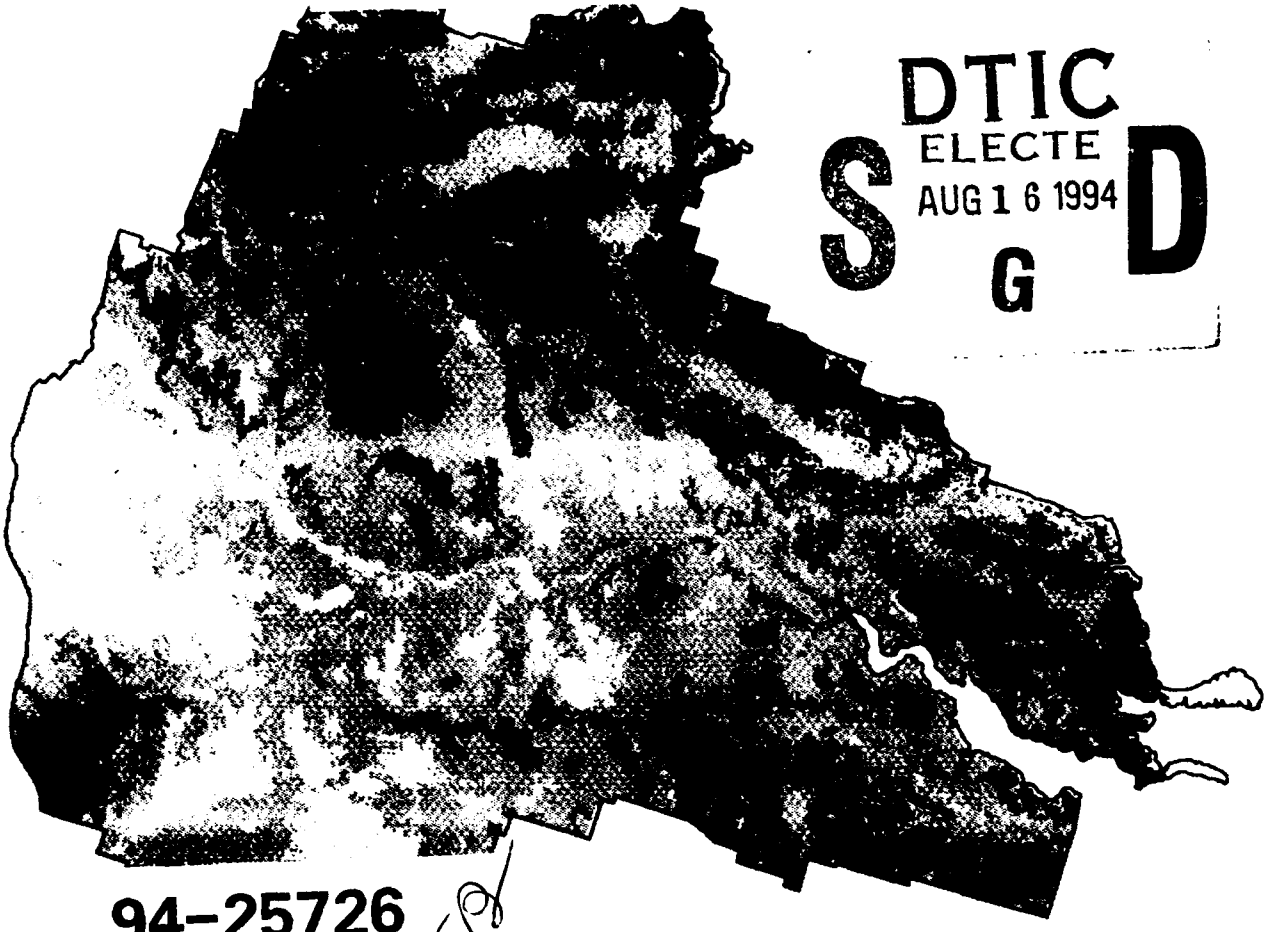
ARCHAEOLOGICAL SURVEY AT FORT HOOD, TEXAS
FISCAL YEAR 1990: THE NORTHEASTERN PERIMETER AREA

David L. Carlson
John E. Dockall
Ben W. Olive

with contributions by
S. B. Carlson



UNITED STATES ARMY FORT HOOD
ARCHAEOLOGICAL RESOURCE MANAGEMENT SERIES
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From January to April, 1990, the Archaeological Research Laboratory at Texas A&M University conducted a cultural resources survey for Delivery Order Number 10 of 26 km² (6,425 acres) at Fort Hood. As a result of the survey, 77 archaeological sites were discovered or relocated, and recorded. The 54 prehistoric sites recorded show evidence of human occupation spanning the last

(*Continued*)

8,500 years. The 23 historic sites recorded represent the initial migrations into Central Texas by Anglo settlers beginning about 1850 and ending with the purchase of the land by the Army in the 1940s and 1950s.

Preliminary recommendations regarding the research potential of each site were based solely on the surface indications of the sites, with the result that a number of sites will require shovel testing in order to appraise the depth of the deposits, and/or documentary and informant research.

Lithic remains constitute the most abundant artifact category recovered during the present survey. During the survey of 41CV1540, five discrete concentrations of lithic debris consisting of two distinct chert types were encountered. The concentrated nature of these debris areas indicate that they may be largely intact. Analysis of the debitage shows that a slightly different reduction strategy was used on the two types of material based on the different amount of cortex present and a different rate of loading during flake removal.

A discussion on recovered debitage is new to this series of survey reports from Fort Hood. The analysis of debitage recovered from a debitage concentration at 41CV1540 provides information concerning biface manufacture in general as well as the stages of biface manufacture. Hypotheses concerning procurement strategies and different reduction techniques for different chert types are also presented.

As part of the ongoing research effort at Fort Hood, this report also describes the development of predictive models for prehistoric and historic site locations. The models are developed with all survey data prior to the present survey and are compared with the CERL model developed previously and with the results of the present survey. The predictive models were developed using GRASS 4.0 on the DEH Masscomp computer.

ABSTRACT

From January to April, 1990, the Archaeological Research Laboratory at Texas A&M University conducted a cultural resources survey for Delivery Order Number 10 of 26 km² (6,425 acres) at Fort Hood. As a result of the survey, 77 archaeological sites were discovered or relocated, and recorded. The 54 prehistoric sites show evidence of human occupation spanning the last 8,500 years. The 23 historic sites represent the initial migrations into Central Texas by Anglo settlers beginning about 1850 and ending with the purchase of the land by the Army in the 1940s and 1950s.

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MANAGEMENT SUMMARY

The present report summarizes the results of a 26 km² cultural resources survey conducted in the northeastern area at Fort Hood. The purpose of the survey was to record all historic and prehistoric sites which might be eligible for protection under the National Historic Preservation Act of 1966, as amended, and the Archeological and Historic Preservation Act of 1974. As a result of the survey, 54 prehistoric and 23 historic sites were recorded.

The future research potentials of these sites and their potential eligibility for listing on the National Register of Historic Places have been preliminarily evaluated as follows: those sites with substantial research potential, 1 prehistoric; those sites which require subsurface testing and/or documentary and informant research to adequately assess research potential, 33 prehistoric and 9 historic; and those sites which appear to have limited research potential, 20 prehistoric and 14 historic. A listing of site assessments is provided in the Recommendations and Conclusions section, and site by site assessments are provided in Appendices I and II, the prehistoric and historic site descriptions.

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ACKNOWLEDGMENTS

The successful completion of this survey is due to a number of people. Personnel from the Archaeological Research Laboratory are thanked for their contributions to the project including Joe Sanchez who directed the survey and crew members Diane Cargill, Karl Kleinback, Marie Brown, Kenneth Vandersteen, Tracey Sanderfur, and Randy Korgel.

In the laboratory, Lisa Niederauer is thanked for her careful handling and processing of the artifacts. Thanks are also given to Tammy McLean who analyzed the historic artifacts and Ruth Riegel who did the final wordprocessing. Office manager Beverly Guster kept the field crew paid and the principal investigator current on the fiscal status of the project.

At Fort Hood, Dr. Jack Jackson provided access to the Fort Hood Archaeology lab and site files and helped with logistic problems.

INTRODUCTION

David L. Carlson

The present and previous surveys at the Fort Hood Military Installation have been conducted in compliance with federal laws and regulations which protect significant archaeological sites from disturbance or damage resulting from federal actions. In particular, the National Historic Preservation Act of 1966 (P.L. 89-655 and amendments; P.L. 91-243, 93-54, 94-422, 94-458, and 96-515), Executive Order 11593 (1971), and the Archeological and Historic Preservation Act of 1974 (P.L. 93-291) have governed the archaeological research conducted at Fort Hood. The artifacts recovered from these surveys and the records produced are being curated by the Staff Archaeologist at the Fort Hood Military Installation in Killeen, Texas.

