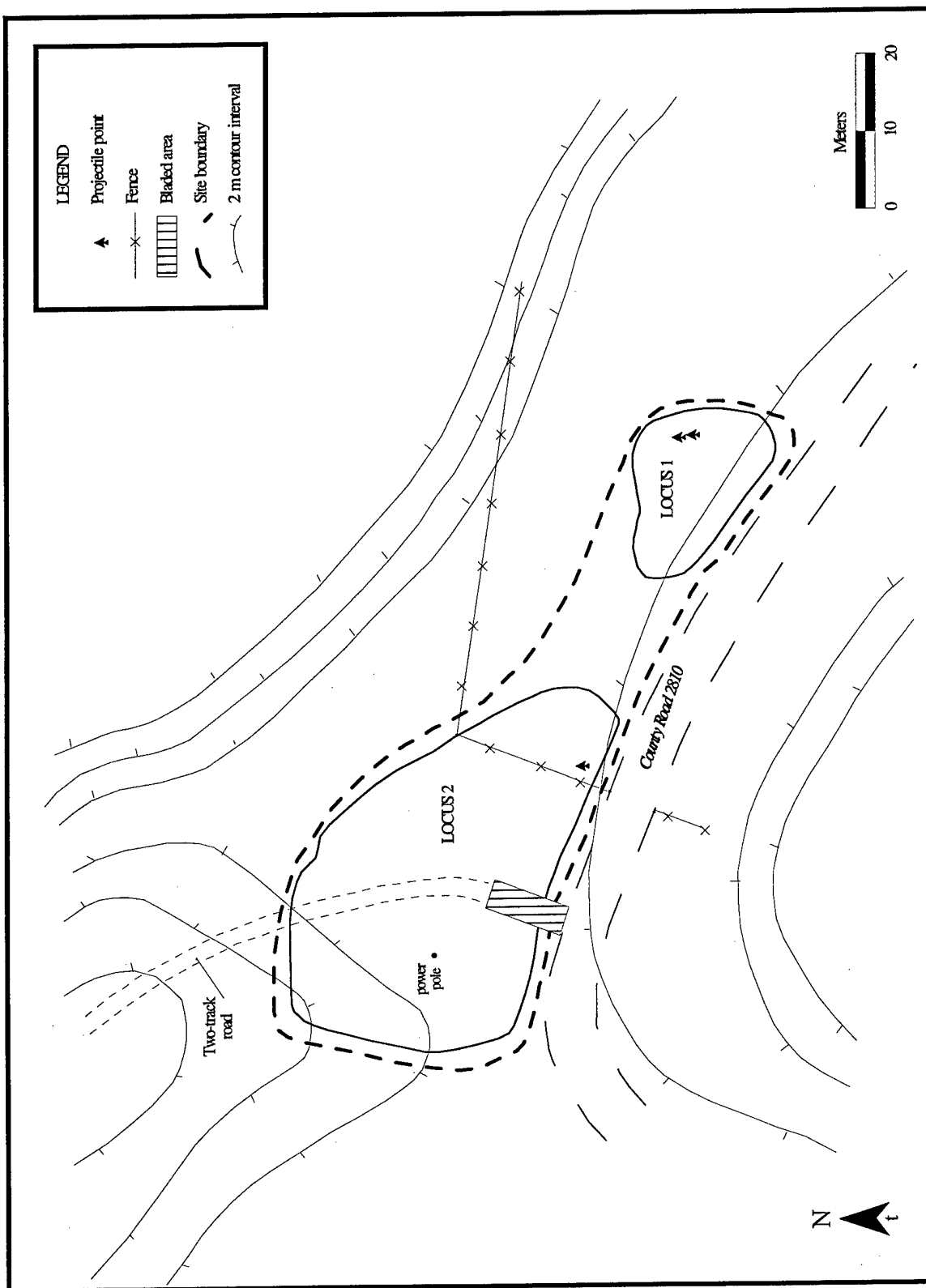


Figure 33. Plan map of site 26 (4IPS781).

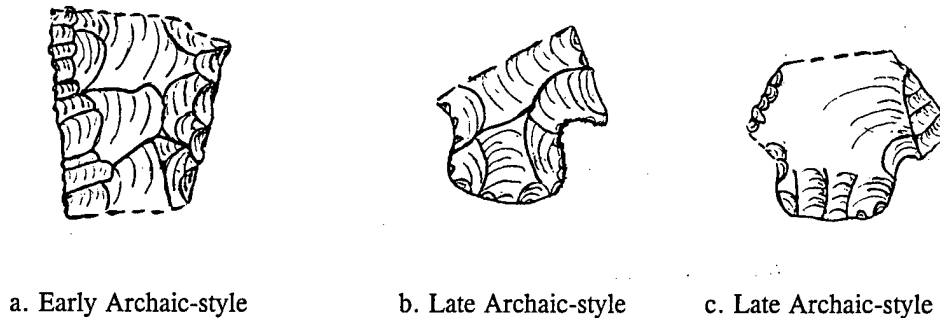


Figure 34. Untyped Archaic projectile points from Site 26 (41PS781) (Scale 1:1).

Site 27
(41PS782)

Site 27 is a 400 m² prehistoric site situated on a small bench along an alluvial fan, at an elevation of 4,960 ft (1,512 m) amsl. Soils are sandy loams in an angular gravel matrix. Vegetation includes acacia, juniper, grasses, and forbs, which cover approximately 45 percent of the site area.

The site consists of a moderate-density lithic and ground stone artifact scatter and a single ceramic sherd (Figure 35). The site assemblage contains over 100 artifacts, including flakes, angular debris, cores, and hammerstones. The flakes exhibited all stages of reduction, although the majority exhibited attributes of primary and secondary stage reduction. A single, one-hand, quartzite cobble mano; a bifacial one-hand mano, and a 10 x 15 cm, pecked, quartzite slab mano/metate that was convex on the pecked side were also found on the site. Lithic materials included local basalt, rhyolite, quartzite, and a variety of cherts and chalcedonies. The single sherd found in the site area was polished brownware, although a more specific type could not be assigned. Based on the presence of the sherd, the site is temporally assigned to the Late Prehistoric period.

The site has been impacted by road construction, with approximately 80 percent of the site estimated to remain intact. Due to the site's limited assemblage and lack of thermal features, its potential to provide

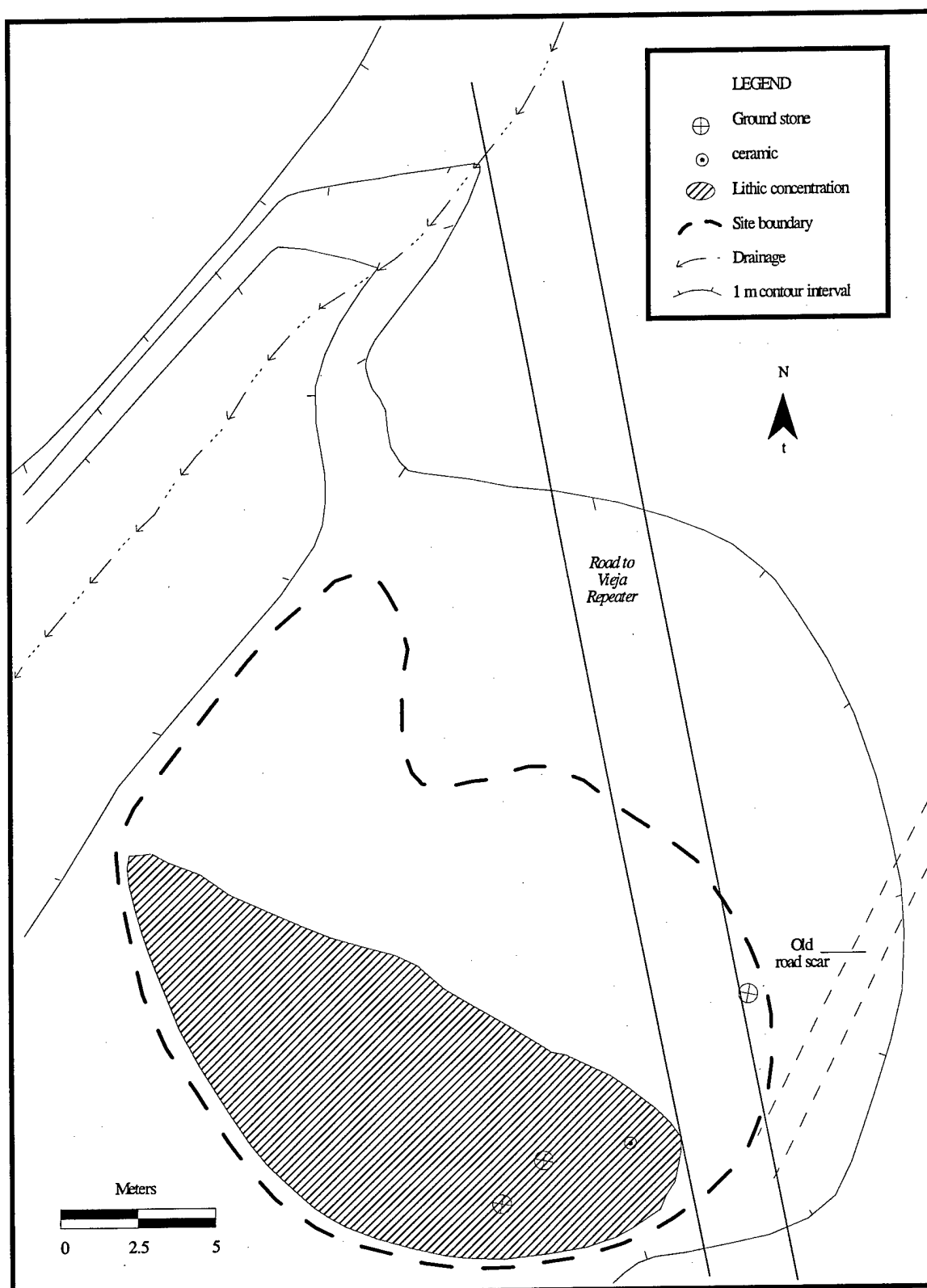


Figure 35. Plan map of site 27 (41PS782).

further important information is minimal, and therefore site 27 (41PS782) is considered ineligible for inclusion on the NRHP.

Site 28
(41PS783)

Site 28 is a 1,200 m² prehistoric site situated on a flat area along an alluvial bench, at an elevation of 4,950 ft (1,509 m) amsl. Soils are shallow, sandy loams over an angular cobble/gravel matrix. Vegetation includes shrubs, acacia, mesquite, and grasses, which variably cover between 10 and 80 percent of the site area.

The site consists of a low-density lithic and ground stone artifact scatter, with no features (Figure 36). The site assemblage contains over 200 artifacts, including flakes, angular debris, cores, a biface fragment, a one-hand quartzite mano fragment, and a (6 x 14 cm) two-hand bifacial mano. Most of the flakes exhibited attributes of primary and secondary stage reduction, although some biface reduction and other tertiary debris was observed. Lithic materials include basalt, rhyolite, quartzite, and a variety of cherts. Based on the lack of diagnostic artifacts, the site is temporally classified as unknown aboriginal.

The site has been impacted by road construction and grazing, with approximately 80 percent of the site estimated to remain intact. Due to the limited assemblage and lack of thermal features, the site's potential to provide further important information is considered minimal, and therefore site 28 (41PS783) is considered ineligible for inclusion on the NRHP.

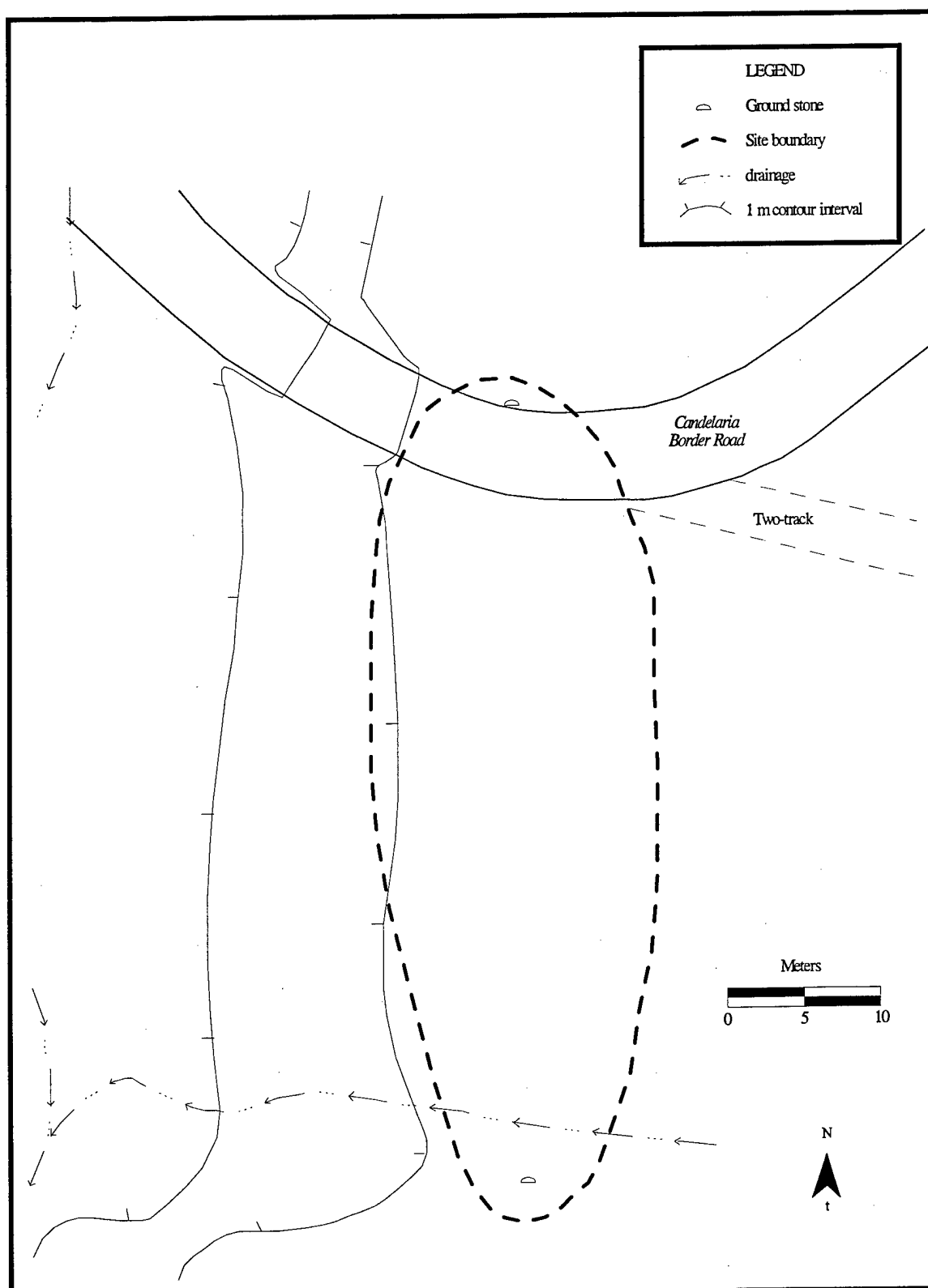


Figure 36. Plan map of site 28 (41PS783).

ISOLATED OCCURRENCES

A total of 42 isolated occurrences (IOs) was located during this investigation (Table 4 and Appendix A). Thirty-four of the isolates (81 percent) are tentatively considered to represent prehistoric activities. The remaining eight isolates (19 percent) relate to historic activities prior to 1950. In certain instances, accurate determination of the temporal affiliation of isolates was impossible. Fire-cracked rock features without associated artifacts, for instance, could as easily represent relatively modern hunting camps as ancient endeavors. Historic features, such as the masonry stabilization features located along FM 2810 (IOs 30, 31, and 32), may or may not predate 1950.