From January to April, 1990, a crew of six persons from the Archaeological Research Laboratory at Texas A&M University conducted a cultural resources survey of approximately 26 km^2 (6,425 acres) for Delivery Order Number 10, in the northeastern areas of Fort Hood, Texas (Figures 1 and 2). As a result of these investigations, 54 prehistoric and 23 historic sites were discovered or relocated and were recorded.

Systematic archaeological surveys at Fort Hood have been conducted since 1978 (Skinner et al. 1981). The project is unusual in comparison with most cultural resource surveys for two reasons. First, the size of the post has allowed large contiguous blocks to be surveyed, providing more detailed information on site density and location than can normally be obtained. This contrasts with pipeline, highway, or small surveys by providing archaeologists with a broader perspective on archaeological resources. Secondly, most of the terrain is in upland and intermediate upland environmental zones, often located well away from permanent water sources. This distinguishes Fort Hood from reservoir basin surveys, which are almost always located in floodplain areas.

In the present report Ben W. Olive summarizes the procedures and the results of the surveys, provides site descriptions, and, with Shawn Bonath Carlson, describes the prehistoric and historic artifacts recovered. Formats for coding prehistoric and historic sites are included as appendices, as is a discussion of prehistoric material culture by John E. Dockall and environmental and cultural data by site, prepared by Olive. Background chapters on the environment and culture history are presented by David L. Carlson, who also reviews previous research in the area.

A project research design and research results are provided by David L. Carlson and John E. Dockall. The research design focuses on two different studies: analysis of a prehistoric lithic knapping station on the post and development of predictive models for the Fort Hood area. Within the Research Results chapter, Dockall details the analysis of the lithic knapping station, wherein two different biface-reduction strategies took place; Carlson presents predictive models of both prehistoric and historic sites, using 18 variables based on stepwise logistic regression. Assessments and recommendations for each historic property and prehistoric site are made by David L. Carlson.

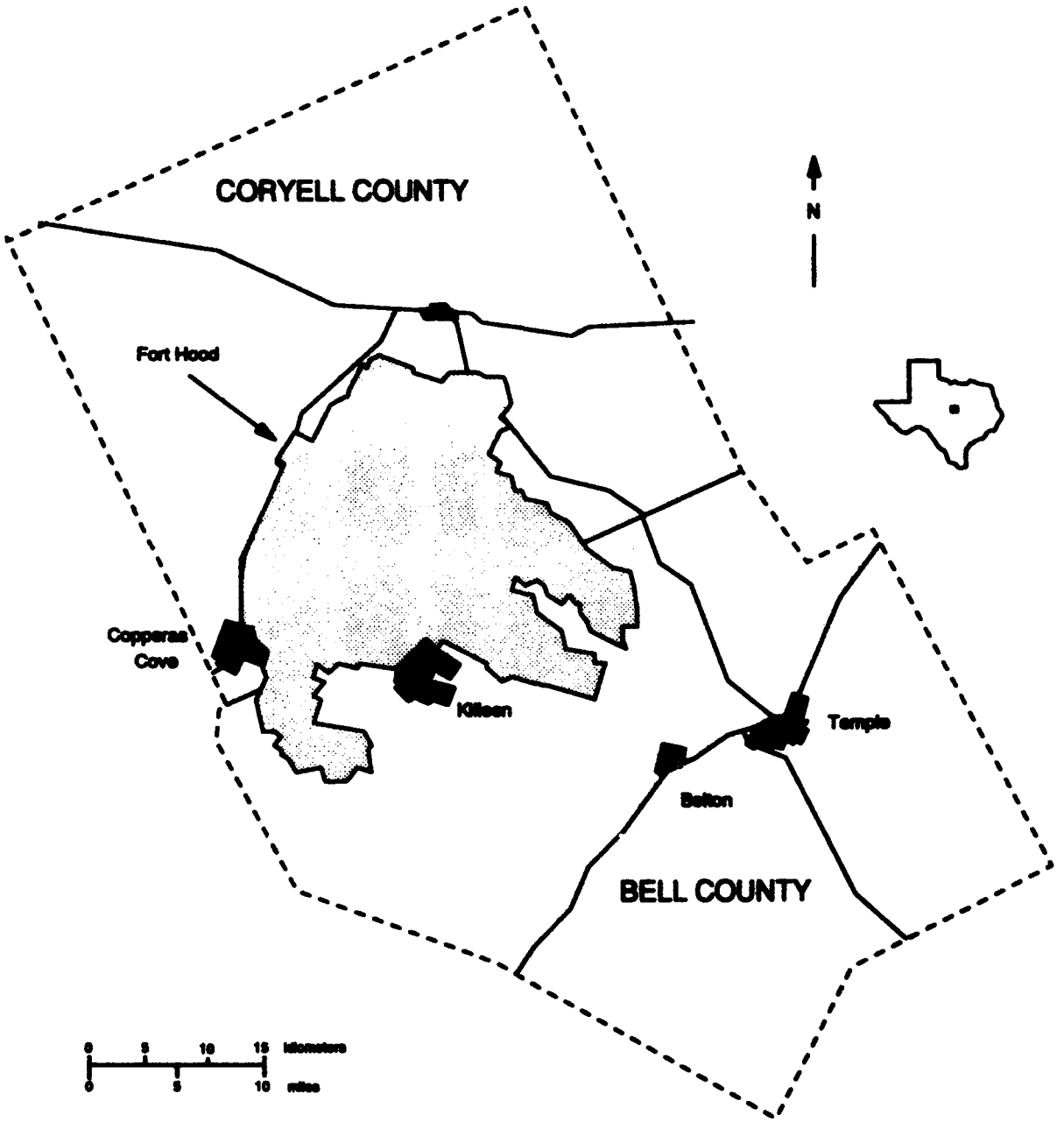

Figure 1. Location of Fort Hood in Bell and Coryell Counties, Texas.

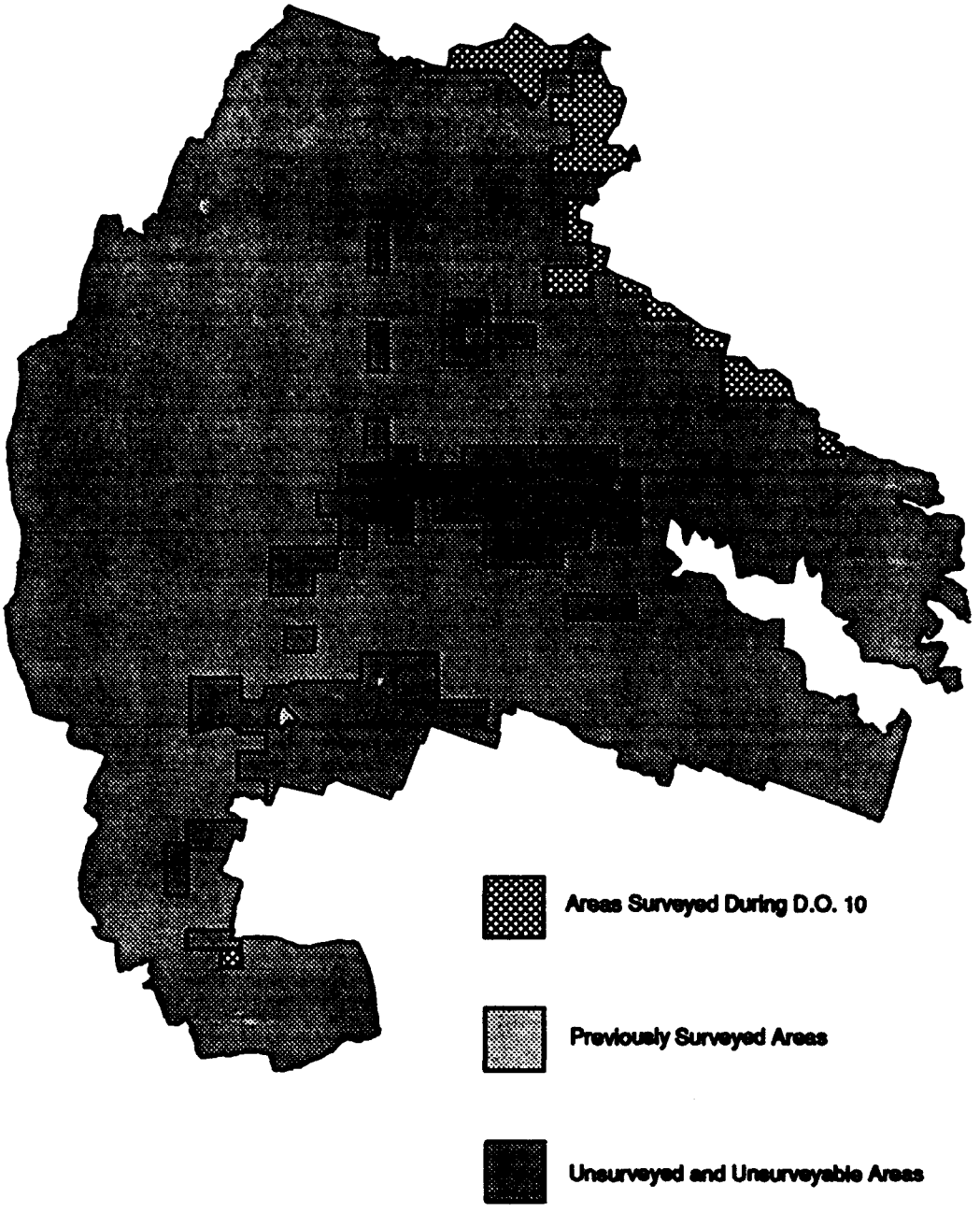

Figure 2. Northeastern Perimeter Survey Area for Fiscal Year 1990.

ENVIRONMENTAL BACKGROUND

David L. Carlson and Ben W. Olive

The study of any past culture depends heavily on a working knowledge of the physical environment in which it was set. This applies to both historic and prehistoric sites. For this reason, several environmental studies of the Fort Hood region have been published. A brief summary is presented here. Detailed earlier statements can be found in Ruderjan et al. (1980:8-12, 180-210), Skinner et al. (1981:6-11), Skinner et al. (1984:2-1 to 2-4), Carlson et al. (1986), Roemer et al. (1985), United States Department of the Army (1979:5.3-5.4), and Espey, Huston, and Associates, Inc. (1979).

GEOLOGY AND GEOMORPHOLOGY

The present topography of Fort Hood consists of incised river canyon topography rejuvenated by late Tertiary faulting and uplift. Associated with these upland areas is an extensive area of gently rolling hills also incised by dendritic stream systems. Over half of the Fort Hood Military Reservation consists of intermediate uplands where the Cretaceous sediments are heavily dissected by rivers and streams (Figure 3). Ascending from the lowest elevations, the geological strata are all Cretaceous System, Fredericksburg Group, Comanche Series.

All Comanche sediments known in Texas are nearshore or epicontinental deposits. They belong very generally to three facies: (1) marginal, nearshore neuritic or partly littoral sands, silty clays, conglomerates, and saline or gypsiferous sediments; (2) neuritic marls, clays, shales, and limestones; and (3) reef (zoogenic) limestones, coquina, and shell aggregates or marls.

In the Fort Hood region, it is the Fredericksburg group of the Comanche series that is visible both in outcrop and in the geomorphology present. The Fredericksburg group is distinguished by a great diversity of lithologic facies, corresponding to differences in the sources of its sediments. It is doubtful that the Walnut, Comanche Peak, and Edwards formations can be retained as formations in the usual sense in this area; however, those terms might be used to designate the shelly marl, the soft nodular limestone, and the rudistid reef facies, for in each of the three supposed formations all three types of lithology occur.

It is the southern portion of the Fredericksburg group that forms the Edwards Plateau and the region of incised river canyon topography rejuvenated by late Tertiary faulting and uplift. It also forms the Lampasas cutplain whose top consists of interstream ridges and outliers of limestone (the Edwards and Comanche Peak formations primarily) overlooking clay valleys (Walnut formation) to the west.

The Paluxy formation, the lowest mapped Cretaceous material found at Fort Hood, is laterally continuous with the Upper Glen Rose. There are no clear-cut age indicators present in the stratum.

Above the Paluxy sand lies the Walnut formation, a laterally continuous stratum consisting of yellow clays, flaggy limestone, and shell masses of *Exogyra texana* and *Gryphaea marcoui*. This soft clay formation accounts for the rolling topography above the floodplains in the Fort Hood Military Installation. It grades conformably into the overlying Comanche Peak formation.

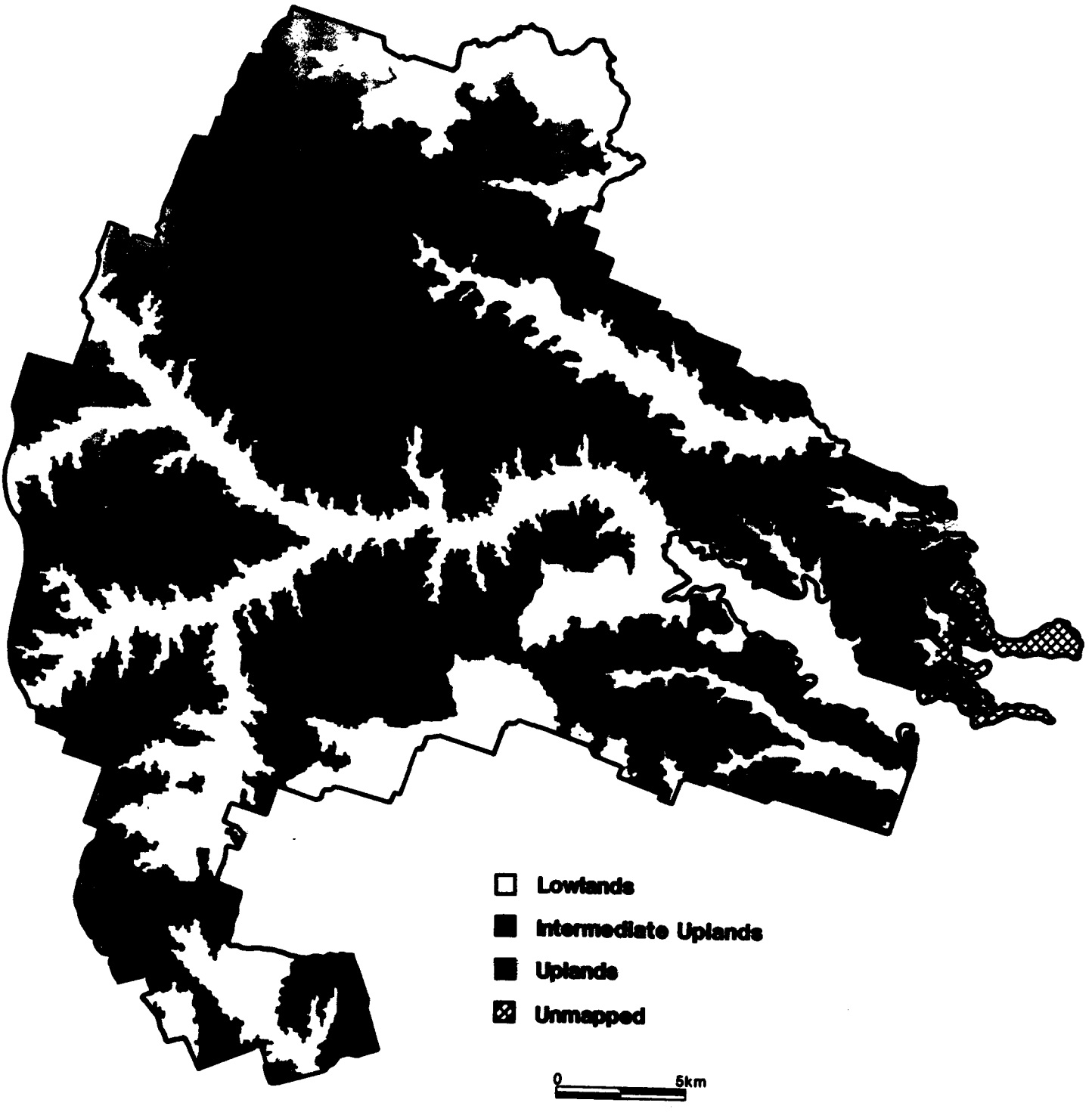

Figure 3. Environmental Zones Present at Fort Hood as Defined by Briuer (1983).

The Comanche Peak formation consists of a chalky-limey facies in generally massive beds. Much jointing and flaking is apparent, which gives the limestone a fractured appearance. The Comanche Peak formation forms steep slopes, in contrast to the Walnut (which forms valleys) and the Edwards (which forms massive bluffs) formations: it forms numerous round-topped buttes and outliers where the Edwards cap is eroded away.

Overlying the Comanche Peak formation is the Edwards formation. The Edwards formation forms a large upland area deeply cut into the soft Walnut clay in the valleys and streams flowing downhill. These Walnut valley interstream divides, buttes (outliers), and the west-fronting cuesta face of the Edwards/Comanche Peak scarp compose the Lampasas cutplain.

The Edwards formation contains several units which are generally lumped together; these include the undivided Kiamichi clay and Denton clay, Fort Worth limestone, and Duck Creek limestone. This group is informally referred to as the Edwards limestone. Also present in the Fort Hood region is a significant amount of Quaternary alluvium and gravel, generally restricted to the major drainages.

With the Paluxy sand formation the only possible exception, the geological formations discussed above are rich in lithic resources for possible prehistoric exploitation. The Edwards caprock is commonly recognized as an important lithic procurement area (Gerstle et al. 1978:25; Skinner et al. 1984:6-30); however, some feel that this may have been overstated in view of prehistoric lithic procurement potential in all of Fort Hood's environmental zones (Briuer in Carlson et al. 1988:9).