Table 4. Description of Isolated Occurrences

Prehistoric Isolate #	Description	Historic Isolate #	Description
1	7 flakes, 10 angular debris	20	30 soda bottle fragments from 12 bottles (inscribed "BOTL-O-SODA 1952")
2	1 biface thinning flake	22	4 pieces light purple glass
3	1 flake	23	a 1.5 m area historic trash dump
4	2 flakes	25	fire-cracked rock concentration (2 x 1.5 m) w/ stain and a modern (aluminum-capped) can on top
5	1 biface/chopper, 1 flake	30	1 historic rock alignment located above Road FM 2810
6	1 flake	31	2 historic stone water-control features along Road FM 2810*
7	6 flakes	32	1 historic stone bridge on a portion of old Road FM 2810*
8	13 flakes	33	10 fragments of purple glass, 2 sardine can lids
9	1 flake		
10	1 flake		
11	1 biface		
12	1 core		
13	1 flake		
14	1 flake		
15	1 flake		
16	1 flake		
17	1 core		
18	1 slab metate fragment, 1 flake, 1 pc. angular debris		
19	56 fire-cracked rocks (16 scattered, 40 in a 50 cm dia area), 4 flakes		
21	6 flakes, 1 core		
24	5 brownware sherds		
26	40 fire-cracked rocks (no stain) scattered in a 1 x 2 m area		
27	90 fire-cracked rocks (no stain) scattered in a 2 x 2 m area		
28	1 flake		
29	130 fire-cracked rocks (no stain) scattered in a 3 x 4 m area, 1 flake		
34	1 flake		
35	1 flake		
36	2 flakes		
37	3 flakes, 3 angular debris		
38	1 flake		
39	projectile point, distal end		
40	1 flake		
41	3 flakes		
42	1 multi-edged uniface		

* These historic features were recorded as isolated occurrences, but additional information is located in Appendix D (Texas Historic Sites Inventory Forms).

CHAPTER 7

DISCUSSION

REGIONAL COMPARATIVE SUMMARY

The results of investigations in the western Trans-Pecos illustrate general trends in the archeological record. Biases are inherent in some of the previous studies, however, particularly in reconnaissance surveys, for they tended to focus on larger sites with features, and frequently disregarded smaller sites lacking such attributes. Many of the larger sites encountered during the present study were previously documented during reconnaissance-level investigation during the Johnson (1977) survey, but the smaller, more obscure sites were unrecorded. The current, intensive survey conducted in the same areas resulted in documentation of a disproportionate frequency of smaller sites. Nonetheless, examination of the several data sets should provide a balanced comparative summary data (Table 5). Rockshelters such as 41PS759 documented during this study, are omitted from the discussion since their presence is determined by geological settings, and documentation of them is highly dependent upon the orientation of archeological investigation.

Table 5. A Comparative Summary of Prehistoric Attributes					
Project	Total Prehistoric Open Sites	Sites with Ceramics	Sites with FCR	Sites with Thermal Features	Sites with Middens
Current Study*	21	7 (33%)	13 (62%)	13 (62%)	5 (24%)
JTF-6 (Sale and Gibbs 1995)	94	3 (3%)	85 (90%)	75 (80%)	24 (25%)
Big Bend (Ing et al. 1996)	140	8 (6%)	104 (74%)	104 (74%)	76 (54%)
Bear Creek (Marmaduke 1978)	81	0	66 (81%)	53 (65%)	28 (35%)
Rio Grande Reconnaissance (Johnson 1977)	114	42 (37%)	85 (75%)	78 (68%)	34 (30%)
Total	450	60 (13%)	353 (78%)	323 (72%)	168 (37%)

* Note: Since several sites encountered during the current study were recorded during the Johnson (1977) survey, the results of the present study may be biased toward sites without ceramics or features

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Averages of the data from these five projects indicate that, overall, only about 13 percent of the prehistoric sites include ceramics. This figure should be viewed as tenuous, since 34 percent of the sites near the Rio Grande contain ceramics, while only 4 percent of those (more than a mile or so) away from the river contain ceramics. Proximity of sites to the La Junta district also plays a significant role in ceramic distribution and must be considered.

Fire-cracked rock, indicative of thermal features, occurs on 78 percent of the sites represented by these studies. It should be noted, however, that the geologic nature of site surfaces may contribute to biases in identification of fire-cracked rocks. During the present study, for instance, angular rhyolites were present throughout much of the survey area. Discriminating thermally (culturally) altered igneous materials from the natural rubble proved to be quite challenging.

Thermal features, such as carbon stains and various concentrations of fire-cracked rock, are represented on 72 percent of the prehistoric sites documented by these investigations. The frequency of fire-cracked rock/thermal features suggests that the majority of sites represent activities associated with food processing (roasting/baking) and/or overnight stays.

Middens, typically representing the sheet, crescent, or ring varieties, occur on one-third (37 percent) of the local sites. These features are indicative of succulent-baking endeavors that require participation of more than just a few individuals. The frequency of middens represented by existing data suggests that groups (possibly at extended family level) exploited extensive areas for sustenance.

Temporal Affiliation

Temporal affiliation of prehistoric sites in the western Trans-Pecos region is somewhat inhibited by several factors. These include:

1. an overall lack of excavations resulting in recovery of temporally diagnostic artifacts from securely dated contexts,
2. reliance upon poorly dated projectile point types in determination of temporal affiliation by previous research,
3. inconsistent reporting methods in previous research,

4. temporally diagnostic artifacts are often lacking on prehistoric sites, partially because of pilfering, which is evidently prevalent throughout much of the area, and
5. many sites, particularly those with large baking features, were probably reoccupied through time but not all periods of occupation are represented by temporally sensitive, diagnostic artifacts visible in the surface assemblages.

Despite these deficiencies and complications, a general pattern of prehistoric occupational intensity is discernible.

The Paleo-Indian period is not represented by data from the present investigation, nor is it well represented in the local region. A significant Paleo-Indian presence has been documented near Van Horn, but evidence is limited in the more mountainous country to the south. It seems that although Paleo-Indian populations were aware of, and perhaps familiar with, the study area, "those resources apparently were never attractive enough to draw intensive occupations away from the High Plains, where the environment was more suited to their economy" (Ing and Smith-Savage 1996:25, 26).

The Early and Middle Archaic periods are also poorly represented in the area. One projectile point midsection documented on an extensive lithic artifact scatter (Site 26) along the Ruidosa segment comprises the total Early Archaic period evidence located during the current investigation. Evidence of the Middle Archaic period was not documented during the current study, but indications of activities during this period have been reported from previous investigations in the general region (Table 6).

Table 6.					
Comparative Frequencies of Identified Temporal Components Among Four Projects					
Component	Present Study	Sale and Gibbs (1995)	Marmaduke (1978)	Bandy (1980)*	Total
Paleo-Indian	0	1 (7%)	2 (7%)	0	3
Early Archaic	1**	0	4 (14%)	0	4
Middle Archaic	0	6 (40%)	8 (29%)	3 (14%)	17
Late Archaic	5 (42%)	5 (33%)	8 (29%)	9 (43%)	27
Late Prehistoric	7 (58%)	3 (20%)	6 (21%)	9 (43%)	25
Total	12	15	28	21	76

* Bandy (1980) was used for comparison instead of Johnson (1977) because temporal components were assigned.

** Potential Component

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During the Late Archaic period, utilization of the Trans-Pecos region increased dramatically. Activities during this period have been documented in most of the previous research in the area (see Table 6) and are represented by five sites located during the current study. Late Archaic sites are found in virtually all environmental zones "from the lowest basins, to the highest mountain peaks" (Cloud and Mallouf 1996:175) in the region.

Late Prehistoric period sites are also fairly common in the area and are represented by seven sites documented during the present study. It should be noted, however, that Late Prehistoric sites in the La Junta district are readily recognizable on the basis of ceramics, which are absent on other sites of this period, located away from the Rio Grande. Late Prehistoric period aceramic sites are fairly common throughout the Trans-Pecos region and are identified on the basis of the presence of arrow points. These diagnostic tools are often scavenged by local collectors, however, hindering recognition of temporal affiliation in some cases.

CONCLUSIONS

Prehistoric Sites

Linear survey, particularly along natural features such as the Rio Grande, cannot be expected to provide an accurate representation of archeological resources for an area in general. Given the biases associated with an existing road ROW study, conservatism in assessing the implications of, and patterns suggested by, the data is considered appropriate. The list of documented, prehistoric archeological sites in the Trans-Pecos region has demonstrated considerable growth over the last few decades (Hedrick 1988; Ing et al. 1996; Johnson 1977; Marmaduke 1978; Sale and Gibbs 1995). Lithic artifact scatters, lithic material acquisition areas, open camps (or processing stations), and rockshelters, are predominant site types represented by the region's current archeological literature. Results of the current investigation serve primarily to complement the existing data base.

Overall, the archeological record in the Trans-Pecos region is reflective of an Archaic-style subsistence system (i.e., hunting and gathering), which persists into early historic times. The documentation of ring middens and other large roasting features in fairly remote areas with extremely limited natural resources suggests that aboriginal groups intensively exploited extensive territories. The adoption of Late Prehistoric period technologies prevalent in nearby regions, such as ceramic manufacture, horticulture, and permanent habitation structures, was apparently limited to a narrow corridor along the Rio Grande floodplain. This

corridor is viewed as a cultural peninsula, where sedentary pueblo villages coexisted with, and were surrounded by, nomadic hunter-gatherers. This "branch" of Pueblo culture seems to be focused around Presidio, Texas, and Ojinaga, Mexico, along the junction of the Rio Conchos and the Rio Grande, an area historically known as La Junta de los Rios. Little evidence of the pueblo culture has been reported away from the Rio Grande on the American side, except along a few nearby perennial streams and tributaries (Cloud and Mallouf 1996:176).

The Pueblo villages were politically and perhaps economically linked to the Casas Grandes interaction sphere (ca. A.D. 1450) and may be considered part of the Casas Grandes culture (Schaafsma 1997:91). Following the collapse of Casas Grandes, most of the related villages were abandoned. It is generally accepted that the majority of pueblo villagers then returned to a hunting and gathering lifestyle (Ing et al. 1996:27). Within the La Junta area, however, semisedentary groups may have maintained some form of farming villages. Cabeza de Vaca described pueblo villages at La Junta in 1535, followed by other entradas that reported similar findings. These visits clearly indicate that pueblo farmers continued to inhabit the area long after the Casas Grandes culture (as well as the Jornada Mogollon) had ceased to exist. Excavations conducted within some of these villages have demonstrated the absence of Casas Grandes-affiliated ceramics following the collapse of that system (Kelley 1985:158).

Findings of the current study generally support previous conceptions of the region's prehistoric record. Although no pueblos were located within the project area, many of the sites along the river included Chihuahuan/Jornada Mogollon ceramic assemblages. While ceramics were noted on only 26 percent of the prehistoric sites documented along the Candelaria Border Road during this study, 62 percent of those previously recorded included ceramics. The disagreement between these figures is a result of survey biases. Most of the previously recorded sites were documented during reconnaissance survey (Johnson 1977), which was undoubtedly selective. The average of the data indicates that within 2 mi (3.2 km) of the Rio Grande between the Jeff Davis County line and Candelaria, Texas, 40 percent of the prehistoric sites should include ceramic assemblages. Ceramics were frequently associated with ring middens, indicating that sedentary villagers may have maintained at least some of the subsistence strategies practiced by earlier, more nomadic groups. Away from the Rio Grande, ceramics were seldom encountered on prehistoric sites.

In a general sense, the findings of this investigation are quite similar to those of a similar study conducted in 1993 (Sale and Gibbs 1995). The prehistoric sites located during these studies appear to include similar

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elements and probably represent similar activities. The only obvious distinction lies in the addition of ceramics to site assemblages along the Rio Grande.

Historic Sites

Four Historic-period sites and one Historic component were located during this study. A pair of parallel, cobble masonry walls (site 22/41PS762) situated on a steep hillside adjacent to the river floodplain may relate to stream gauging initiated in 1889 (Johnson 1977:21). Five graves located alongside the Candelaria Border Road (site 6/41PS765) are undoubtedly associated with the old Daniels' house ruins nearby. Two of the historic sites included masonry habitational structures (site 1/41PS758 and site 21/41PS761). Associated artifacts suggest that site 1 (41PS758) may relate to an occupation around the turn of the century. Temporal affiliation of site 21 (41PS761) is more problematic, since only one artifact was associated with the structure. It appears that both sites were inhabited for only a short duration, based on the limited artifact assemblages. Site 17/41PS775 consists of a depression with associated wood and car parts. Site 18/41PS776 is multicomponent and the Historic component consists of scattered trash with a stained area. The drought-plagued climate of the region (Ing and Smith-Savage 1996:56), combined with the Rio Grande's tendency to flood or flow less, makes the area no home for the unseasoned. Numerous adobe ruins and tiny cemeteries visible from the road, attest to the struggle for survival in a rugged, harsh, and remote country, inhabited through history only by a tenacious few.

CHAPTER 8

NRHP ELIGIBILITY RECOMMENDATIONS

NRHP ELIGIBILITY

The determination of site significance is dependent upon the assessment of the site's integrity, the types of data that are present, and the applicability of that data to important local and regional research questions. The requirements that must be met before a site can be eligible for inclusion in the National Register of Historic Places (NRHP) are defined by four criteria set forth in 36 CFR § 60.4:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, setting, materials, workmanship, feeling, and association, and:

- (A) that are associated with events that have made a significant contribution to the broad patterns of our history, or
- (B) that are associated with the lives of persons significant in our past, or
- (C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction, or
- (D) that have yielded, or may be likely to yield, information important in prehistory or history.

Given that the data base for prehistoric sites recorded in the project area is derived from survey investigations only, the assessment of these sites for inclusion on the NRHP is preliminary. Contributing to the limitations imposed by survey-level data, vandalism of sites in portions of the project area has resulted in a scarcity of diagnostic tools. With limited temporal indicators, period-specific regional research issues cannot be fully

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addressed. Under such circumstances, NRHP Criterion D is most applicable. This criterion has two requirements that must be met before an archeological site may be determined eligible for inclusion in the NRHP (U.S. Department of Interior 1990:21):

- (1) The property must have, or have had, information to contribute to our understanding of human history or prehistory, and
- (2) the information must be considered important.

To properly address the first requirement, limited test excavations are most helpful. In lieu of excavation data, surface observation and diagnostic artifacts must be relied upon in demonstrating that sites "may be likely to yield information important in prehistory" (U.S. Department of Interior 1990:21). The presence of temporally diagnostic artifacts assists in providing temporal information critical to assessment of potential information importance. In situations where diagnostic artifacts are absent, the presence of subsurface deposits is a crucial requirement to qualify sites for the NRHP. More specifically, such deposits must express the potential to yield important information. This potential, unfortunately, can be extremely difficult to demonstrate through survey-level investigation. Intact hearth deposits, however, should be considered to include important information and are often discernible.

To address the second requirement under Criterion D, it must be demonstrable that the information remaining within sites is important. Since the current data regarding these sites are based on survey-level investigation, the assessment of importance can only be preliminary. Without a complete and thorough analysis of surficial artifact assemblages, supplemented by test excavations, a site's information potential cannot be fully explored.

Prehistoric Site Eligibility

Recommendations for NRHP eligibility of the 23 prehistoric sites (including multicomponent site 41PS776 and previously recorded 41PS13) documented during this study are based on two criteria: 1) the presence of staining or charcoal, indicative of intact deposits, 2) intact soils that appear to conceal portions of the site area. Carbon staining, taken as evidence of intact deposits that include important information, serve as a basis for NRHP eligibility on six of the prehistoric sites (41PS13, 41PS759, 41PS776, 41PS778, and 41PS779, and 41PS780) documented during this study (Table 7).