Elevations at Fort Hood vary from 1,230 feet (374.9 m) to 590 feet (179.8 m) above sea level, although most of the installation is below 850 feet (259.1 m) (United States Department of the Army 1979:5-8) (Figures 4-6). The lowest elevations are found in the eastern portion of the installation in the Lake Belton area.

CLIMATE AND WATER RESOURCES

The Fort Hood region averages 84.5 cm of rain per year, which is barely in excess of water needed (Blair 1950:100), and borders both the moisture-rich lands to the east and the water-deficient area to the west. Three major Brazos River tributaries——the Leon River, Cowhouse Creek, and the Lampasas River——run through the northern, central, and southern areas, respectively, of the installation. Several aquifers, including the Edwards, are considered to have been important prehistorically (Briuer 1981:D-14). A further and more detailed discussion of climate and water resources can be found in previous reports, including Guderjan et al. (1980:8-12), Skinner et al. (1981:6-11), Skinner et al. (1984:2-1 to 2-4), Carlson et al. (1988), Roemer et al. (1985), United States Department of the Army (1979:5.3-5.4), and Espey, Huston and Associates, Inc. (1979).

FLORA AND FAUNA

Flora

The woody vegetation present on the Fort Hood Military Installation is closely related to that of the Eastern Edwards Plateau, as evidenced by the predominance of Ashe juniper (*Juniperus ashei*), live oak (*Quercus fusiformes*), Texas oak (*Q. texana*), cedar elm (*Ulmus crassifolia*), Texas ash (*Fraxinus texansis*), and Texas persimmon (*Diospyrus texana*). The two predominate species of the Cross Timbers region, post oak (*Quercus stellata*) and blackjack oak (*Q. marilandica*), are of minor importance on the installation.

Grasses present include the tallgrass prairie that is characteristic of higher rainfall areas of Blackland Prairie to the east, and mid- to shortgrass prairies, which are more important to the west. Frequent fires, traffic, and overgrazing have eliminated much of the perennial grass cover over a large percentage of the installation.

The dominant grasses found on the Fort Hood Military Installation are broomweeds (*Xanthocephalum texanum* and *X. dracunculoides*): short, bushy, yellow-flowered annual forbs that increase in response to overgrazing (Correll and Johnston, 1970).

Fire was found to be a very significant ecological factor in shaping the vegetational structure of the installation. Fire on the Fort Hood Military Installation originates mainly from live artillery fire in the 47.6-square-mile impact area. Other significant impacts on the vegetational structure are off-road military traffic and grazing by domestic cattle.

Fauna

The Fort Hood Military Installation is typical of the Edwards Plateau Biotic Zone as described by Blair (1950). The Edwards Plateau is in the Balconian Biotic Province. In addition, Fort Hood contains a variety of species from the Austroriparian, Tamaulipan, Chihuahuan, and Kansan Biotic Provinces.

Several major wildlife habitats exist in the Fort Hood region encompassing both aquatic and terrestrial habitats. For ease of discussion, they are divided into aquatic and terrestrial habitats. The terrestrial habitats are further divided into upland woodland, deciduous (riparian) woodland, grassland and other open areas, and urban areas.

The upland woodland predominates at Fort Hood. It consists of a scrub forest of mainly juniper and oak, and was discussed above. The fauna present include:

Southern prairie lizard (*Sceloporus undulatus consobrinus*)
Texas spiny lizard (*Sceloporus olivaceus*)
Broad-banded copperhead (*Agkistrodon contortrix laticinctus*)
Western diamondback rattlesnake (*Crotalus atrox*)
Texas patchnose snake (*Salvadora grahamiae lineata*)
Eastern blackneck garter snake (*Thamnophis marcianus marcianus*)
Gray fox (*Urocyon cinereoargenteus*)
Bobcat (*Lynx rufus*)
Eastern woodrat (*Neotoma floridana*)
Deer mouse (*Peromyscus maniculatus*)
White-tailed deer (*Odocoileus virginianus*)
Nine-banded armadillo (*Dasypus novemcinctus*)
Mourning dove (*Zenaidura macroura*)
Cardinal (*Richmondena cardinalis*)
Bewicks wren (*Thyromanes bewickii*)
Tufted titmouse (*Parus bicolor*)
Black-capped vireo (*Vireo atiloquus*)
Golden-cheeked warbler (*Dendroica chrysoparia*)
Rufous-crowned sparrow (*Aimophila ruficeps*)
Painted bunting (*Passerina ciris*)
Ladder-backed woodpecker (*Dendrocopos scalaris*)
Brown towhee (*Piplo fuscus*)

Deciduous (riparian) woodland is found primarily along stream bottoms, in canyons, and other mesic areas. The flora present include live oak, elm, and hackberries; this environment helps extend many Austroriparian species into the Fort Hood region. Species present include:

Gray treefrog (*Hyla versicolor* and *H. chrysoscelis*)
Four-lined skink (*Eumeces t. tetragrammus*)
Broad-banded copperhead (*Agkistrodon contortrix laticinctus*)
Virginia opossum (*Didelphis virginiana*
Raccoon (*Procyon lotor*)
White-tailed deer (*Odocoileus virginianus*)
Fox squirrel (*Sciurus niger*)
Deer mouse (*Peromyscus maniculatus*)
Turkey (*Meleagris gallapavo*)
Downy woodpecker (*Dendrocopus pubescens*)
Yellow-billed cuckoo (*Coccyzus americanus*)
White-eyed vireo (*Vireo griseus*)
Black-and-White warbler (*Mniotilta varia*)
Summer tanager (*Piranga rubra*)
Cardinal (*Richmondena cardinalis*)
Eastern wood pewee (*Contopus virens*)
Barred owl (*Strix varia*)
Screech owl (*Otus asio*)

Grasslands, rangelands, and other open areas where trees are few or absent is another environment present at Fort Hood. Species found here include:

Ornate box turtle (*Terrapene ornata*)
Texas horned lizard (*Phrynosoma cornutum*)
Spotted whiptail (*Cnemidophorus gularis*)
Western coachwhip (*Masticophis flagellum testaceus*)
Great plains narrowmouth toad (*Gastrophryne olivacea*)
Coyote (*Canis latrans*)
Fulvous harvest mouse (*Reithrodontomys fulvescens*)
Hispid cotton rat (*Sigmodon hispidus*)
Black-tailed jackrabbit (*Lepus californicus*)
Eastern cottontail (*Sylvilagus floridanus*)
Nine-banded armadillo (*Dasypus novemcinctus*)
Turkey vulture (*Cathartes aura*)
Bobwhite (*Colinus virginiana*)
Red-tailed hawk (*Buteo jamaicensis*)
American kestrel (*Falco sparverius*)
Mourning dove (*Zenaidura macroura*)
Common nighthawk (*Chordeiles minor*)
Scissor-tailed flycatcher (*Muscivora forfic*)
Mockingbird (*Mimus polyglottus*)
Loggerhead shrike (*Lanius ludovicianus*)
Eastern meadowlark (*Sturnella magna*)
Lark sparrow (*Chondenstes grammacus*)
Field sparrow (*Spizella pusilla*)

Urban areas are the last terrestrial environments to be discussed. These areas include North Fort Hood, West Fort Hood, and the Main Cantonment Area. Species diversity in these locations is low; however, the number of individuals is high.

The aquatic environment at Fort Hood includes streams, springs, ponds, reservoirs, and other water environments. They include Belton Lake, Leon River, Cowhouse Creek, other streams and tributaries, and numerous ponds and springs. The streams are generally intermittent and seasonal; however, some form pools when not actually flowing. The ponds, streams, and other aquatic habitats are important to resident wildlife and also as a source of moisture for species in surrounding habitats. Species present include:

Red-eared turtle (*Trachemys scripta elegans*)
Diamondback water snake (*Nerodia rhombifera*)
Blotched water snake (*Nerodia erythrogaster transversa*)
Redstripe ribbon snake (*Thamnophis proximus rubrilineatus*)
Red-spotted toad (*Bufo punctatus*)
Eastern green toad (*Bufo debilis debilis*)
Spotted chorus frog (*Pseudacris clarki*)
Cricket frog (*Acris crepitans*)
Bullfrog (*Rana catesbeiana*)
Plains leopard frog (*Rana blairi*)
Rio Grande leopard frog (*Rana berlandieri*)
Raccoon (*Procyon lotor*)
Nutria (*Myocastor coypus*)
Beaver (*Castor canadensis*)
Pied-billed grebe (*Podilymbus podiceps*)
Great blue heron (*Ardea herodias*)
Great egret (*Casmerodius albus*)
Green-winged teal (*Anas carolinensis*)
Blue-winged teal (*Anas discors*)
Spotted sandpiper (*Scutitis macularia*)
Belted kingfisher (*Megaceryle alcyon*)
American widgeon (*Mareca americana*)
Lesser scaup (*Aythya affinis*)
Northern shoveler (*Anas clypeata*)

CULTURAL BACKGROUND

David L. Carlson

PREHISTORIC SETTING

The prehistoric cultural background for Fort Hood has been previously summarized in Guderjan et al. (1980), Skinner et al. (1981), Skinner et al. (1984), and Thomas (1978). Roemer et al. (1985) provided an update based on Prewitt (1981) (Table 1). Figure 4 correlates Nordt's (1992) geomorphic studies of the post with Dillehay's (1974) Bison Absence/Presence periods with the chronology shown here.

Table 1. Central Texas Prehistoric Chronology (after Prewitt [1981, 1985]).

Period	Years Before Present	Date
Paleoindian	12,500-8500	10,550-6550 B.C.
Early Archaic Circleville San Geronimo Jarrell	8500-5100	6550-3050 B.C.
Middle Archaic Oakalla Clear Fork Marshall Ford Round Rock	5100-2600	3050-650 B.C.
Late Archaic San Marcos Uvalde	2600-1800	650 B.C.-A.D. 200
Terminal Archaic Twin Sisters Driftwood	1800-1250	A.D. 200-700
Austin Phase	1250-650	A.D. 700-1300
Toyah Phase	650-200	A.D. 1300-1700

HISTORIC SETTING

The history of Bell and Coryell counties has previously been addressed by S. Carlson in Carlson et al. (1986) and Roemer et al. (1985) and is summarized below in Table 2.

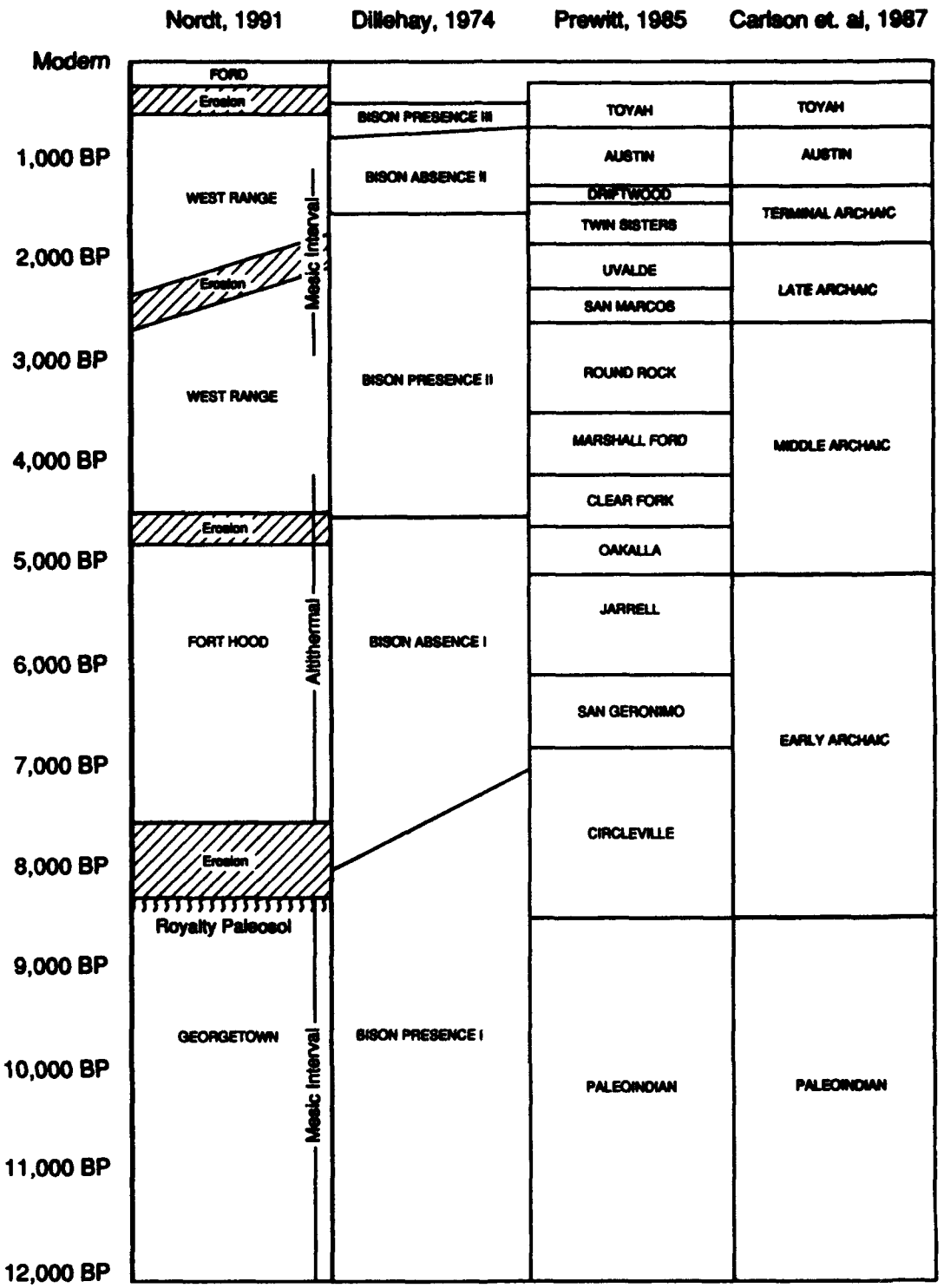

Figure 4. Correlations between Nordt (1992) and previous chronologies of Dillehay (1974) and Prewitt (1985).

Table 2. Summary of Bell County and Coryell County History (from Anonymous [1893], Newcomb [1961], Scott [1965], and Tyler [1936]).

1687	Henri Joutel recorded Tonkawa and Mayeye Indians in Central Texas.
1698	Missions were established in northeast Mexico for the Ervipiame.
1801	Phillip Nolan went on hunting expedition in Brazos Falls region.
1825	Robert Leftwich granted *empresario* contract by Mexico.
1830	Leftwich's contract passed to Sterling Robertson; Hamlet of Tenoxtitlan became first settlement in Robertson's Colony.
1835	Nashville-on-the-Brazos founded; James Coryell given a headright grant in the Nashville Colony in present-day Coryell County.
1836	Bell County residents fled eastward in "Runaway Scrape"; Milam County created out of the Milam Land District; Coryell County was later created out of Milam County.
1841	Governor Sam Houston pacified Indian problems for settlers in Bell County.
1849	Fort Gates established as last garrison along the frontier line from Fort Duncan, near Eagle's Pass, to Coffee's Station on Red River.
1850	Bell County officially organized; "Nolandsville" (renamed "Belton" in 1852) designated as county seat.
1852	Fort Gates was abandoned.
1853	Fort Gates was temporarily used as a quartermaster depot.
1854	Coryell County created; Gatesville later designated county seat.
1859	Belton (pop. 300) the only town of significance in Bell County; Governor Houston gives direct aid to settlers to repulse Indians; First cattle drive out of Coryell County to Shreveport, Louisiana.
1866	Cattle business developed in Texas and trails to northern markets passed through Bell County.
1870s	Wends settle The Grove.
1880	Gulf, Colorado and Santa Fe railroad passed through Bell County.
1882	Missouri, Kansas, and Texas railway passed through Temple; Missouri Pacific ("Katy") branch passed through Belton; Texas and St. Louis Railway Company completed tracks to Gatesville; Gulf, Colorado, and Santa Fe Railway Company reached southwestern Coryell County from Galveston.
1890s	Wends settle Copperas Cove; Cotton and wheat prices declined as the availability of manufactured goods increased.
1893	Panic began and lasted until 1899.
1904	Boll weevil reached Bell County and destroyed crops.
1907	Stephenville North and South Texas Railway Company laid tracks from Stephenville to Hamilton.
1911	Stephenville North and South Texas Railway Company extended lines to both Comanche and Gatesville.
1913	Bond issue passed in Bell County for construction of better roads.
1914	Farm prices dropped with onset of World War I followed by a war-inflated boom.
1920	Period of deflation in Bell County.
1923	Federal aid for highway construction granted to Coryell County.
1930	Community Natural Gas Company provided service for 500 customers.
1935	Community Public Service provided electricity for 783 customers.
1936	Rural Electrical Association available in Bartlett region of Bell County.
1942	Camp Hood activated as a tank destroyer training center.
1951	Camp Hood renamed Fort Hood.