Table 7. NRHP Recommendations				
Site #	Site Type	Temporality	NRHP Recommendations	Basis for Recommendation
1 (41PS758)	Habitation structure	Historic	potentially eligible	Criteria A, B
2 (41PS759)	Rockshelter	Unknown	potentially eligible	Criterion D
3 (41PS760)	Lithic scatter w/hearth	Unknown	ineligible	limited information potential
4 (41PS763)	Lithic scatter w/hearth	Unknown	ineligible	limited information potential
5 (41PS764)	Artifact scatter w/hearths	Late Prehistoric	potentially eligible	Criterion D
6 (41PS765)	Cemetery	Historic	potentially eligible	Criterion B
7 (41PS766)	Artifact scatter w/hearths	Late Prehistoric	potentially eligible	Criterion D
8 (41PS767)	Lithic scatter	Late Archaic	ineligible	limited information potential
9 (41PS768)	Artifact scatter w/hearths	Late Prehistoric	potentially eligible	Criterion D
10 (41PS769)	Lithic scatter	Unknown	ineligible	limited information potential
11 (41PS771)	Lithic scatter w/hearths	Late Archaic	potentially eligible	Criterion D
12 (41PS772)	Lithic scatter	Late Archaic	ineligible	limited information potential
13* (41PS13)	Artifact scatter w/ring middens	Late Prehistoric	potentially eligible	Criterion D
14 (41PS773)	Lithic scatter	Unknown	ineligible	limited information potential
15 (41PS774)	Lithic scatter	Unknown	ineligible	limited information potential
16 (41PS770)	Lithic scatter	Unknown	ineligible	limited information potential
17 (41PS775)	Historic trash w/depression	Historic	ineligible	limited information potential
18 (41PS776)	Artifact scatter w/ring middens, 1 Historic trash scatter w/stain	Late Prehistoric/ Historic	potentially eligible	Criterion D
19 (41PS784)	hearths/ no artifacts	Unknown	potentially eligible	Criterion D
20 (41PS777)	Lithic scatter w/hearths, bedrock mortar	Late Archaic	potentially eligible	Criterion D
21 (41PS761)	Habitation structure	Historic	potentially eligible	Criteria A, B
22 (41PS762)	Cobble walls	Historic	ineligible	limited information potential
23 (41PS778)	Artifact scatter w/ring middens	Late Prehistoric	potentially eligible	Criterion D
24 (41PS779)	Artifact scatter w/ ring middens	Unknown	potentially eligible	Criterion D
25 (41PS780)	Hearths w/burned rock midden	Unknown	potentially eligible	Criterion D
26 (41PS781)	Lithic scatter	Late Archaic	ineligible	limited information potential
27 (41PS782)	Artifact scatter	Late Prehistoric	ineligible	limited information potential
28 (41PS783)	Lithic scatter	Unknown	ineligible	limited information potential

* indicates previously recorded site

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Six prehistoric sites located during the present study (41PS764, 41PS766, 41PS768, 41PS771, 41PS777, and 41PS784), which include fire-cracked rock concentrations may also contain subsurface deposits not readily visible should be considered to be potentially capable of yielding further information. Erosional contexts need to be considered in assessment of the potential for these features to contain subsurface deposits. Two sites with single or few features (41PS760 and 41PS763) that appear to be eroded below cultural contexts cannot be expected to include carbonized deposits and, hence, are considered ineligible. Based on a lack of information potential, the remaining nine prehistoric sites (41PS767, 41PS769, 41PS770, 41PS772, 41PS773, 41PS774, 41PS781, 41PS782, and 41PS783) are considered ineligible for inclusion on the NRHP.

Historic Sites

Six historic sites (including multicomponent site 41PS776) were documented during this study (see Table 7). Under Criterion A, properties associated with specific events that have made a significant contribution to the broad patterns of history may be eligible. Properties that are associated with the lives of persons significant in our past may also be eligible under Criterion B. The habitational sites (41PS758, 41PS761) documented during this study may be associated with significant events or persons and are considered potentially eligible for the NRHP until these properties are researched and better understood. The cemetery (41PS765) is also considered potentially eligible under Criterion B.

While non-habitational sites might be associated at some level with important events, little further information may be extracted from the physical remains. Without information potential, the remaining two historic sites (41PS775 and 41PS776) are considered ineligible for the NRHP (although 41PS776 is considered potentially eligible based on the prehistoric component). Site 41PS762 contains cobble walls with no associated artifacts, but it appears doubtful that they represent a habitational structure, and is thus considered ineligible.

Previously Recorded Sites

With the exception of 41PS13, the previously recorded sites were not fully updated during revisitation. However, 13 prehistoric sites (41PS3, 41PS4, 41PS8, 41PS11, 41PS13, 41PS366, 41PS382, 41PS383, 41PS384, 41PS385, 41PS388, 41PS666, 41JD151, and 41JD152) contained ring middens or hearths and should be considered potentially eligible for inclusion on the NRHP (Table 8). Prehistoric sites 41PS561 and 41PS562 are lithic scatters without features and are considered ineligible for inclusion on the NRHP. Historic site 41PS369 is considered potentially eligible based on the presence of a habitation structure.

Table 8. Previously Recorded Site Recommendations		
Site #	Eligibility	Basis for Recommendation
41PS3	potentially eligible	Criterion D
41PS4	potentially eligible	Criterion D
41PS8	potentially eligible	Criterion D
41PS11	potentially eligible	Criterion D
41PS13	potentially eligible	Criterion D
41PS54	not evaluated	features not relocated
41PS366	potentially eligible	Criterion D
41PS369	potentially eligible	Criterion B
41PS370	not evaluated	features not relocated
41PS382	potentially eligible	Criterion D
41PS383	potentially eligible	Criterion D
41PS384	potentially eligible	Criterion D
41PS385	potentially eligible	Criterion D
41PS387	not evaluated	site not relocated
41PS388	potentially eligible	Criterion D
41PS666	potentially eligible	Criterion D
41JD151	potentially eligible	Criterion D
41JD152	potentially eligible	Criterion D
41PS561	ineligible	limited information potential
41PS562	ineligible	limited information potential

Three sites were not reassessed based on the revisitation (see Table 8). The rock structures originally reported on site 41PS54 were not relocated. On site 41PS370, structures and graves previously reported were not located, but sheetwashing has affected the site in recent years. Site 41PS387 was not relocated at all because of dense vegetation.

STATE ARCHEOLOGICAL LANDMARK ELIGIBILITY

Five sites documented during this project (41PS762, 41PS763, 41PS764, 41PS777, and 41PS779) and six previously recorded sites (41PS3, 41PS4, 41PS383, 41PS384, 41PS385, and 41PS666) are located on Texas state lands. With the exception of 41PS762 and 41PS763, these sites are also considered potentially eligible for the NRHP.

JTF-6 MONITORING

Prior to military construction activities, all archeological sites within the ROW were marked for avoidance with red engineers flagging tape. Stain features were located within the right-of-way of only two archeological sites (41PS13 and 41PS778) within the Candelaria Border Road segment. On February 16, 1998, these two sites were flagged with 2 inch wide yellow caution tape for additional visibility and protection. Military personnel were instructed not to conduct road improvements within the confines of these two sites, and additionally not to conduct construction activities outside the confines of the roadbeds on the remainder of the sites, as well as any area not subjected to archeological survey. Photographs were taken of these two sites before and after construction activities to insure compliance with archeological regulations.

On April 15, 1998, following the road improvement project, the sites were reinspected for possible impacts. No visible damage to sites was observed within any of the roads improved during this project. Sites 41PS13 and 41PS778 were left undisturbed as recommended by GMI and the Texas SHPO. The Sierra Vieja segment was not improved during this action and the two sites located on that segment (41PS562 and 41PS562) were not reexamined.

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Archeological Survey for JTF-6 Road Improvements in Presidio and Jeff Davis Counties, Texas

APPENDIX A
ISOLATE DATA AND RECORDING FORM

1535-113 ISOLATE DATA

IO #	UTM E	UTM N	Type	Whl/Frag	Quant	Code	Mat	Flk Code	Size	Retouch	Comments
1	530880	3337325	flake	1	5	2	1	1	4	0	yellow jasper
1	530880	3337325	ang deb	2	10	2	1	1	4	0	yellow jasper
1	530880	3337325	flake	2	2	2	1	3	3	0	yellow jasper
2	530825	3337415	flake	1	1	2	1	3	3	0	biface thinning flake
3	530880	3337550	flake	1	1	2	1	3	3	0	red jasper
4	530820	3337590	flake	1	1	2	1	3	3	0	finger print
4	530820	3337590	flake	1	1	2	2	3	3	0	
5	530760	3337620	biface	1	1	6	1	3	5	0	red jasper chopper
5	530760	3337620	flake	1	1	2	1	3	3	0	tan
6	530700	3337720	flake	1	1	2	5	3	4	0	
7	530620	3337860	flake	1	3	2	5	2	5	0	
7	530620	3337860	flake	1	3	2	5	1	5	0	
8	530580	3338370	flake	1	8	2	5	1	5	0	
8	530580	3338370	flake	1	5	2	5	2	3	0	
9	530860	3337420	flake	1	1	2	2	3	3	0	red fine grain
10	514700	3387480	flake	1	1	2	1	3	3	0	purple
11	513950	3386590	biface	1	1	6	2	3	3	0	clear
12	511100	3383800	bifacial core	1	1	4	5	3	5	0	large biface core, fine grain
13	511500	3379560	flake	1	1	2	1	2	3	0	purple
14	511400	3379440	flake	1	1	2	5	1	4	0	red fine grain
15	513100	3375540	flake	1	1	2	1	3	3	0	red
16	514260	3372810	flake	1	1	2	5	2	4	0	red
17	514080	3368620	core	1	1	4	5	999	999	0	fine grain quartzite - repatinated
18	518800	3359960	ground stone	2	1	12	5	999	999	0	fine grain, unifacial polish
18	518800	3359960	flake	1	1	2	5	2	4	0	fine grain
18	518800	3359960	angular debris	999	1	1	5		3	0	fine grain
19	519020	3357830	FCR scatter	999	1	70	5 & 8	999	999	999	40 pcs in 50 cm dia area, 16 scattered around area
19	519020	3357830	flake	1	4	2	1	2	3	0	rhyolitic chert
20	518020	3389240	glass	999	30	37	999	999	999	999	frags from 12 soda bottles, "BOTL-O-SODA 1952"
21	522770	3353360	flake	1	6	2	4	3	5	0	grey, pink rhyolite
21	522770	3353360	core	1	1	4	1	3	5	0	grey, pink rhyolite, multi-faceted
22	523365	3353350	glass	999	4	37	999	999	4	999	light purple glass fragments
23	511160	3379450	Hist trash dump	999	1	79	999	999	999	999	1.5 m dia area w/ glass (clear, dk. & lt purple) nails, stonewr, porc., tobacco tins, pipe stem, cans,
											12-G Peters HV shotshell, 30-06 casing (1915)
24	511210	3379460	ceramic	999	5	20	999	999	999	999	brownware sherds

1535-113 ISOLATE DATA

IO #	UTM E	UTM N	Type	WhilFrag	Quant	Code	Mat	Flk Code	Size	Retouch	Comments
25	515930	3363220	FCR w stain	999	1	71	999	999	999	999	2 x 1.5 m conc w/stain, 1 modern alum. can on top
26	519760	3357410	FCR scatter	999	1	70	4	999	999	999	1 x 2 m area, eroded, no stain, 40 pcs 2-10 cm dia
27	519820	3357430	FCR scatter	999	1	70	4	999	999	999	3 x 4 m area, eroded, no stain, 90 pcs 2 - 10 cm dia
28	531495	3385690	flake	1	1	2	1	3	3	0	tan
29	531480	3385550	FCR scatter	999	1	70	4	999	999	999	2 x 2 m area, eroded, no stain, 130 pcs 2 - 13 cm dia
29	531480	3385550	flake	2	1	2	1	3	2	0	
30	551280	3323220	rock alignment	999	1	79	999	999	999	999	above Rd 2810
31	551280	3323250	water control ft	999	2	79	999	999	999	999	stone mortared water control feature
32	551250	3323220	bridge	999	1	79	999	999	999	999	stone mortared bridge on a portion of old Rd 2810
33	551190	3322960	glass	999	10	37	999	999	999	999	purple
33	551190	3322960	can lids	999	2	40	999	999	999	999	sardine can lids
34	546800	3318360	flake	1	1	2	4	3	3	0	
35	512210	3376000	flake	1	1	2	1	2	3	0	brown chert
36	512680	3375560	flake	1	1	2	4	2	4	0	
36	512680	3375560	flake	1	1	2	4	1	4	0	
37	514015	3372460	flake	1	1	2	1	1	3	0	reddish-brown chert, scattered in 2 x 3 m area
37	514015	3372460	ang debris	999	3	1	1	999	4	0	scattered in 2 x 3 m area
37	514015	3372460	flake	1	2	2	1	2	3	0	scattered in 2 x 3 m area
38	522810	3353280	flake	1	1	2	5	1	3	0	
39	529180	3381680	proj point	2	1	7	1	999	3	2	distal end, butterscotch chert
40	533220	3379750	flake	1	1	2	2	2	3	0	
41	533650	3379900	flake	1	1	2	1	3	4	0	brown/red
41	533650	3379900	flake	2	1	2	1	3	2	1	grey
41	533650	3379900	flake	2	1	2	1	3	3	0	butterscotch
42	524620	3352280	uniface	1	1	5	1	3	5	1	multi-edged, hvly utilized, Edwards Plateau chert

APPENDIX B
TEXAS ANTIQUITIES PERMIT

State of Texas
TEXAS ANTIQUITIES COMMITTEE
ARCHEOLOGY PERMIT # 1926

This permit is issued by the Texas Historical Commission, hereafter referred to as the Commission, represented herein by and through its duly authorized and empowered representatives. The Commission, under authority of the Texas Natural Resources Code, Title 9, Chapter 191, and subject to the conditions hereinafter set forth, grants this permit for:

Intensive Survey

To be performed on a potential or designated landmark or other public land known as:

Title: Joint Task Force - 6 West Texas Road Survey
County: Mount Livermore, Marfa, & Presido (Texas & Chihuahua)
Location: E side of Border Rd, S of Intersection w/Cuispas Rd. & W of SR
170, N of Ruidosa & S of candelaria

Owned or Controlled by: (hereafter known as the Permittee):

State of Texas General Land Office for the Permanent School Fund
1700 N. Congress, RM 720
Austin, TX 78701-1495

Sponsored by (hereafter known as the Sponsor):

Joint Task Force - 6
JTF-6/J3-EN Building 11603
Fort Bliss, TX 79918

The Principal Investigator/Investigation Firm representing the Owner or Sponsor is:

Regan Giese
150A N. Festival St.
El Paso, TX 79912

This permit is to be in effect for a period of:

1.5 yrs

and Will Expire on:

6/17/99

During the preservation, analysis, and preparation of a final report or until further notice by the Commission, artifacts, field notes, and other data gathered during the investigation will be kept temporarily at:

Geo-Marine, Inc.

Upon completion of the final permit report, the same artifacts, field notes, and other data will be placed in a permanent curatorial repository at:

Texas Archeological Research Lab.

Scope of Work under this permit shall consist of:

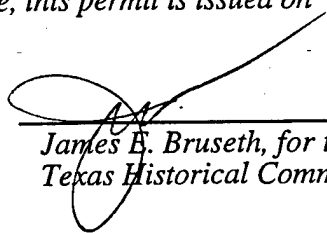
Intensive pedestrian survey with shovel testing of road corridor on GLO lands.