PREVIOUS RESEARCH AND RESEARCH DESIGN

David L. Carlson and John E. Dockall

PREHISTORIC SITES

Prehistoric cultural evidence in Central Texas has undergone considerable formal study for over 50 years. The bulk of previous archaeological work at or near Fort Hood is discussed by Guderjan et al. (1980:13-47). This work includes a brief history of investigations in the region and a culture history description that identifies additional studies. Skinner et al. (1981:12-17) also reviews Central Texas investigations. The Texas Historical Commission (Simons 1981, 1983) provides a useful compilation of reports concerning Texas archaeology to circa 1980. Roemer et al. (1985) and Carlson et al. (1986) contain summaries of previous archaeological research which is relevant to the Fort Hood area. Carlson et al. (1987) contains research on typological studies. Koch et al. (1988) reports on impact recording. Carlson et al. (1988) and Koch and Mueller-Wille (1989a and 1989b) contain research on site function and settlement studies. Ensor (1991) summarizes the typological studies carried out at Fort Hood since 1983 and compares the Fort Hood projectile point assemblage with north central Texas.

HISTORIC SITES

The literature for 13 counties encompassing the Fort Hood area and lying within the Central Texas Prairies was examined for previously known historic sites. These counties extended from the Colorado River to the Brazos River and slightly north and south of the Fort Hood area. Most of the historic sites research in the vicinity of Fort Hood has been cited in current indices of Texas archaeology (Simons 1981, 1983) with the exception of recent studies at Fort Hood (D. Carlson et al. 1983; S. Carlson 1984a, 1984b; Carlson et al. 1988; Guderjan et al. 1980; Jackson 1982a, 1982b, 1982c; Prewitt et al. 1983; Roemer et al. 1985; Skinner et al. 1981, 1984). No reports of investigations could be found for Bell, Bosque, Burnet, Coryell, Falls, Hamilton, Lampasas, or Mills counties. For the remaining five counties, (Hill, McLennan, Milam, Travis, and Williamson), most of the studies were limited descriptive survey reports dating from the 1970s and offered little in the way of understanding historic site settlement in Central Texas.

RESEARCH DESIGN

Research conducted for this survey report consists of two unrelated studies. The first is an analysis of a lithic reduction area recorded and collected from site 41CV1540 during the survey. The analysis attempts to demonstrate the kinds of questions regarding lithic technology that can be answered using carefully controlled surface collections.

A discussion on recovered debitage is new to this series of survey reports from Fort Hood. The analysis of debitage recovered from 41CV1540 provides information concerning biface manufacture in general as well as the stages of biface manufacture. Hypotheses concerning procurement strategies and different reduction techniques for different chert types are also presented.

The second study is an initial effort at creating a set of predictive models for Fort Hood. Predictive modelling is an area of archaeological research that has received increased attention since 1970 (Kohler 1988; Kohler and Parker 1986; Kvamme 1988b; Kvamme and Kohler 1988).

Thomas (1988) summarizes the results of 22 different projects to illustrate the variety of approaches which have been taken. The principal drawback to the earliest studies was the difficulty in obtaining data to describe each site location (Kvamme, 1988a). Generally these data were obtained during the survey and efforts were made, at least in the southwest (Gumerman 1971), to systematize site recording so that surveys from several nearby areas could be analyzed together. Sample sizes are often quite small and the first efforts did little more than develop generalizations about site locations from survey data. The main barrier to more sophisticated studies was the difficulty in documenting the overall characteristics of the area being surveyed. It is of little interest to know that all sites are within 500 m of water if there are few places in the survey area that are more than 500 m from water. By the 1980s, researchers such as Parker (1985) and Kvamme (1985) were making direct comparisons between site locations and the overall region in which the sites were found. For small areas, the region could be gridded off and the characteristics of each grid could be determined from maps. For larger areas, randomly selected places that did not contain sites could be chosen and used as a control (non-sites). The development of geographic information systems (GIS) allows either or both approaches to be used on large areas. Fort Hood is larger and has more sites than any area that has been used for any previous predictive model. Prehistoric site densities are high on the post since the raw material for tool production, chert, is abundantly available. In addition, most of the post has high surface visibility and an upland setting which is erosional rather than depositional in its character. Fort Hood is not unique; much of central Texas has these characteristics. High site densities in this area are a reflection of site visibility, not population density.

Since most of the post has already been surveyed, it may seem unnecessary to develop predictive models. The predictive models developed in this report represent a preliminary analysis. More detailed and more accurate models are possible and desirable. Predictive modeling at Fort Hood is important for eight reasons:

1. The models can be used to estimate what sites have been destroyed or buried in the cantonment areas.

2. The models can be used to estimate what sites may be present in the permanently dudded zones and the live firing ranges which have not been surveyed and may never be surveyed. Construction plans for the live firing ranges will benefit from predictive models which can anticipate the locations of significant sites.

3. The models can be used to evaluate the quality of the various surveys conducted on the post. The predictive models might indicate that portions of the post have not been adequately surveyed. Earlier surveys were conducted with less cumulative knowledge about site locations and types on the post. The degree to which this knowledge might lead to under-representation of sites can be assessed.

4. The models give us some information about what features of the landscape allow us to predict that a site may be present. This is not the same as identifying the criteria important to historic and prehistoric inhabitants, but it is a step in that direction.

5. While the specific predictive models developed at Fort Hood will be useful only at Fort Hood, the techniques and methods of generating the models will be of general applicability to other military installations. This information can be particularly important at the initial stages of developing a geographic information database for a particular post.

6. The predictive models can facilitate significance determinations for sites on the post. Sites which are "not supposed to be there" may take on greater significance if their locational uniqueness can be related to other features of the site. Likewise, a number of sites that are generally similar and are located similarly can be treated as a group in significance determinations.

7. One of the difficulties in managing the prehistoric sites at Fort Hood is the enormous size of many sites, particularly lithic procurement areas. The predictive model may help to subdivide large sites or point to an internal structure within the sites that was not apparent during the initial recording.

8. The models developed at Fort Hood should provide us with some useful information about central Texas sites generally which will further our knowledge of the past and facilitate surveys and investigations in the vicinity of Fort Hood.

SURVEY PROCEDURES AND RESULTS

Ben W. Olive

SURVEY PROCEDURES

The procedures for cultural resources surveys at Fort Hood are specified in detail in a *Standard Operating Procedures* (SOP) manual (Briuer and Thomas 1986), which is revised prior to each survey and distributed to all survey crew members. Surveys are conducted within 1-km UTM grid squares by six persons, spaced 30 m apart, who walk over the quadrant. Each surveyor carries a topographic map or aerial photograph of the quadrant and marks the locations of all artifacts, chert outcrops, fencelines and historic features. Prehistoric sites are defined whenever two or more stone tools (e.g., dart or arrow points, preforms, scrapers, and cores) are found within 5 m of one another. Historic sites are defined whenever three or more classes of artifacts (e.g., glass, metal, and ceramics) are observed within a 5-m radius. Historic sites are also defined for isolated features such as cisterns, wells, or corrals.

Once a quadrant has been covered by the six surveyors, tentative site boundaries are drawn for the sites located using the information on the quadrant maps. Teams of two persons are then sent to each site to draw site maps, make artifact collections, and complete standard Fort Hood site forms.

Site recording consists of preparing a site map, completing a form, and photographing the site. On historic sites, a collection of diagnostic glass, ceramic, and metal items is made to facilitate estimates of the age of each site. On prehistoric sites, temporally diagnostic artifacts are collected, but other artifacts are left in place. In addition, on prehistoric sites, a transect 1 m wide, measured into 5-m-long sections, is recorded across the long axis of the site. For each 1x5-m section, a count of the debitage, tools and ecofacts is made. In addition, the quantity of burned rock is estimated and the ground visibility is recorded. Any distinctive surface damage, from a variety of impact agents described in the SOP, is also recorded. In addition, the crew deviated from the SOP during this survey by optionally shovel testing sites where time permitted and where the crew chief believed that buried deposits were possible.

Site boundaries are defined on the basis of the artifact scatter and the topography of the site. Site definitions tend to include a fairly large area within which are several spots containing a concentration of artifacts or debitage. This is particularly true of areas that have chert outcrops present at the surface and thousands of square meters contain chert nodules and flakes. Since it is not always readily apparent which flakes are natural and which are the result of human activity, the entire chert field is often designated as a site. These "sites" obviously represent a complex situation wherein human use of the chert field has been repeated over long periods of time. Activity areas within these "sites" only will be isolated through detailed surface mapping of these areas. Identifying the entire chert field as a site may be considered to be an interim strategy to provide the entire area with some protection until a more detailed survey can be conducted. Obviously, such a strategy is only possible when the surveyed sites are not imminently threatened by ground-disturbing activity, thus providing the opportunity to use the data as the basis for a site protection program.

While this approach to site boundaries makes sense from a cultural resources protection perspective, it makes the analysis of the data more complicated since nearly all of the sites represent multiple occupations. This is particularly true where a burned rock mound, a rockshelter and a blufftop lithic scatter are all recorded as parts of a single site. Clearly, any

conclusions derived must be sensitive to the multicomponent nature of the sites recorded at the installation.

SURVEY RESULTS

Undertaken from January to April, 1990, the Delivery Order Number 10 survey encompassed 26 km² in 42 quadrants (Table 3). Approximately 2139 person-hours were expended by the six-person crew. Thirty-five shovel tests were excavated in 18 prehistoric sites. A total of 77 sites were recorded, including 54 prehistoric and 23 historic sites. Detailed site descriptions are presented in Appendices I and V for prehistoric and historic sites, respectively. Appendix II discusses the prehistoric material culture from the survey. Appendix VI contains a discussion of the types of historic sites located at Fort Hood, in addition to the myriad features and artifacts typically present. The computer coding formats for both prehistoric and historic sites are provided in Appendices III and VII, respectively. General data on the environment, artifacts, and other cultural data are presented in Appendices IV and VIII.

Table 3. Survey Quadrants for Delivery Order 10.

Easting	Northing	Easting	Northing	Easting	Northing
11	36	26	64	28	67
21	71	26	65	29	61
21	72	26	68	29	62
22	71	26	69	30	61
22	72	26	70	31	60
23	71	26	72	32	58
23	72	27	63	32	59
24	71	27	66	32	60
24	72	27	67	33	58
25	62	27	68	33	59
25	67	27	69	34	58
25	69	27	70	34	59
25	71	27	71	35	58
26	62	28	62	36	56

Note: All quadrants measure 1 km² and are designated by their southwest corners using UTM coordinates.

In the surveyed areas, prehistoric site density was 2.07 sites per square kilometer while historic site density was 1.13 per square kilometer. The historic site density is on the low end compared to earlier survey results from the northern, western and southeastern areas, while the density of prehistoric sites appears to be above average (Delivery Order Numbers 1, 3, 4, 5, and 7 produced densities 2.5, 1.2, 1.62, 1.65, and 1.13 historic sites per square kilometer respectively,

and 1.6, 1.2, 1.4, .69, and 1.22 prehistoric sites per square kilometer respectively [Carlson et al. 1987; Carlson et al. 1988; Koch et al. 1988; Koch and Mueller-Wille 1989a, 1989b]).

An analysis of the location of sites in reference to environmental zones indicated that in the present survey area, most sites are in the intermediate upland. Aboriginal sites were situated in the upland (9, or 16%), lowland (22, or 41%), and intermediate upland (23, or 43%) zones (Table 4). By comparison, none of the historic sites were located in the upland zone, while 6 (26%) were situated in the lowland, and 17 (74%) in the intermediate upland zone (Table 5).

Table 4. Distribution of Prehistoric Sites by Environmental Zone.

Environmental Zone	Total Sites	Percent
Lowland	22	40.74
Intermediate Upland	23	42.59
Upland	9	16.67
Total	54	100.00

Table 5. Distribution of Historic Sites by Environmental Zone.

Environmental Zone	Total Sites	Percent
Lowland	6	26.09
Intermediate Upland	17	73.91
Upland	0	0.00
Total	23	99.00

Prehistoric site size ranges from a rockshelter measuring 35 m^2 to a 120,000 m^2 lithic scatter and quarry site. The average aboriginal site size is approximately 13,841.46 m^2. Historic sites range in size from 16 m^2 sheep dip trough to a 14,500 m^2 cemetery. Average historic site size is about 3,345.35 m^2, considerably smaller than that of the prehistoric sites (Table 6).

Only 16 sites (30%) of the recorded prehistoric sites were datable from chronologically sensitive lithic artifacts. Detailed description of the chronologically sensitive artifacts is presented in Appendix II. As Table 7 indicates, the Paleoindian and the Toyah phase are unrepresented in the survey sample.

The range of occupation of the historic sites was derived using the minimum ending manufacture dates and the maximum beginning manufacture dates of the artifacts on each site, to provide the narrowest range of time during which the site had to have been occupied. Dateable artifacts were collected from only 5 sites (22%). As with previous surveys at Fort Hood, the historic sites range in date from the mid-nineteenth to the mid-twentieth century (Table 8).

Table 6. Sizes of Prehistoric and Historic Sites.

Size Class	Historic		Prehistoric	
	Count	%	Count	%
1 m^2 to 999 m^2	7	30	16	30
1,000 m^2 to 9,999 m^2	14	61	22	41
10,000 m^2 to 99,999 m^2	2	9	15	28
Over 100,000 m^2	0	0	1	1
Total Sites	23	100	54	100

Table 7. Prehistoric Chronological Components.

Period or Phase	Dates	Number of Components	Percent
Paleoindian	12,500-9,500 BP	0	0%
Paleoindian/Early Archaic	9,500-8,500 BP	2	7%
Early Archaic	8,500-5,000 BP	7	25%
Middle Archaic	5,000-2,600 BP	6	21%
Late Archaic	2,600-1,750 BP	4	15%
Terminal Archaic	1,750-1,250 BP	6	21%
Austin	1,250- 650 BP	3	11%
Toyah	650- 200 BP	0	0%
Total Components		28	100%

Table 8. Historic Chronological Components.

Period	Dates	Number of Components	Percent
I	1850-1879	3	37.5
II	1880-1929	4	50.0
III	1930-1953	1	12.5
IV	1954-Present	0	0.0
Total Components		8	100.0

Period I (1850-1879) accounts for 37.5% of the historic settlement for this very small sample. Period II (1880-1929) components account for half of historic settlement in the D.O. 10 survey at Fort Hood. Period III (1930-1953), accounts for only 12.5%.

Prehistoric sites were classified into the following types or categories (Bruier and Thomas 1986:35):

1. Middens
2. Burned Rock Scatters with Lithics
3. Lithic Scatter
4. Lithic Procurement Sites
5. Rockshelters
6. Other

The above types represent a wide variety of activities characteristic of prehistoric hunting and gathering people. Activities that occurred at these sites probably included, but are not necessarily limited to, procurement of lithic resources, stone tool manufacture, cooking, and burning activities associated with the preparation of plant and animal foods, and, possibly, heat treatment of lithic raw material for stone tool manufacture.

The variations in site size and in the density and diversity of surface artifacts, especially obvious stone tools, suggest important diversity in human behavior responsible for these residues. Larger sites with a greater quantity and diversity of artifacts suggest more generalized habitation centers, where a wide range of economic and social activities may have occurred.

Historic sites at Fort Hood were classified into the following types (Bruier and Thomas 1986:40-41):

1. Domestic Dwelling
2. Farm/Ranch Complex
3. Cemetery
4. Isolated Structures/Areas, e.g., bridges, dams, corrals, water control structures, dumps, etc.
5. Special Purpose Sites
6. Unknown

Of the above types, the farm/ranch complex is by far the most frequent. Isolated structures and areas are occasionally encountered, while cemeteries and domestic dwellings are relatively rare. The purpose of one site could not be identified. For more expanded discussions of Fort Hood historic resources, see Jackson (1982a, 1982b, 1982c), S. Carlson in Roemer et al. (1985), Carlson et al. (1987), Carlson et al. (1988), Koch et al. (1988), and Koch and Mueller-Wille (1989a, 1989b). In addition, an especially informative excavation report on a typical domestic dwelling site belonging to the extinct Okay community at Fort Hood has been completed (S. Carlson 1984a).

Basic data on each prehistoric site, including the environmental zone, elevation, drainage, area, site type, and chronological components, is presented in Table 9. Similar information is available for each historic site in Table 10.

Table 9. Prehistoric Sites Recorded in the Delivery Order 10 Survey.