ARCHEOLOGY PERMIT # 1926

This permit is granted on the following terms and conditions:

- 1) This project must be carried out in such a manner that the maximum amount of historic, scientific, archeological, and educational information will be recovered and preserved and must involve the exclusive use of scientific techniques for recovery, recording, preservation and analysis commonly used in archeological investigations.
- 2) The Permittee, Sponsor and Principal Investigator/Investigation Firm, are responsible for cleaning, cataloging, and preserving all collections, specimens, samples, artifacts, materials and records and, at no charge to the Commission, is responsible for the publication of results of the investigations in a thorough technical report containing relevant descriptions, maps, documents, drawings, and photographs, twenty (20) copies of which shall be furnished to the Commission; all within the time allotted by the permit.
- 3) All specimens, artifacts, materials, samples, and original field notes, maps, drawings, and photographs resulting from the investigations remain the property of the State of Texas or its political subdivision, and must be curated at an appropriate repository. Verification of curation by the repository is also required. Duplicate copies of all requested records shall be furnished to the Commission before the permit expiration date.
- 4) If the Permittee, Project Sponsor, or Archeologist/Investigation Firm fails to comply with any of the Commission's Rules of Practice and Procedure or with any of the specific terms of this permit or fails to properly conduct or complete this project within the allotted time, the Commission may immediately cancel the permit. Notification of Cancellation shall be sent to the Permittee by registered mail to the last address furnished to the Commission by the Permittee. Upon notification of cancellation, the Sponsor and Archeologist must halt work immediately, remove all personnel and secure the site specified on this permit within twenty-four (24) hours. Upon cancellation, the Project Sponsor and the Archeologist forfeit all rights to the specimens, materials, and data recovered. A permit which has been canceled may be reinstated by the Commission if good cause is shown within thirty (30) days of cancellation.
- 5) The Permittee, Sponsor and Principal Investigator/Investigation Firm, in the conduct of the activities hereby authorized, must comply with all laws, ordinances and regulations of the State of Texas and of its political subdivisions including, but not limited to, the Antiquities Code of Texas; they must conduct the investigation in such a manner as to afford protection to the rights of any and all lessees or easement holders or other persons having an interest in the property; and they must return the property to its original condition insofar as possible, to leave it in a state which will not create hazard to life nor contribute to the deterioration of the site or adjacent lands by natural forces.
- 6) Any duly authorized and empowered representative of the Commission may, at any time, visit the site and examine this permit as well as the field records, materials, and specimens being recovered.
- 7) This permit may not be assigned by the Permittee in whole or in part to any other individual, organization, institution, or corporation not specifically mentioned in this permit.
- 8) The Archeologist shall have a copy of this permit available at the site of the investigation during all working hours.
- 9) Hold Harmless: The Permittee hereby expressly releases the State and agrees that Permittee will hold harmless, indemnify, and defend (including reasonable attorney's fees and costs of litigation) the State, its officers, agents, and employees in their official and/or individual capacities from every liability, loss, or claim for damages to persons or property, direct or indirect of whatsoever nature arising out of, or in any way connected with, any of the activities covered by this permit.
- 10) Addendum: The Permittee must abide by any addenda hereto attached.

Upon a finding that it is in the best interest of the State, this permit is issued on 12/17/97.

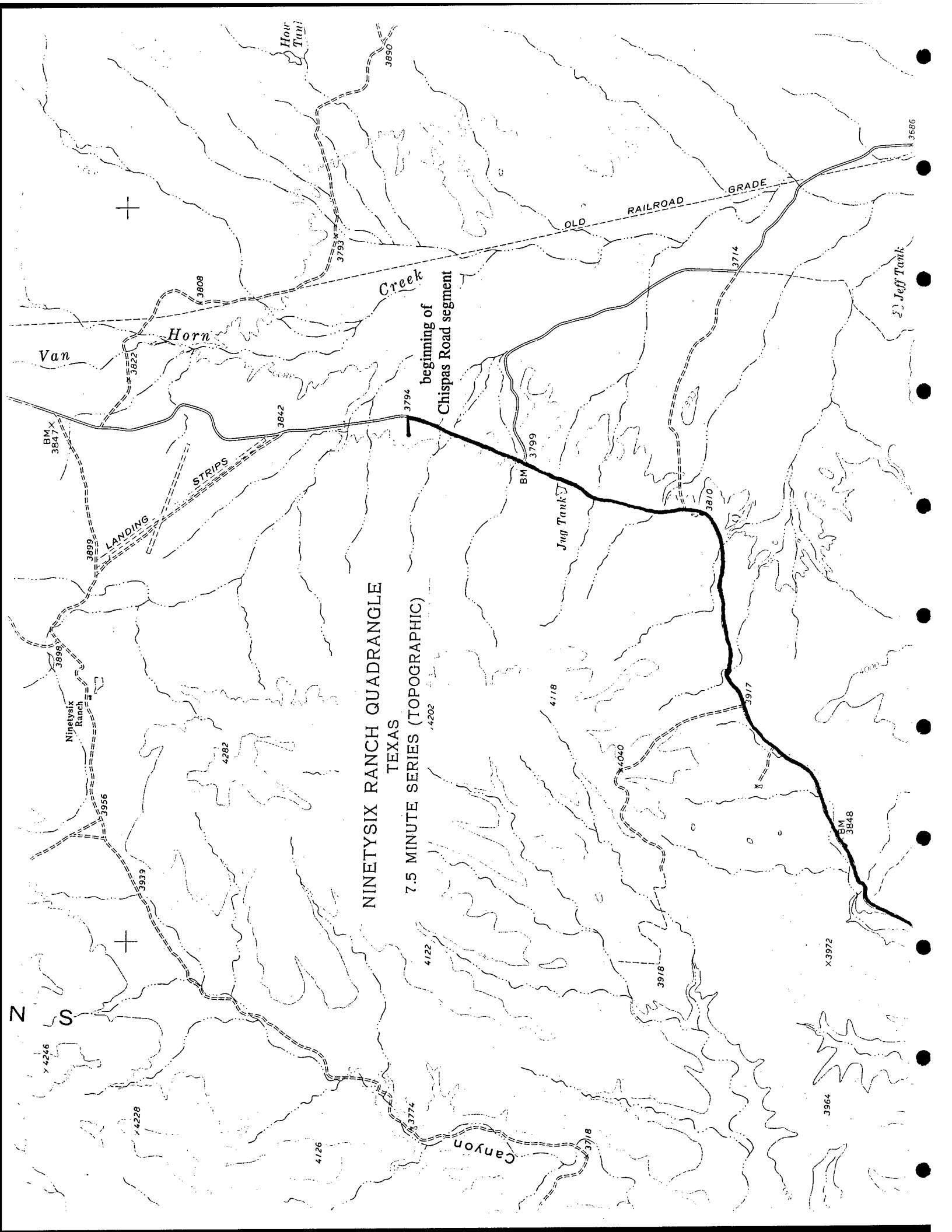

James E. Bruseth, for the
Texas Historical Commission

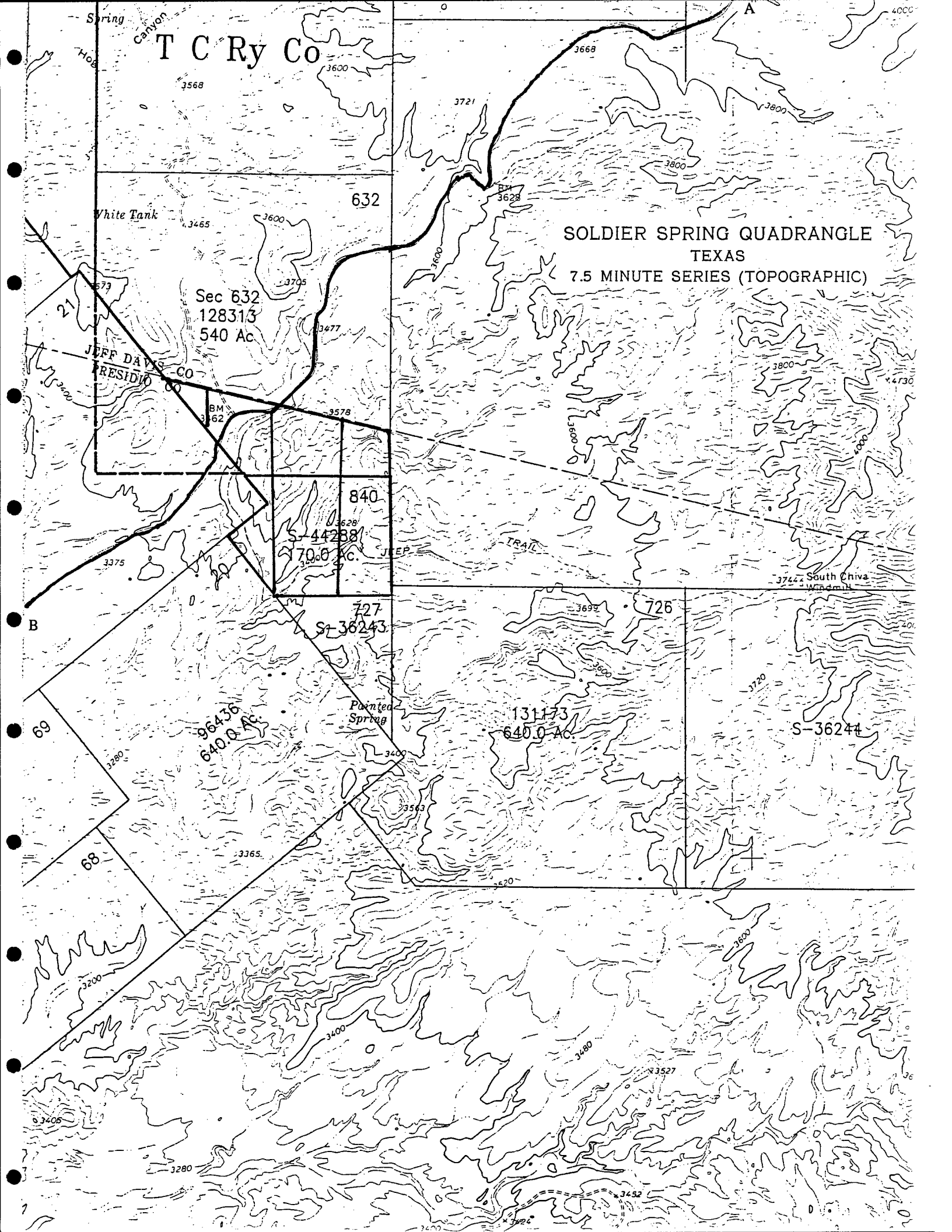
APPENDIX C
7.5' TOPOGRAPHIC MAPS SHOWING STUDY AREAS

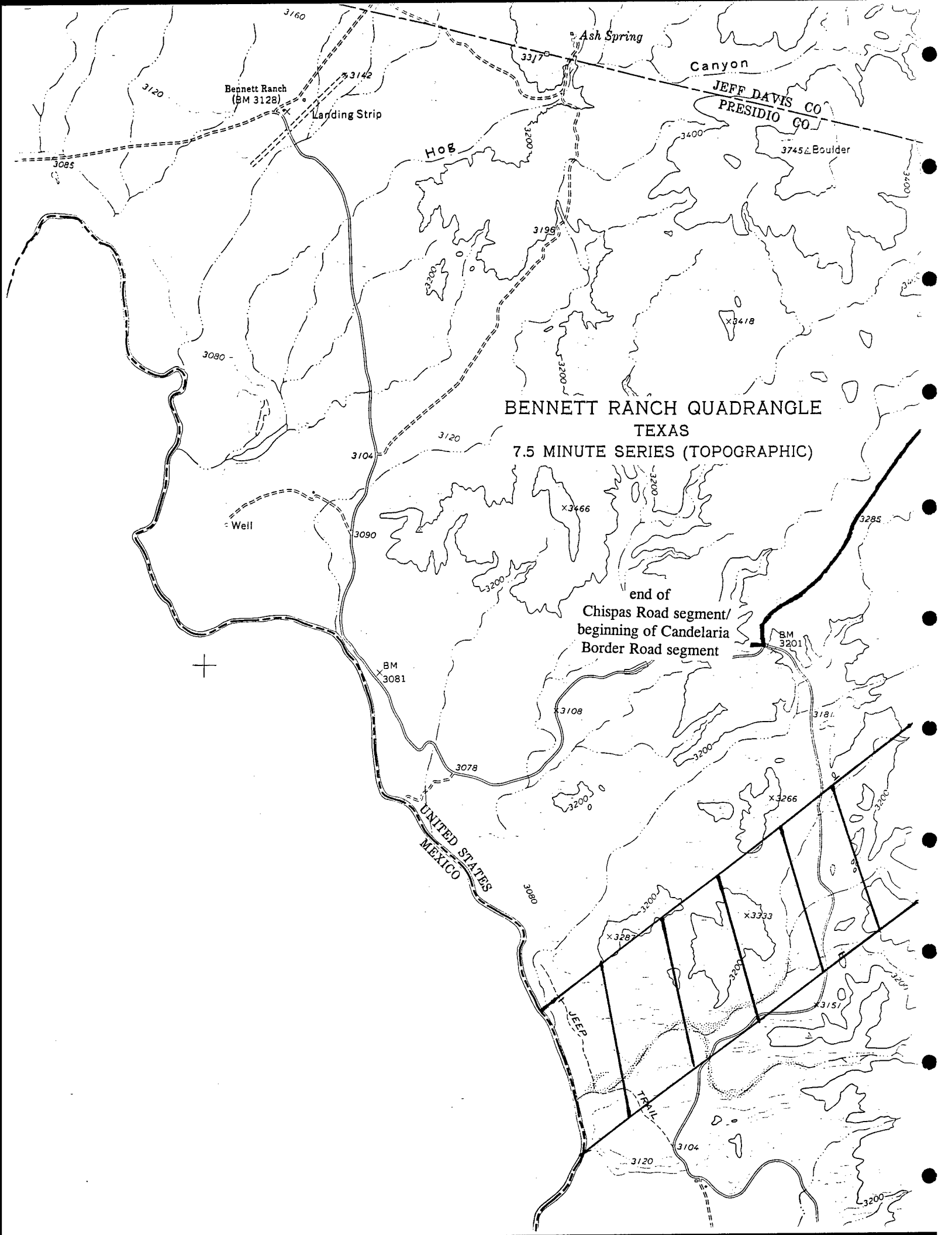
STATE PROPERTIES

State properties, administered by the Texas General Land Office, are delineated by broad cross-hatching. In many cases, the exact location of these boundaries could not be provided by the General Land Office and should be considered tentative. For more information contact Aaron Norby, Texas General Land Office, Austin (512) 463-5216.

CHISPAS ROAD SEGMENT

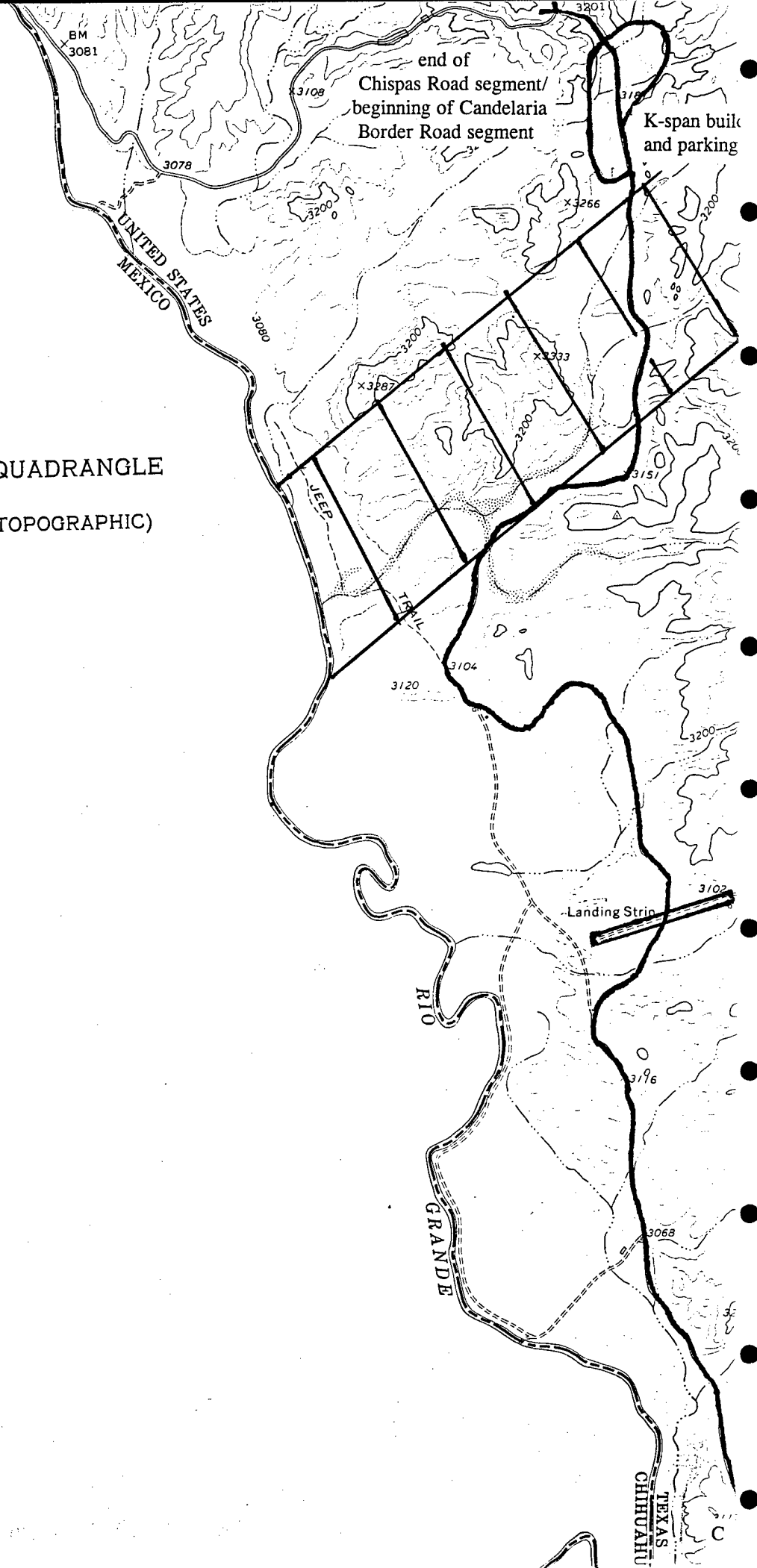


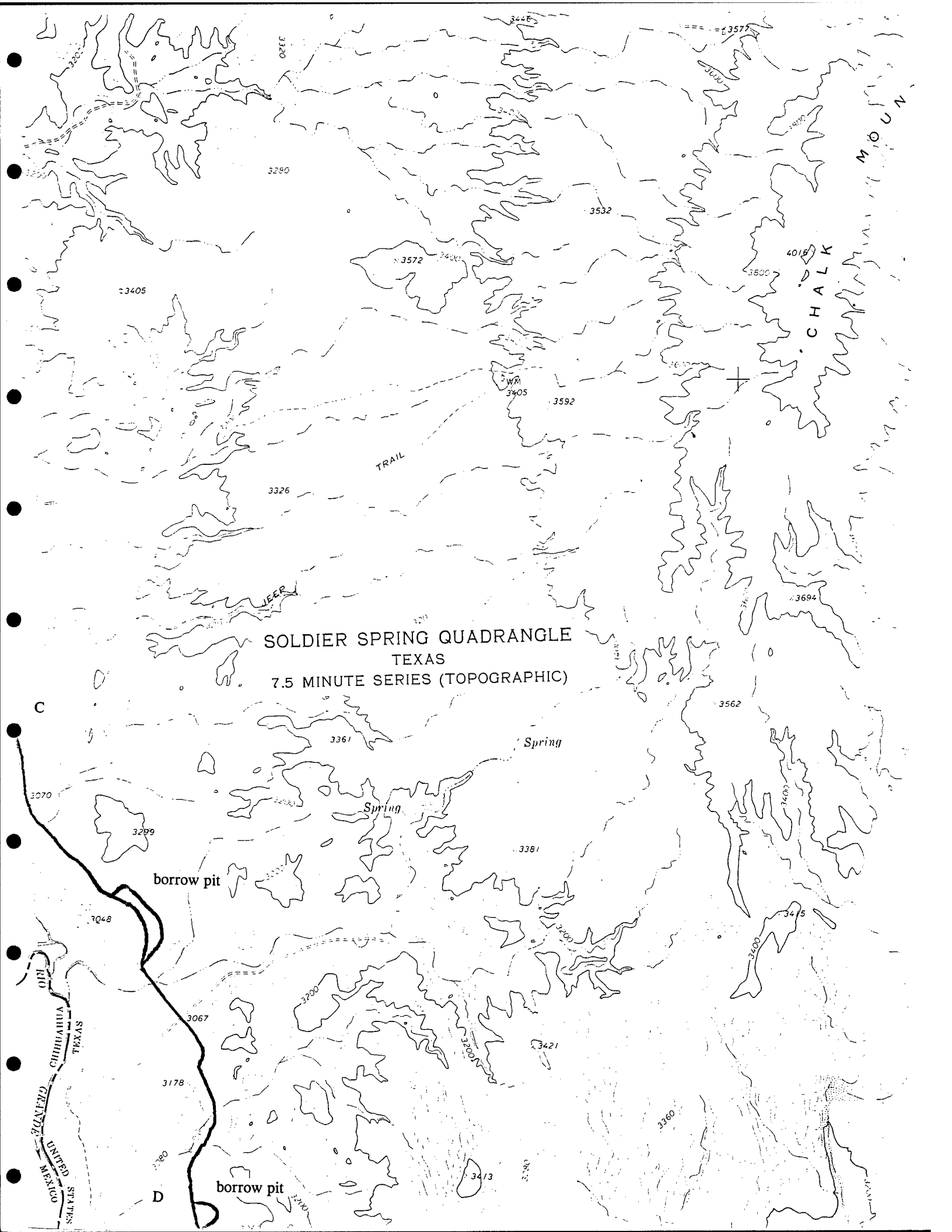




**CANDELARIA
BORDER ROAD
SEGMENT**

BENNETT RANCH QUADRANGLE
TEXAS
7.5 MINUTE SERIES (TOPOGRAPHIC)





SOLDIER SPRING QUADRANGLE
TEXAS
7.5 MINUTE SERIES (TOPOGRAPHIC)

CHALK

MOUNTAIN

TRAIL

JEER

Spring

Spring

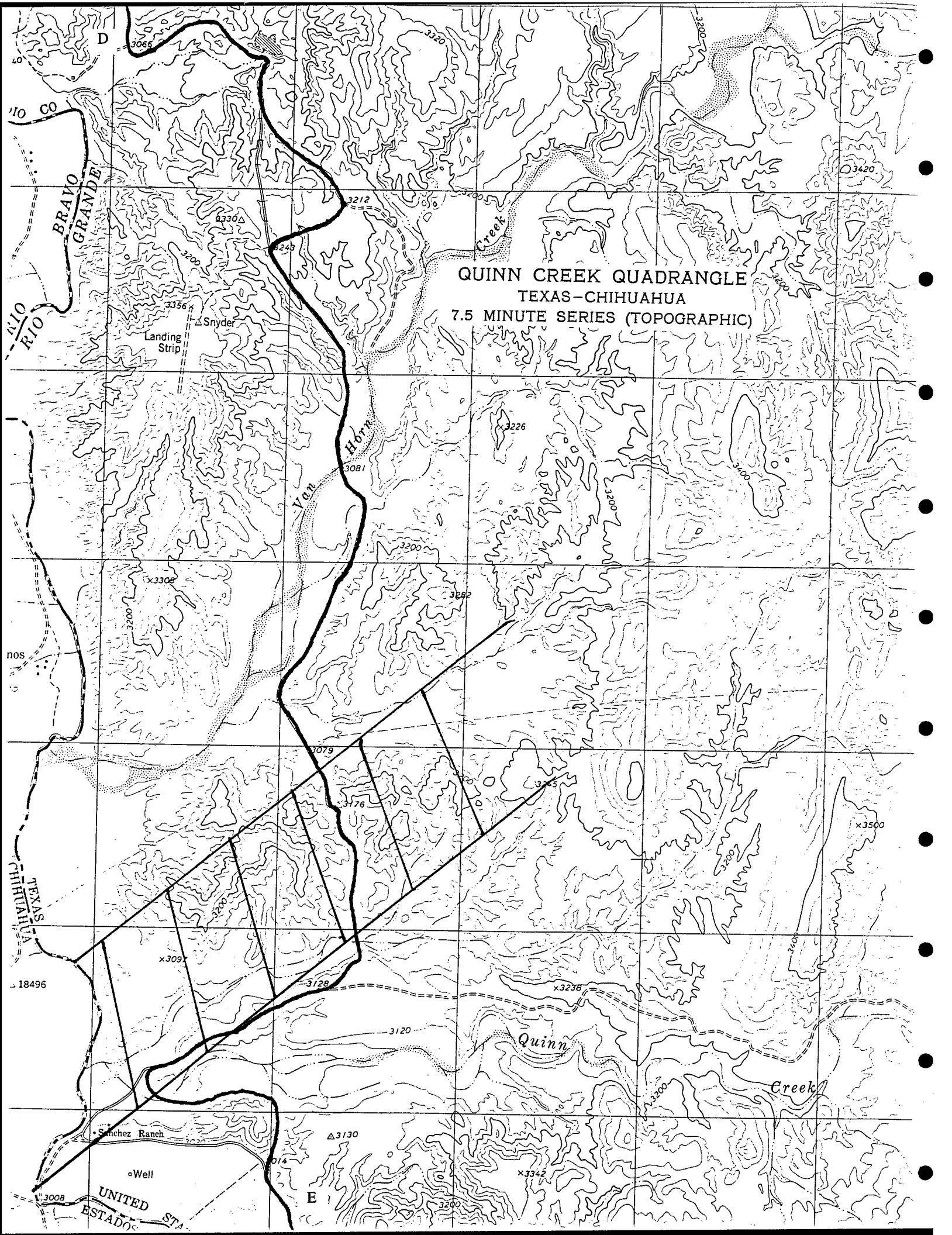
borrow pit

borrow pit

C

D

UNITED STATES
MEXICO
RIO GRANDE



7.5 MINUTE SERIES (TOPOGRAPHIC)

borrow pit

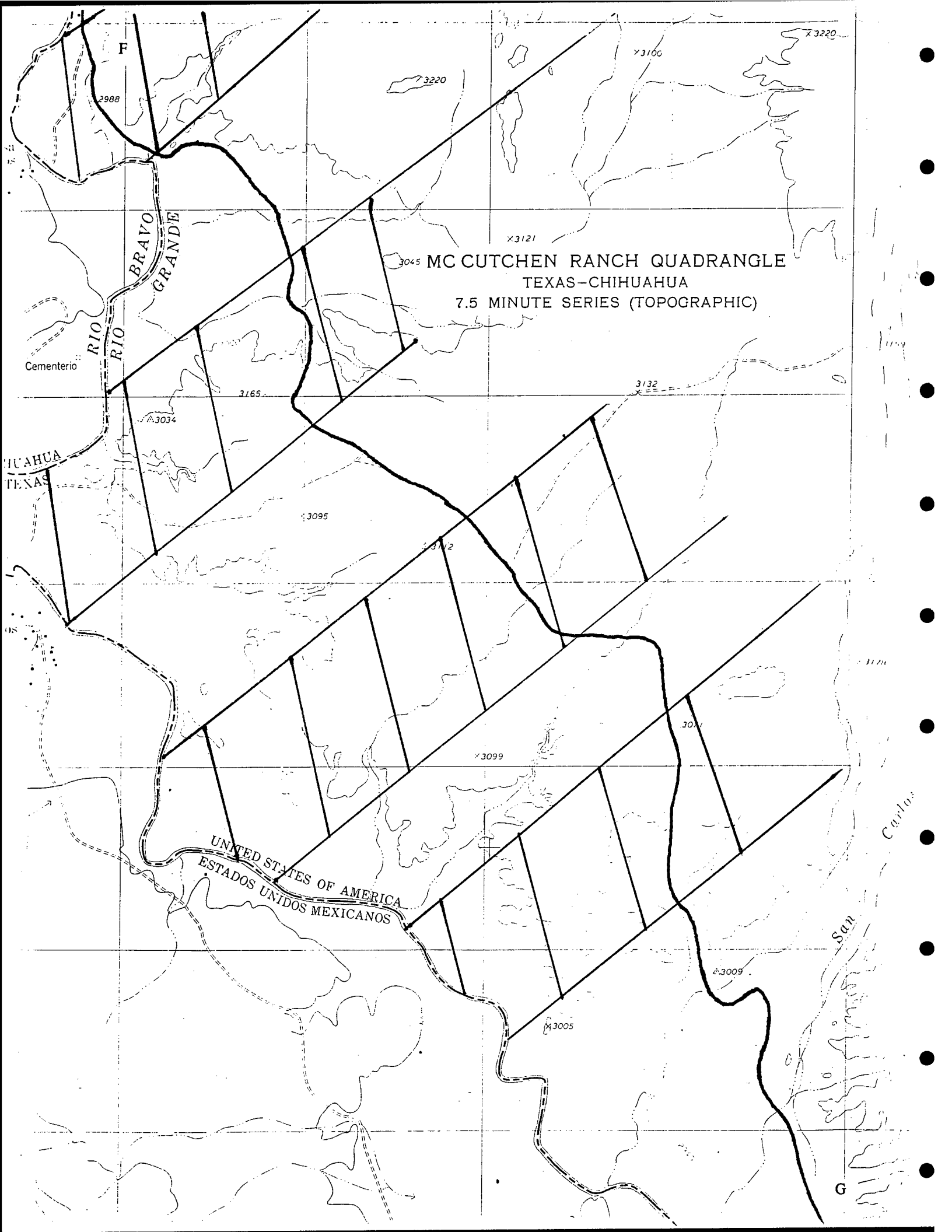
Pilares

Cementerio : 2

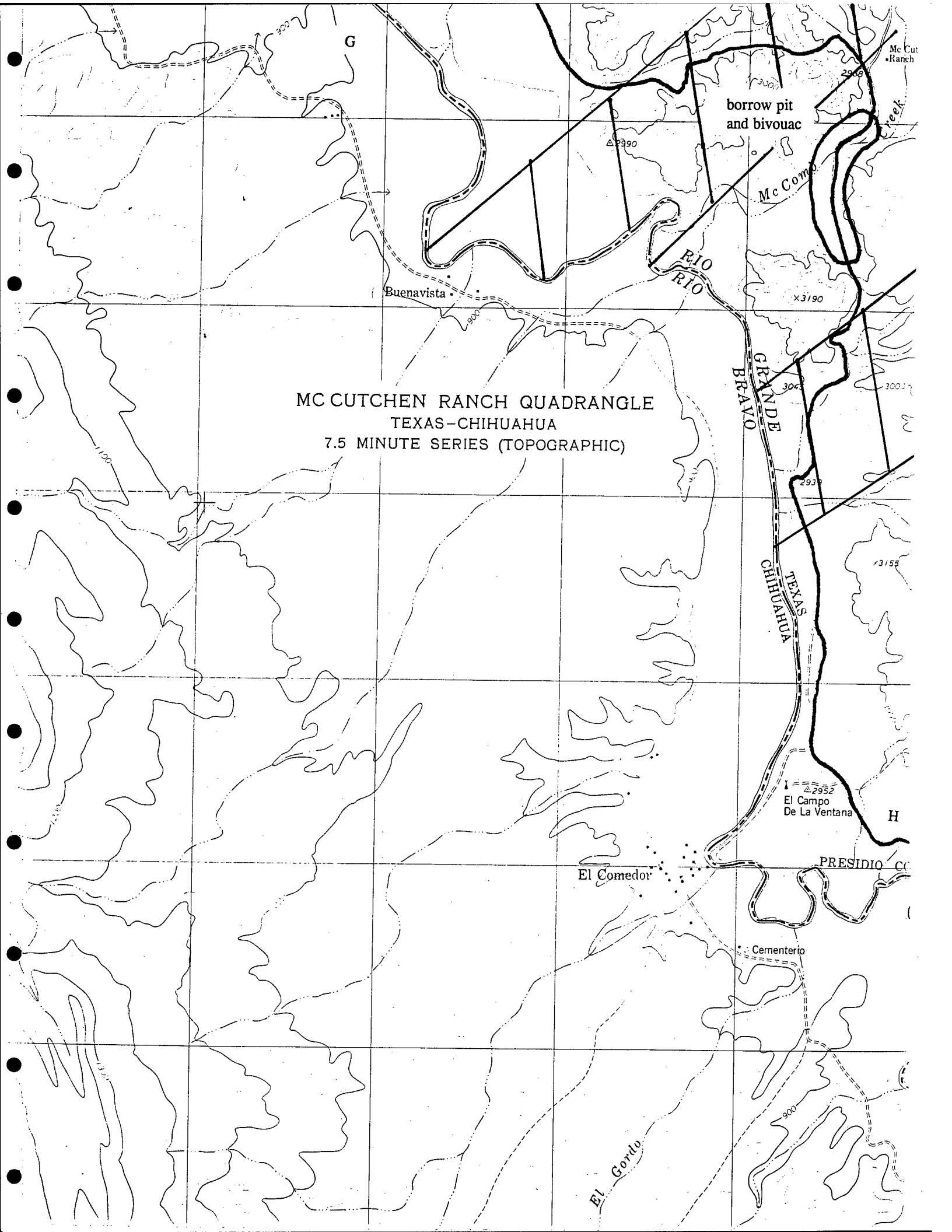
CHIHUAHUA
TEXAS

PRESIDIO 3000 C

F



MC CUTCHEN RANCH QUADRANGLE
TEXAS-CHIHUAHUA
7.5 MINUTE SERIES (TOPOGRAPHIC)



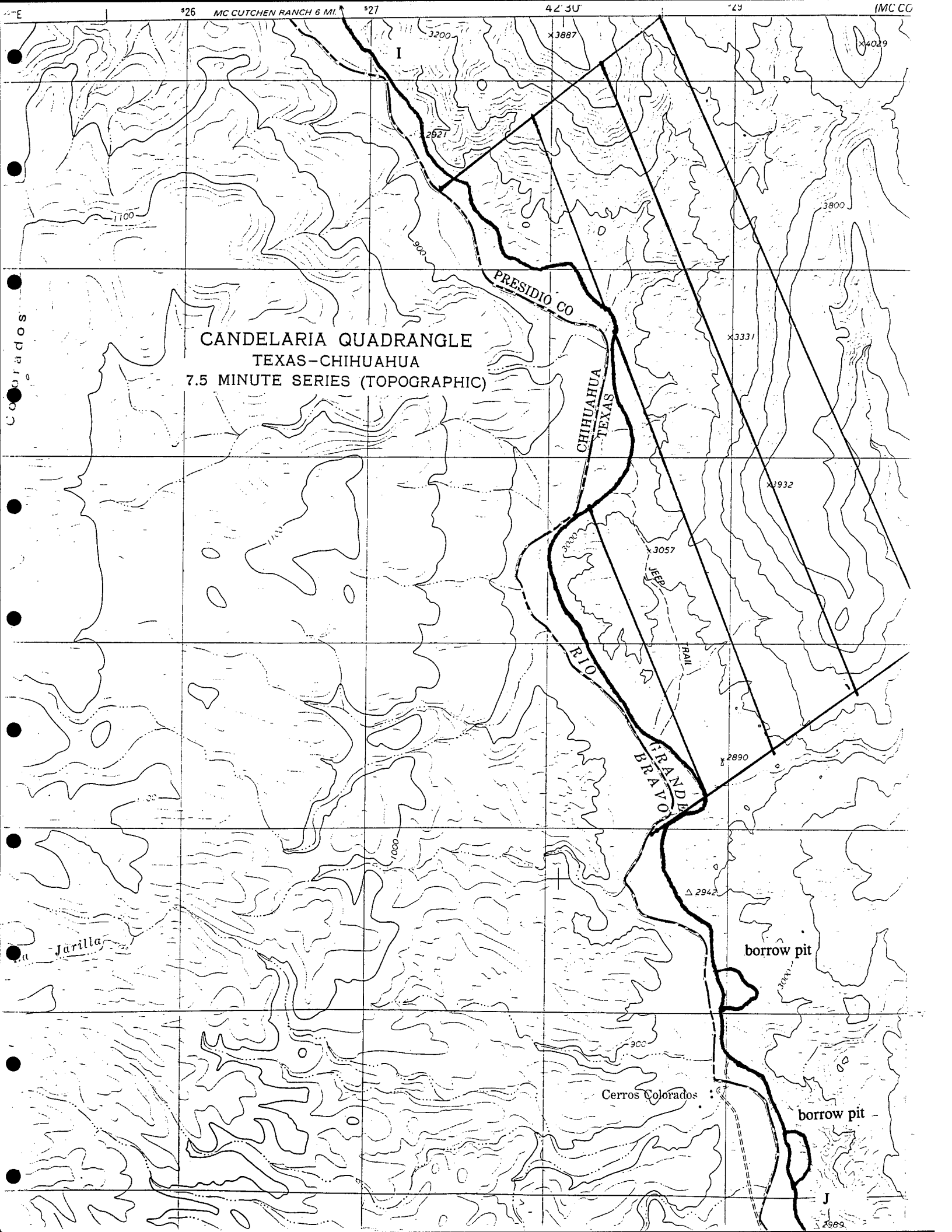
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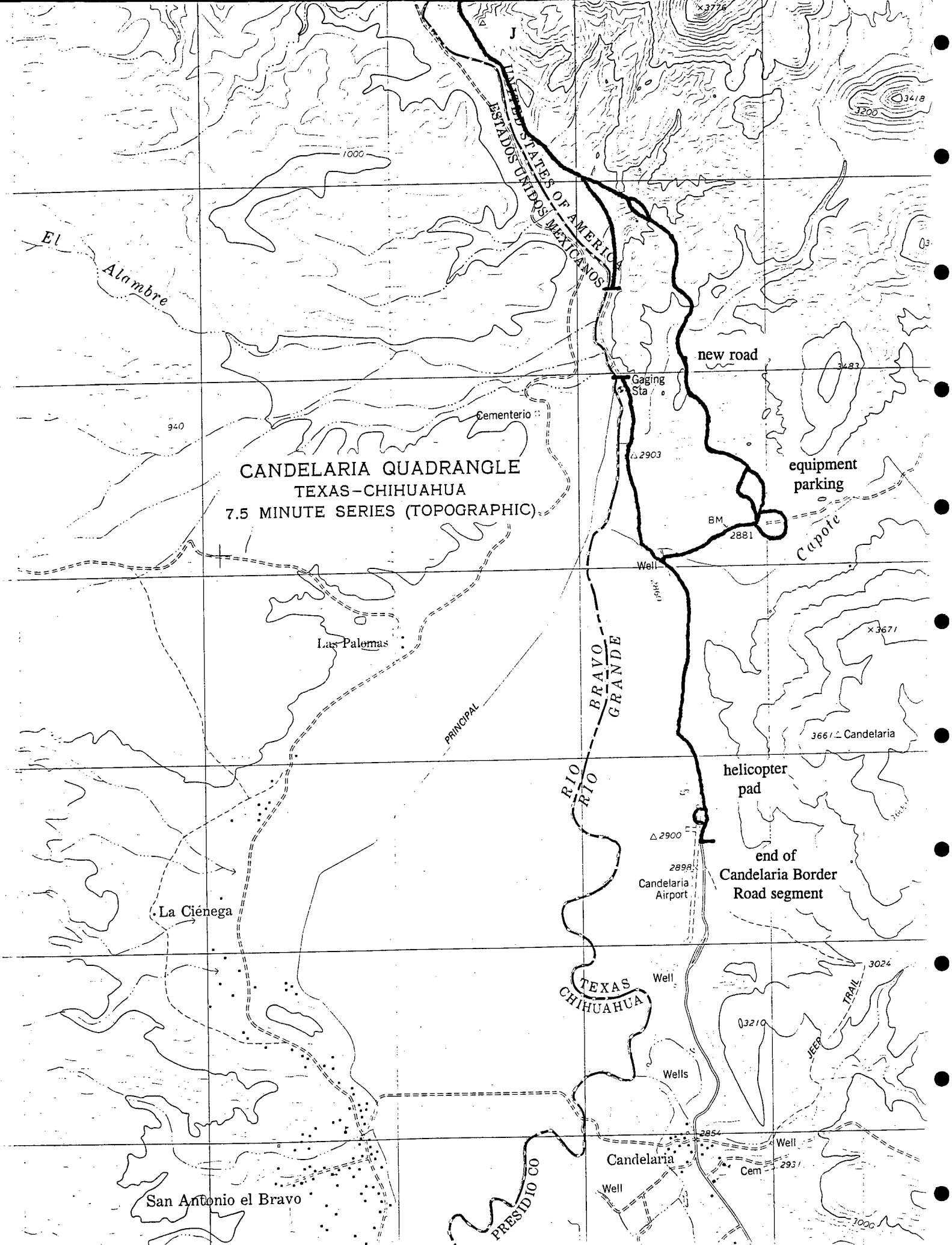
PRESIDIO CO

A map showing the Rio Grande (Grande Bravo) flowing between Texas, USA and Chihuahua, Mexico. The river is depicted as a thick black line. The text 'GRANDE BRAVO' is written along the river, and 'TEXAS' and 'CHIHUAHUA' are written on either side of the river.

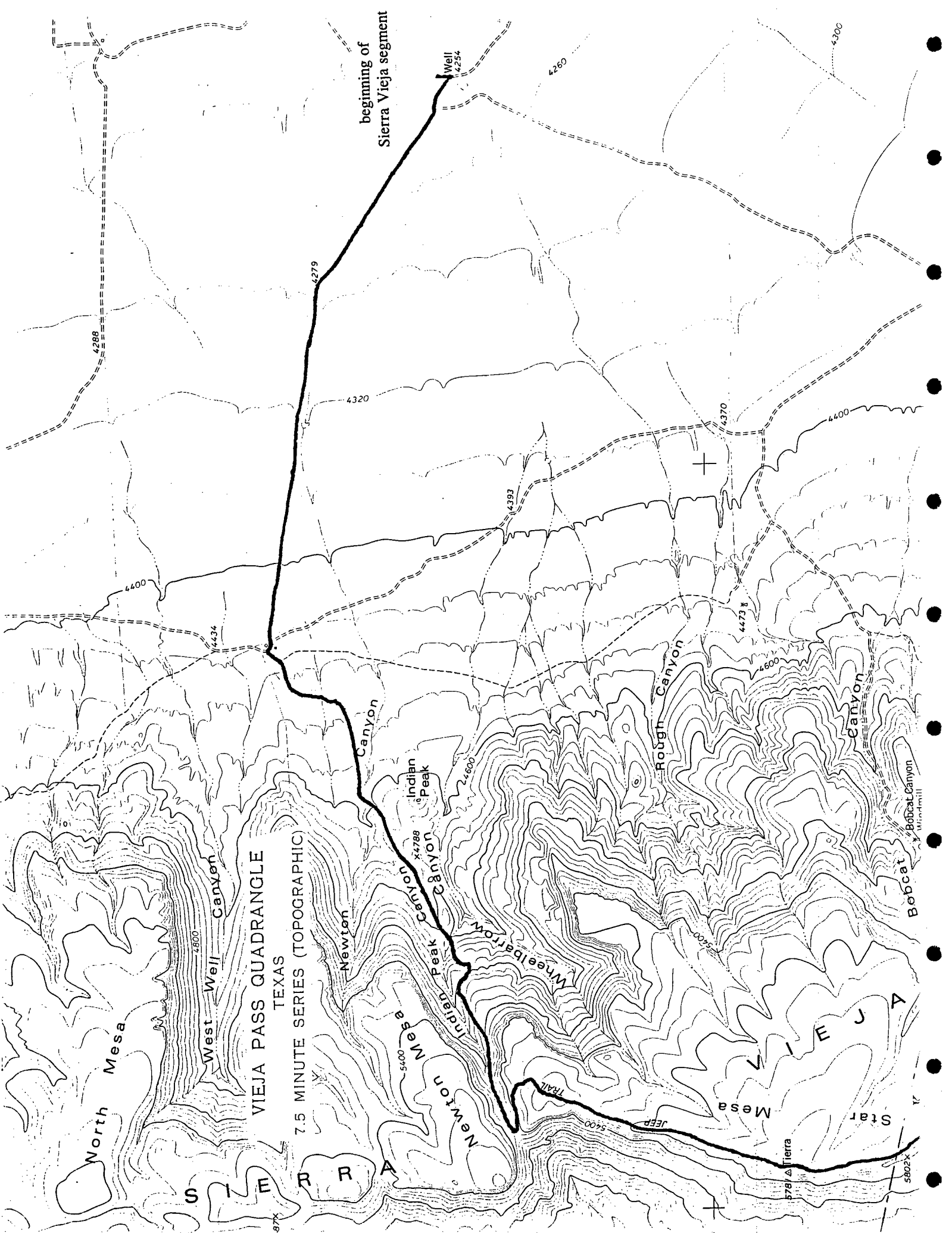
Drift Hole

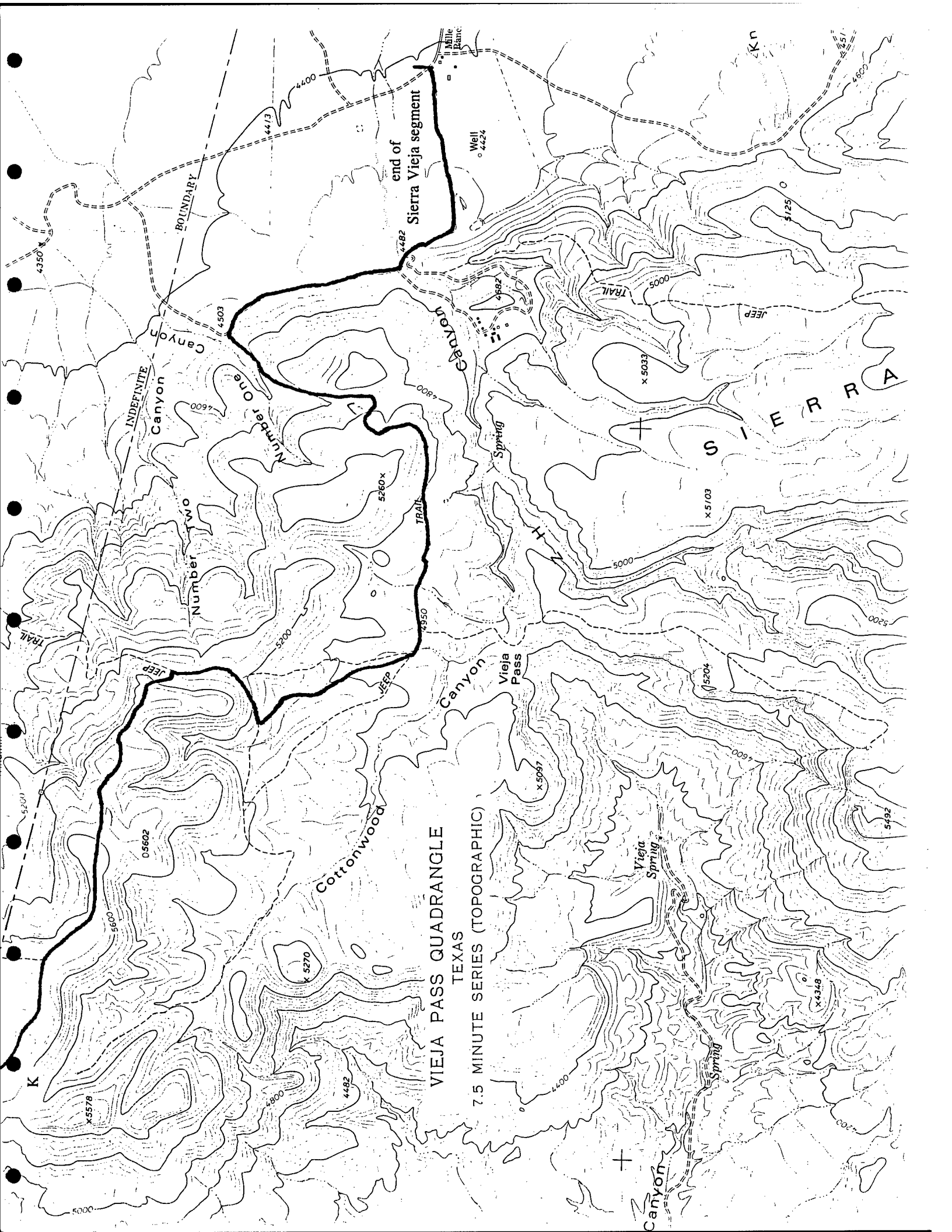
I



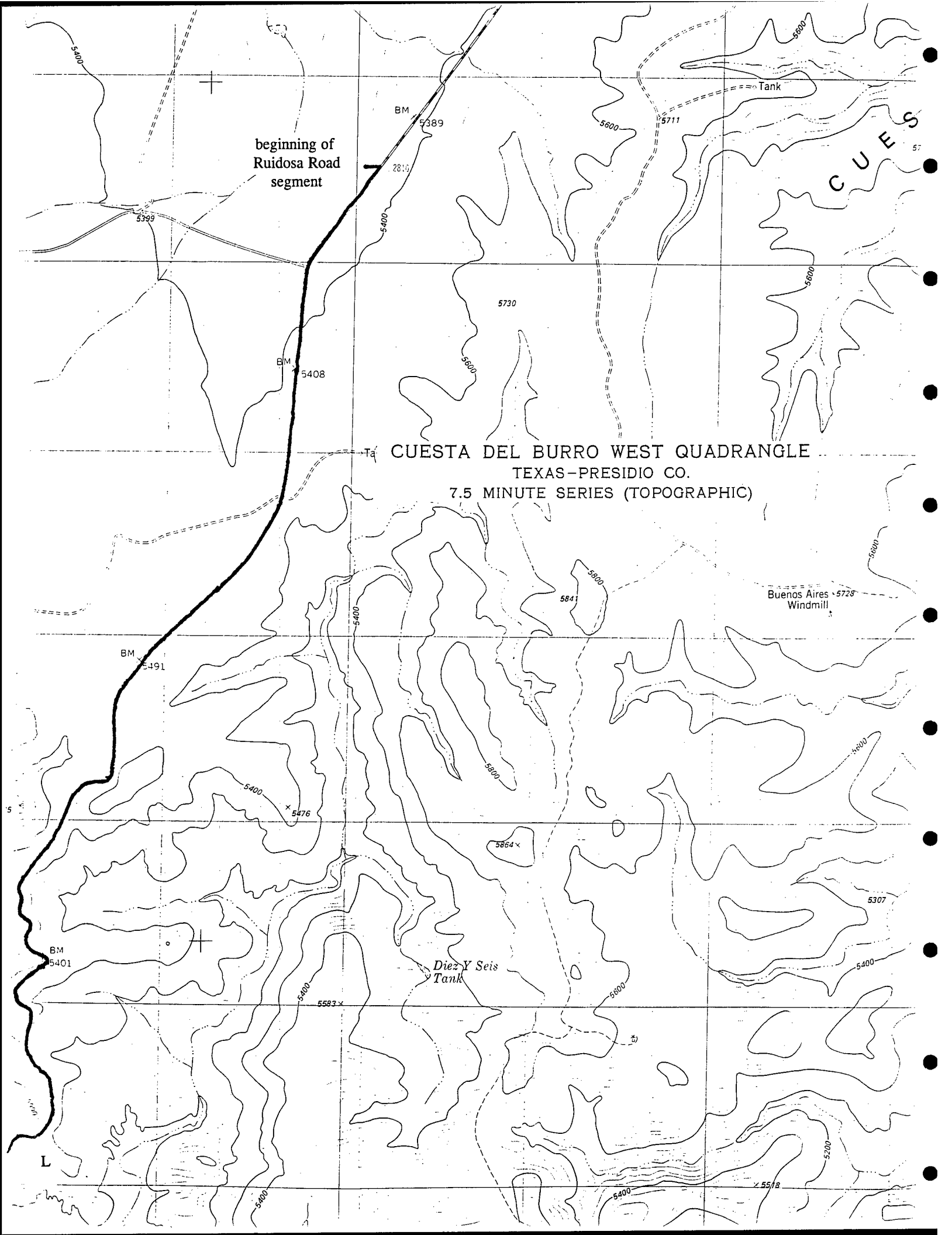


**SIERRA VIEJA
SEGMENT**





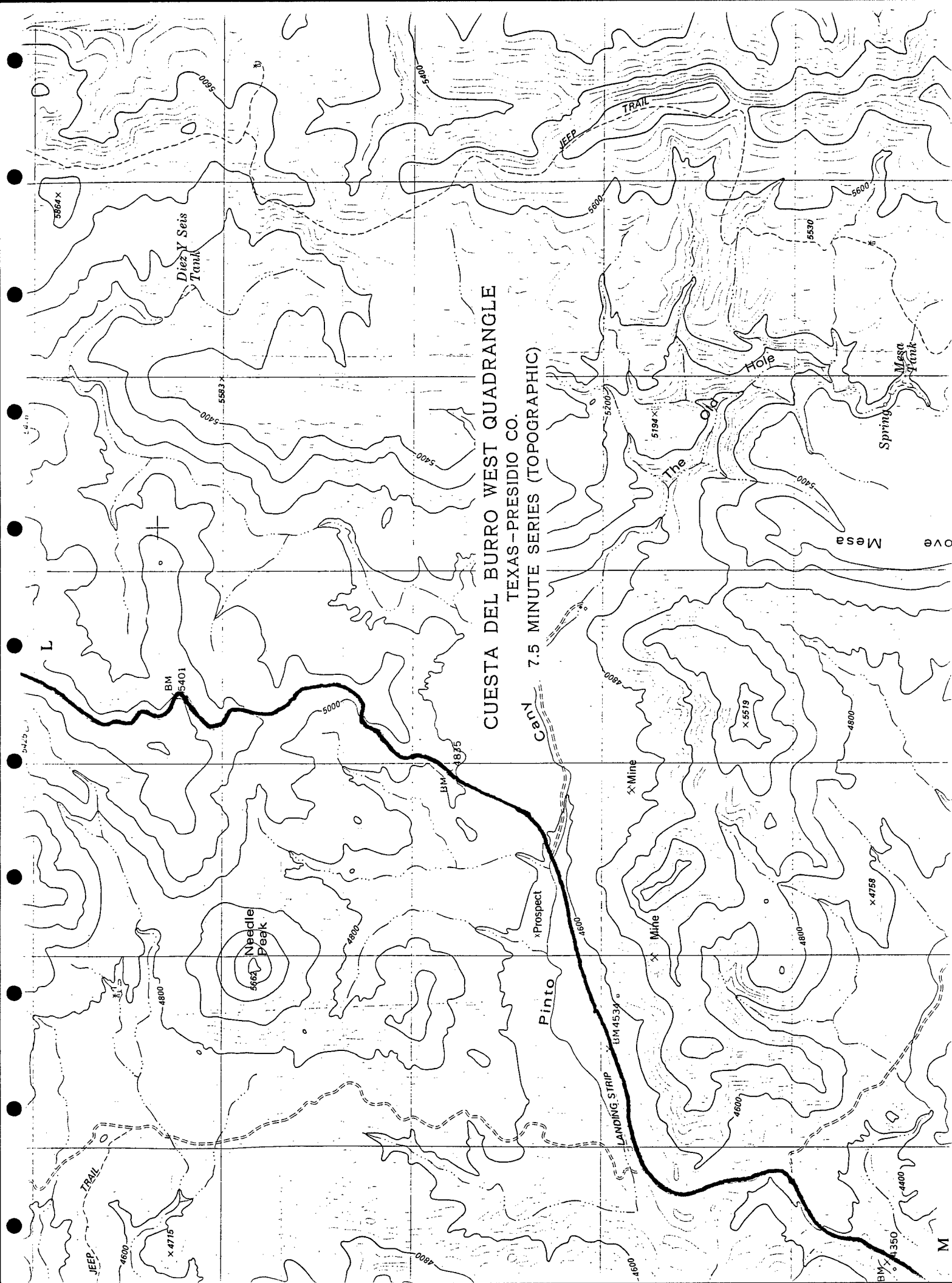
**RUIDOSA ROAD
SEGMENT**



Самый

TEXAS-PRESIDIO CO.

7.5 MINUTE SERIES (TOPOGRAPHIC)



[illegible]

RUIDOSA HOT SPRINGS QUADRANGLE
TEXAS—PRESIDIO CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

SIERRA PARDAS QUADRANGLE
TEXAS—PRESIDIO CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

Map features include:
 - Contour lines with elevations (e.g., 4000, 4100, 4200, 4300, 4400, 4500, 4600, 4700, 4800, 4900, 5000, 5100, 5200, 5300, 5400, 5500, 5600, 5700, 5800, 5900, 6000, 6100, 6200, 6300, 6400, 6500, 6600, 6700, 6800, 6900, 7000, 7100, 7200, 7300, 7400, 7500, 7600, 7700, 7800, 7900, 8000, 8100, 8200, 8300, 8400, 8500, 8600, 8700, 8800, 8900, 9000, 9100, 9200, 9300, 9400, 9500, 9600, 9700, 9800, 9900, 10000).
 - River (Rio Grande)
 - Landmarks: Ruidosa Hot Springs, Sierra Parda, Cerro de la Cruz, Benavides Ranch, Cave, Pinto Canyon, Ojo Acebuche, Deep Trail.
 - Elevation points: 4060, 4079, 4080, 4065, 4057, 4004, 3962, 4126, 4489, 4778, 4205, 4277, 4445, 4658, 4666, 4700, 4800, 4900, 5000, 5100, 5200, 5300, 5400, 5500, 5600, 5700, 5800, 5900, 6000, 6100, 6200, 6300, 6400, 6500, 6600, 6700, 6800, 6900, 7000, 7100, 7200, 7300, 7400, 7500, 7600, 7700, 7800, 7900, 8000, 8100, 8200, 8300, 8400, 8500, 8600, 8700, 8800, 8900, 9000, 9100, 9200, 9300, 9400, 9500, 9600, 9700, 9800, 9900, 10000.
 - Benchmarks: BM 3974, BM 4079, BM 4065, BM 4057, BM 4004, BM 3962, BM 4126, BM 4489, BM 4778, BM 4205, BM 4277, BM 4445, BM 4658, BM 4666, BM 4700, BM 4800, BM 4900, BM 5000, BM 5100, BM 5200, BM 5300, BM 5400, BM 5500, BM 5600, BM 5700, BM 5800, BM 5900, BM 6000, BM 6100, BM 6200, BM 6300, BM 6400, BM 6500, BM 6600, BM 6700, BM 6800, BM 6900, BM 7000, BM 7100, BM 7200, BM 7300, BM 7400, BM 7500, BM 7600, BM 7700, BM 7800, BM 7900, BM 8000, BM 8100, BM 8200, BM 8300, BM 8400, BM 8500, BM 8600, BM 8700, BM 8800, BM 8900, BM 9000, BM 9100, BM 9200, BM 9300, BM 9400, BM 9500, BM 9600, BM 9700, BM 9800, BM 9900, BM 10000.
 - Other labels: M, Cathed, P, Canyon, Ojo, Acebuche, Deep, Trail, Benavides Ranch, Cave, Pinto, Cerro de la Cruz, Sierra Parda, Ruidosa Hot Springs.

RUIDOSA HOT SPRINGS QUADRANGLE
TEXAS-PRESIDIO CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

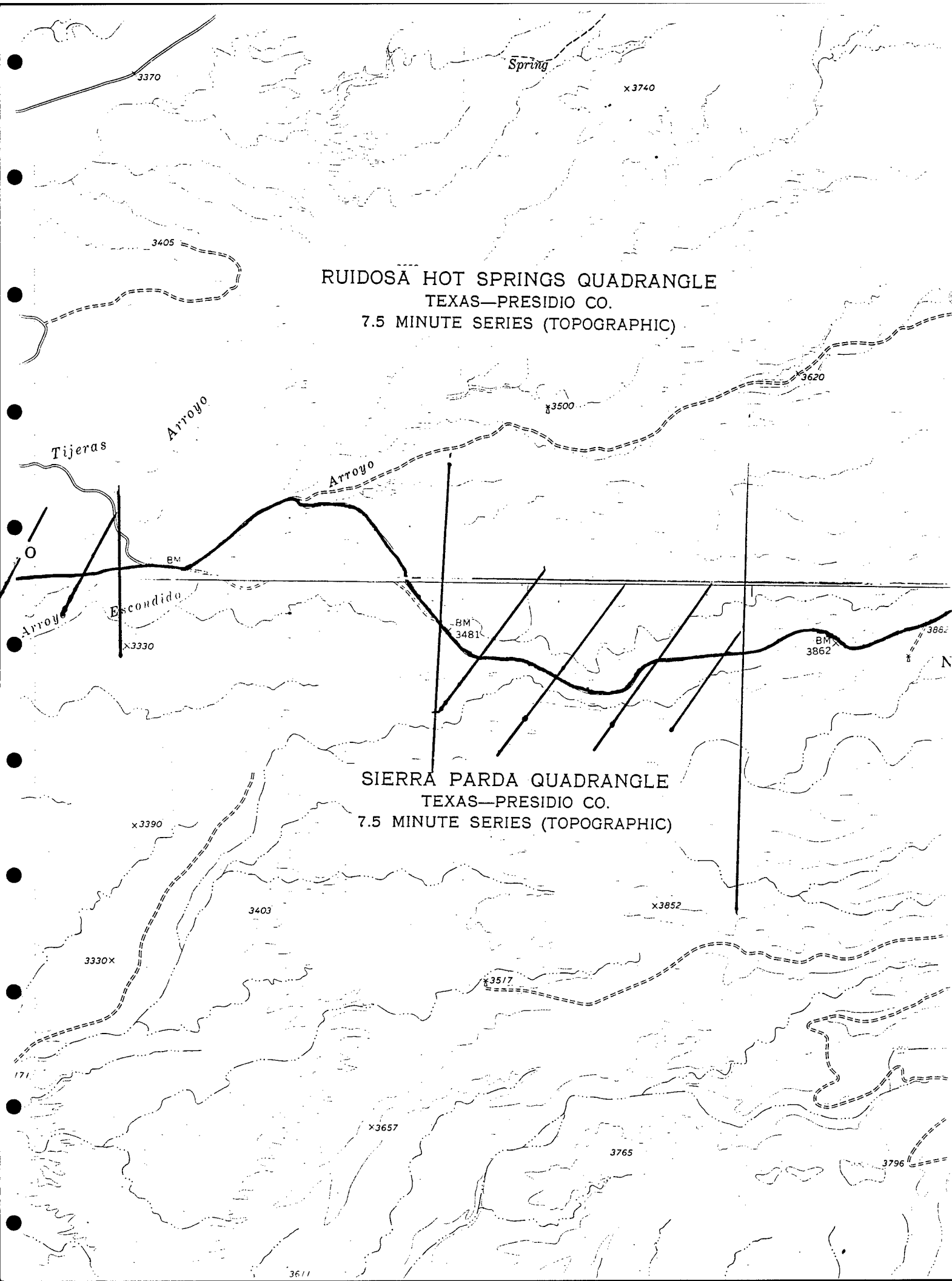
SIERRA PARDAS QUADRANGLE
TEXAS-PRESIDIO CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

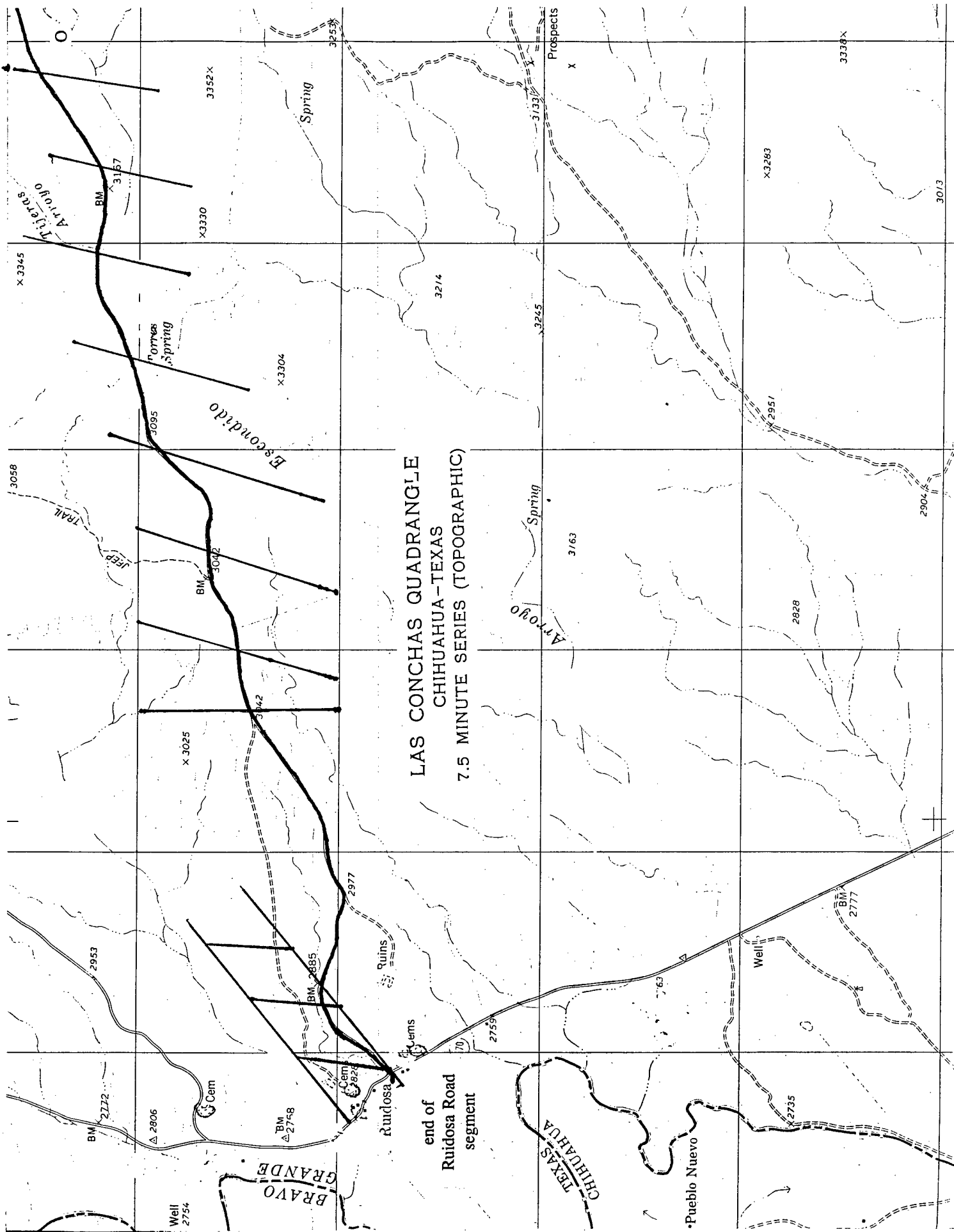
Benavides Ranch
Cave
Rio Grande
Sierra Parda
Ruidosa Hot Springs
Cerro de la Cruz
Pinto Canyon
Ojo Acebuche
Pinto
Cathedral Peak
M
N
X 5135
X 5550
5570
4675
X 4335
4235
3845
3919
X 4489
BM 3974
X 4065
BM 4065
X 4004
4057
3962
X 4126
4658
4277
4445
X 4700
4665
4608
X 4991

[illegible]

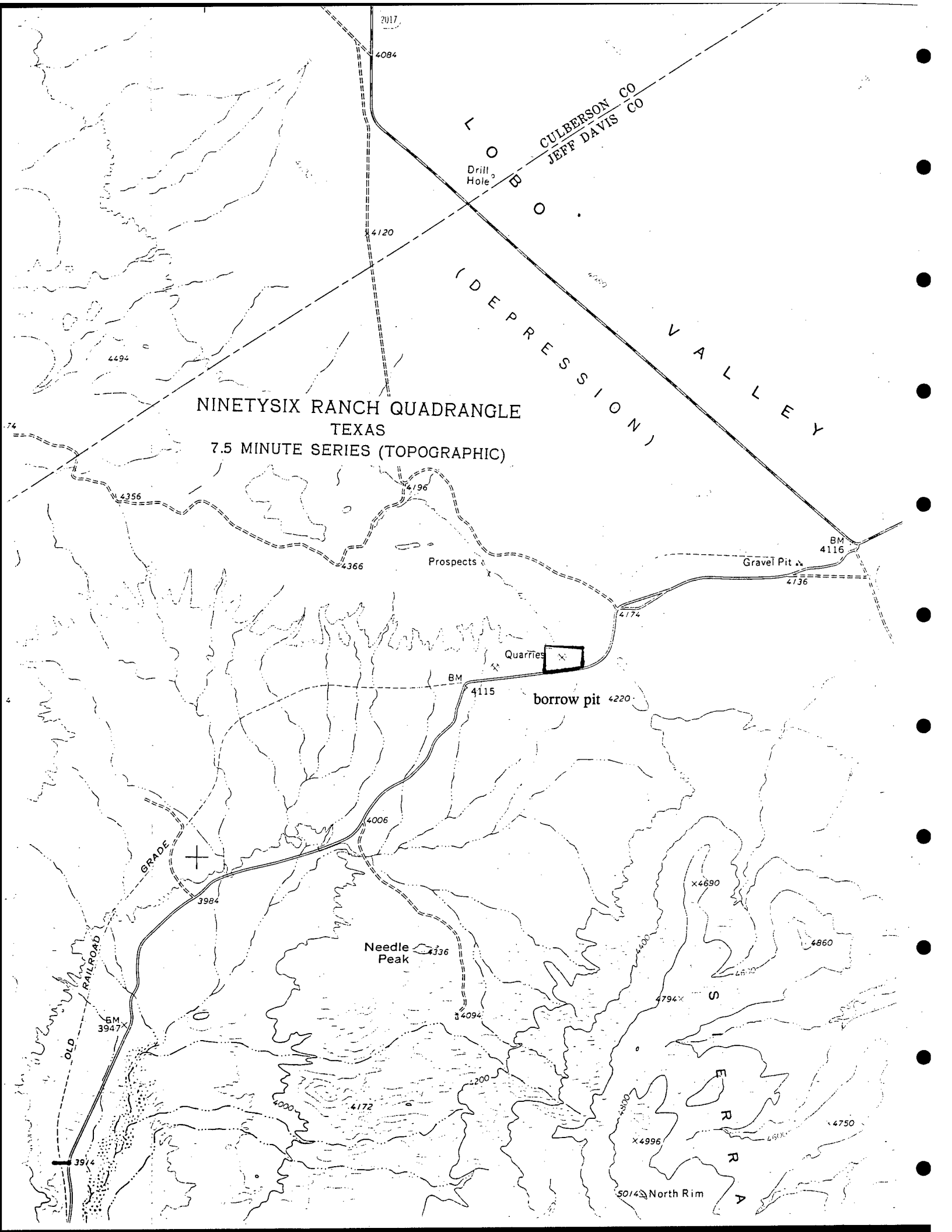
RUIDOSA HOT SPRINGS QUADRANGLE
TEXAS—PRESIDIO CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

SIERRA PARDA QUADRANGLE
TEXAS—PRESIDIO CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)





**OTHER
LOCATIONS**



NINETYSIX RANCH QUADRANGLE
TEXAS
7.5 MINUTE SERIES (TOPOGRAPHIC)

CULBERSON CO
JEFF DAVIS CO

Drill Hole

(DEPRESSION) VALLEY

Prospects

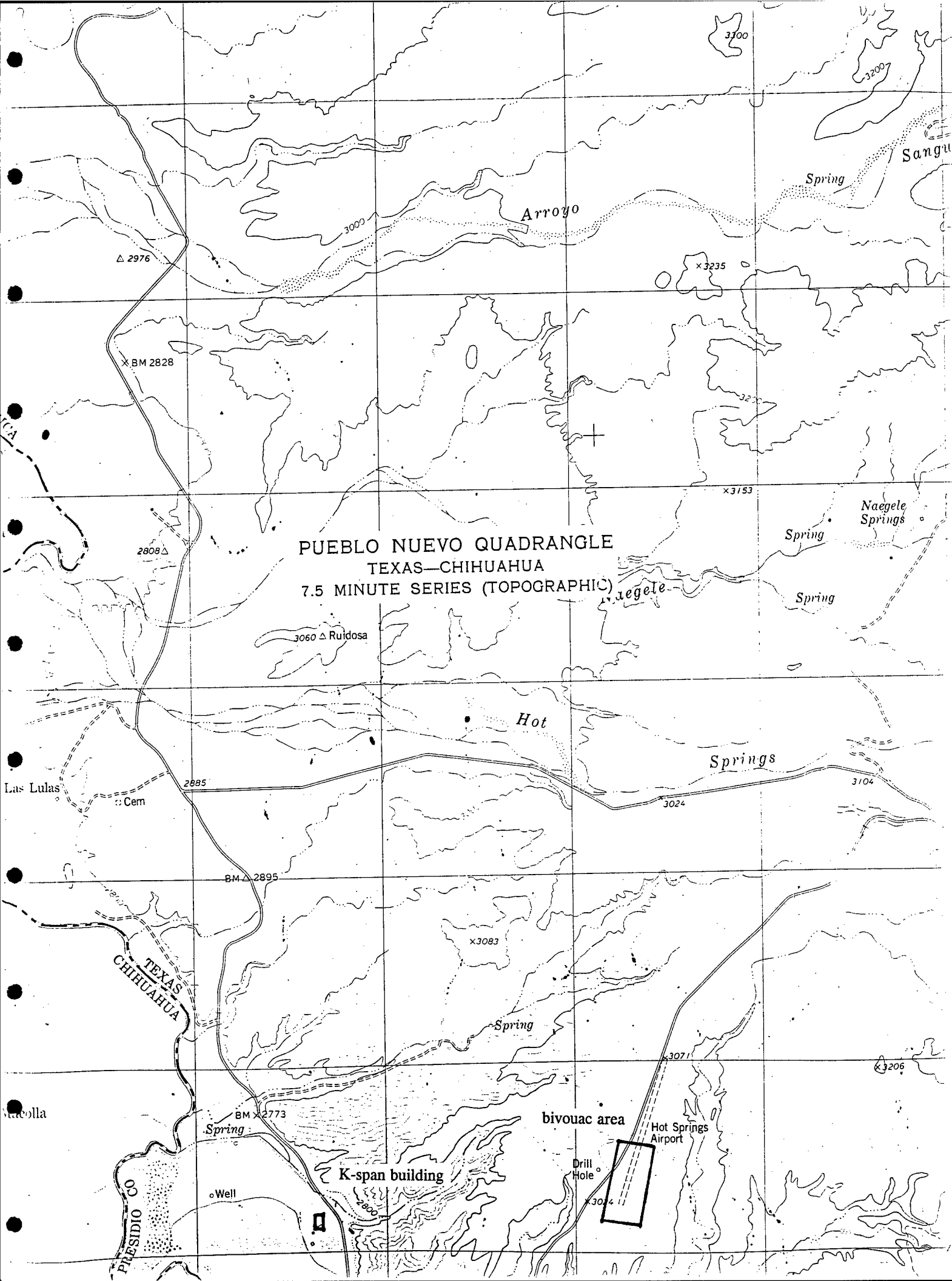
Quarries

borrow pit

Gravel Pit

Needle Peak

North Rim



APPENDIX D
TEXAS HISTORIC SITES INVENTORY FORMS

**TEXAS HISTORICAL COMMISSION
TEXAS HISTORIC SITES INVENTORY FORM**

★ GENERAL PROPERTY FORM ★

County <u>Presidio</u>	Site # <u>Isolate 31</u>	USGS Quad. <u>Cuesta del Burro</u>
City/Rural <u>Rural</u>	Date: <u>Factual</u>	Est. <u>1930s</u> Additions _____
Historic Name _____	Architect/Builder <u>Unknown</u>	
Address _____	Contact _____	
Owner _____	Historic Use _____	Water control feature _____
Legal Desc. <u>Zone 13, E 551275 N3323380</u>	Present Use _____	Water control feature _____
Integrity of: ☐ location ☐ design ☐ setting ☐ materials ☐ workmanship ☐ association ☐ feeling		
History of Property <u>These rock and concrete water control features were likely built in the 1930s. The features are associated with an old road scar which is located west of the current road (FM2810). The first feature is comprised of a 10 ft long by 1 ft width by 3 ft tall rock and concrete wall. The second feature is located upslope within the drainage and is a 6 ft long, 3 ft tall 1 ft wide concrete and rock wall. Neither feature is considered significant.</u>		

Areas of Significance (include justification)

Bibliography (include oral histories) Archeological Survey for JTF-6 Road Improvements in Presidio and Jeff Davis Counties, Texas. by Mark Sale and Victor Gibbs (1998)

Surveyor _____	Date Surveyed _____	_____ Slides
Photo Date: <u>Roll/Frame</u>	through <u>Roll/Frame</u>	
Designations: <u>NR</u>	<u>RTHL</u>	<u>HABS</u> _____ Local _____ Other _____

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TEXAS HISTORICAL COMMISSION
TEXAS HISTORIC SITES INVENTORY FORM

★ GENERAL PROPERTY FORM ★

County Presidio Site # Isolate 32 USGS Quad. Cuesta del Burro
 City/Rural Rural Date: Factual Est. 1930s Additions _____
 Historic Name _____ Architect/Builder Unknown
 Address _____ Contactor _____
 Owner _____ State _____ Historic Use Stone and concrete bridge
 Legal Desc. Zone 13, E 551250 N3323300 Present Use None
 Integrity of: ☐ location ☐ design ☐ setting ☐ materials ☐ workmanship ☐ association ☐ feeling
 History of Property This rock and concrete bridge was likely built in the 1930s. The bridge is associated with an old road scar which is
located west of the current road (FM2810). The bridge is comprised of a 10 ft long by 10 ft width by 4 ft tall rock and concrete bridge. A metal culvert is
is installed under the bridge to channel water. The bridge is no longer used, as the road presently is a different route

Areas of Significance (include justification)

Bibliography (include oral histories) Archeological Survey for JTF-6 Road Improvements in Presidio and Jeff Davis Counties, Texas. by Mark Sale and Victor Gibbs (1998)

Surveyor _____ Date Surveyed _____
 Photo Date: Roll/Frame through Roll/Frame Slides _____
 Designations: NR RTHL HABS Local Other _____ (Rev. 7-91)
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