TARL	FIELD	ENVIRONMENTAL ZONE	ELEVATION (FEET)	DRAINAGE	AREA (M)	TYPE	CHRONOLOGICAL COMPONENTS
41BL0967	5077	Intermediate Upland	0	Lampasas	5000	Burned Rock Scatter with Lithic	Middle Archaic
41CV0092	5056	Intermediate Upland	720	Leon	29200	Lithic Scatter/Lithic Quarry	Unknown
41CV0271	5054	Intermediate Upland	760	Leon	90900	Lithic Scatter	Unknown
41CV0579	5007	Lowland	700	Leon	700	Burned Rock Scatter with Lithics	Middle Archaic Terminal Archaic
41CV0580	5024	Intermediate Upland	710	Leon	1375	Other	Unknown
41CV0601	5021	Upland	745	Leon	16100	Lithic Scatter	Early Archaic Middle Archaic
41CV1519	5052	Intermediate Upland	765	Leon	16800	Lithic Scatter	Unknown
41CV1469	5001	Lowland	745	Leon	4900	Lithic Scatter	Unknown
41CV1471	5003	Lowland	735	Leon	75	Midden	Unknown
41CV1472	5004	Lowland	735	Leon	5800	Midden	Unknown
41CV1473	5005	Lowland	740	Leon	28400	Burned Rock Scatter with Lithics	Unknown
41CV1477	5010	Intermediate Upland	735	Leon	28400	Lithic Scatter	Late Archaic
41CV1478	5011	Lowland	705	Leon	1100	Burned Rock Scatter with Lithics	Unknown
41CV1479	5012	Lowland	700	Leon	500	Lithic Scatter	Unknown
41CV1480	5013	Lowland	700	Leon	300	Other	Unknown
41CV1482	5015	Lowland	700	Leon	550	Burned Rock Scatter w/Lithics/Other	Austin Phase
41CV1483	5016	Upland	740	Leon	1400	Lithic Scatter	Unknown
41CV1485	5018	Upland	725	Leon	13100	Lithic Scatter	Unknown
41CV1487	5020	Lowland	700	Leon	200	Other	Unknown
41CV1489	5022	Upland	725	Leon	2100	Lithic Scatter	Unknown
41CV1490	5023	Intermediate Upland	735	Leon	2300	Lithic Scatter	Unknown
41CV1492	5025	Lowland	710	Leon	800	Other	Unknown
41CV1493	5026	Intermediate Upland	730	Leon	3200	Lithic Scatter	Unknown
41CV1494	5027	Intermediate Upland	730	Leon	38000	Lithic Scatter	Middle Archaic
41CV1495	5028	Lowland	720	Leon	1700	Lithic Scatter	Unknown
41CV1496	5029	Intermediate Upland	720	Leon	6000	Lithic Scatter	Unknown
41CV1499	5032	Intermediate Upland	720	Leon	3100	Lithic Scatter	Unknown
41CV1501	5034	Intermediate Upland	700	Leon	6300	Lithic Scatter	Unknown
41CV1504	5037	Lowland	800	Leon	380	Lithic Scatter	Unknown
41CV1505	5038	Intermediate Upland	740	Leon	52000	Lithic Scatter/Other	Early Archaic Austin Phase
41CV1506	5039	Intermediate Upland	700	Leon	24000	Lithic Scatter	Early Archaic
41CV1507	5040	Intermediate Upland	775	Leon	88000	Burned Rock Scatter with Lithics	Early Archaic Middle Archaic
41CV1508	5041	Intermediate Upland	750	Leon	8100	Lithic Scatter	Unknown
41CV1509	5042	Lowland	693	Leon	450	Other	Unknown
41CV1510	5043	Lowland	695	Leon	24400	Lithic Scatter	Unknown
41CV1511	5044	Lowland	690	Leon	100	Other	Unknown
41CV1512	5045	Lowland	0	Leon	250	Midden	Unknown
41CV1515	5048	Lowland	690	Leon	124	Midden	Unknown
41CV1516	5049	Lowland	690	Leon	1200	Midden	Unknown
41CV1517	5050	Lowland	690	Leon	1700	Midden	Unknown
41CV1522	5055	Intermediate Upland	725	Leon	38800	Lithic Scatter/Lithic Quarry	Unknown
41CV1524	5057	Intermediate Upland	720	Leon	29600	Lithic Scatter/Lithic Quarry	Unknown
41CV1526	5059	Lowland	690	Leon	875	Burned Rock Scatter with Lithics	Unknown
41CV1527	5060	Lowland	690	Leon	625	Burned Rock Scatter with Lithics	Unknown
41CV1528	5061	Upland	880	Leon	4100	Lithic Scatter	Early Archaic
41CV1530	5063	Intermediate Upland	900	Leon	5200	Lithic Scatter	Terminal Archaic
41CV1531	5064	Upland	890	Leon	35	Rockshelter	Unknown
41CV1533	5066	Upland	810	Cowhouse Creek	10800	Lithic Scatter/Lithic Quarry	Early Archaic Terminal Archaic

Table 9. Continued

TARL	FIELD	ENVIRONMENTAL ZONE	ELEVATION (FEET)	DRAINAGE	AREA (M)	TYPE	CHRONOLOGICAL COMPONENTS
41CV1536	5069	Intermediate Upland	880	Owl Creek	120000	Lithic Scatter/Lithic Quarry	Early Archaic Middle Archaic Late Archaic
41CV1539	5072	Upland	790	Cowhouse Creek	2600	Lithic Scatter/Lithic Quarry	Unknown
41CV1540	5073	Intermediate Upland	735	Owl Creek	8800	Lithic Scatter	Austin Phase
41CV1541	5074	Intermediate Upland	715	Owl Creek	7400	Lithic Quarry	Unknown
41CV1542	5075	Intermediate Upland	715	Owl Creek	9300	Lithic Quarry	Unknown
41CV1543	5076	Upland	880	Owl Creek	300	Lithic Scatter	Unknown

Table 10. Historic Sites Recorded in the Delivery Order 10 Survey.

TARL	FIELD	ENVIRONMENTAL	ELEVATION (feet)	DRAINAGE	AREA (m)	SITE TYPE	EST. OCCUPATION BEGIN	EST. OCCUPATION END
41CV0574	5065	Intermediate Upland	925	Owl Creek	3400	Farm/Ranch		
41CV0600	5009	Intermediate Upland	735	Leon River	14500	Cemetery	1870	1900
41CV0617	5051	Intermediate Upland	800	Leon River	11800	Farm/Ranch		
41CV0953	5070	Intermediate Upland	905	Owl Creek	6500	Farm/Ranch		
41CV1470	5002	Intermediate Upland	775	Leon River	475	Farm/Ranch	1875	1930
41CV1474	5006	Lowland	740	Leon River	675	Unknown Historic		
41CV1476	5008	Lowland	725	Leon River	1625	Domestic Dwelling		
41CV1481	5014	Lowland	710	Leon River	275	Bridge		
41CV1484	5017	Intermediate Upland	730	Leon River	1950	Farm/Ranch		
41CV1486	5019	Intermediate Upland	720	Leon River	3775	Farm/Ranch	1920	1930
41CV1497	5030	Lowland	700	Leon River	2600	Bridge		
41CV1498	5031	Intermediate Upland	734	Leon River	1200	Farm/Ranch		
41CV1500	5033	Intermediate Upland	720	Leon River	2600	Farm/Ranch		
41CV1502	5035	Intermediate Upland	760	Leon River	16	Sheep Dip		
41CV1503	5036	Lowland	790	Leon River	52	Special Function	1930	1940
41CV1513	5046	Intermediate Upland	780	Leon River	1900	Farm/Ranch	1850	1850
41CV1514	5047	Lowland	700	Leon River	4700	Farm/Ranch		
41CV1520	5053	Intermediate Upland	780	Leon River	3600	Farm/Ranch		
41CV1525	5058	Intermediate Upland	720	Leon River	2000	Farm/Ranch	1929	1929
41CV1532	5067	Intermediate Upland	850	Owl Creek	2800	Farm/Ranch		
41CV1534	5068	Intermediate Upland	900	Owl Creek	8800	Farm/Ranch		
41CV1535	5071	Intermediate Upland	855	Owl Creek	800	Farm/Ranch		
41CV1538	5062	Intermediate Upland	750	Leon River	900	Cattle Water Tank		

Shovel Testing Results

Lithic debitage and burned rock were encountered in several of the shovel tests that were conducted as part of the survey. Table 11 summarizes all debitage and burned rock that was encountered in shovel test excavation. The presence of lithic debitage and burned rock indicate that these sites may have intact or relatively intact subsurface cultural deposits and may warrant further testing. The debitage recovered from the shovel tests is primarily small flaking debris, probably from the manufacture and maintenance of various chert tool types. All recovered burned rock is weathered limestone.

Table 11. Shovel Testing Data.

41CV0601

Shovel Test	Level	Debitage	Burned Rock
1	1	11	0
2	1	13	5
	2	7	0
	3	1	0

41CV1472

Shovel Test	Level	Debitage	Burned Rock
1	1	2	0
	2	7	2
	3	2	0

41CV1496

Shovel Test	Level	Debitage	Burned Rock
1	2	1	0
2	2	2	0
	3	2	0

41CV1516

Shovel Test	Level	Debitage	Burned Rock
1	2	1	0

41CV1517

Shovel Test	Level	Debitage	Burned Rock
1	3	7	0
	4	6	0
	5	8	0
	6	0	1
2	1	1	0
	3	0	1
	4	1	0
3	3	0	2

41CV1531

Shovel Test	Level	Debitage	Burned Rock
1	1	1	0
	2	3	0
	3	1	0

41CV1540

Shovel Test	Level	Debitage	Burned Rock
1	1	8	0
	2	2	0
2	1	23	0
	2	1	0

41CV1543

Shovel Test	Level	Debitage	Burned Rock
1	1	9	0

RESEARCH RESULTS

David L. Carlson and John E. Dockall

ANALYSIS OF KNAPPING STATION C (41CV1540)

During the survey of 41CV1540, five discrete concentrations of lithic debris were encountered. The concentrated nature of these debris areas indicated that they could be largely intact. As an adjunct to the site survey, a one-meter radius collection was made of one of the concentrations, which had been designated Knapping Station C (Figure 5). A 100-percent collection was performed for all observed surface material within this one-meter radius. Subsurface material was screened through 1/4-inch mesh (imposing a significant bias into the collected sample of debitage). The original diameter of Knapping Station C is not known.

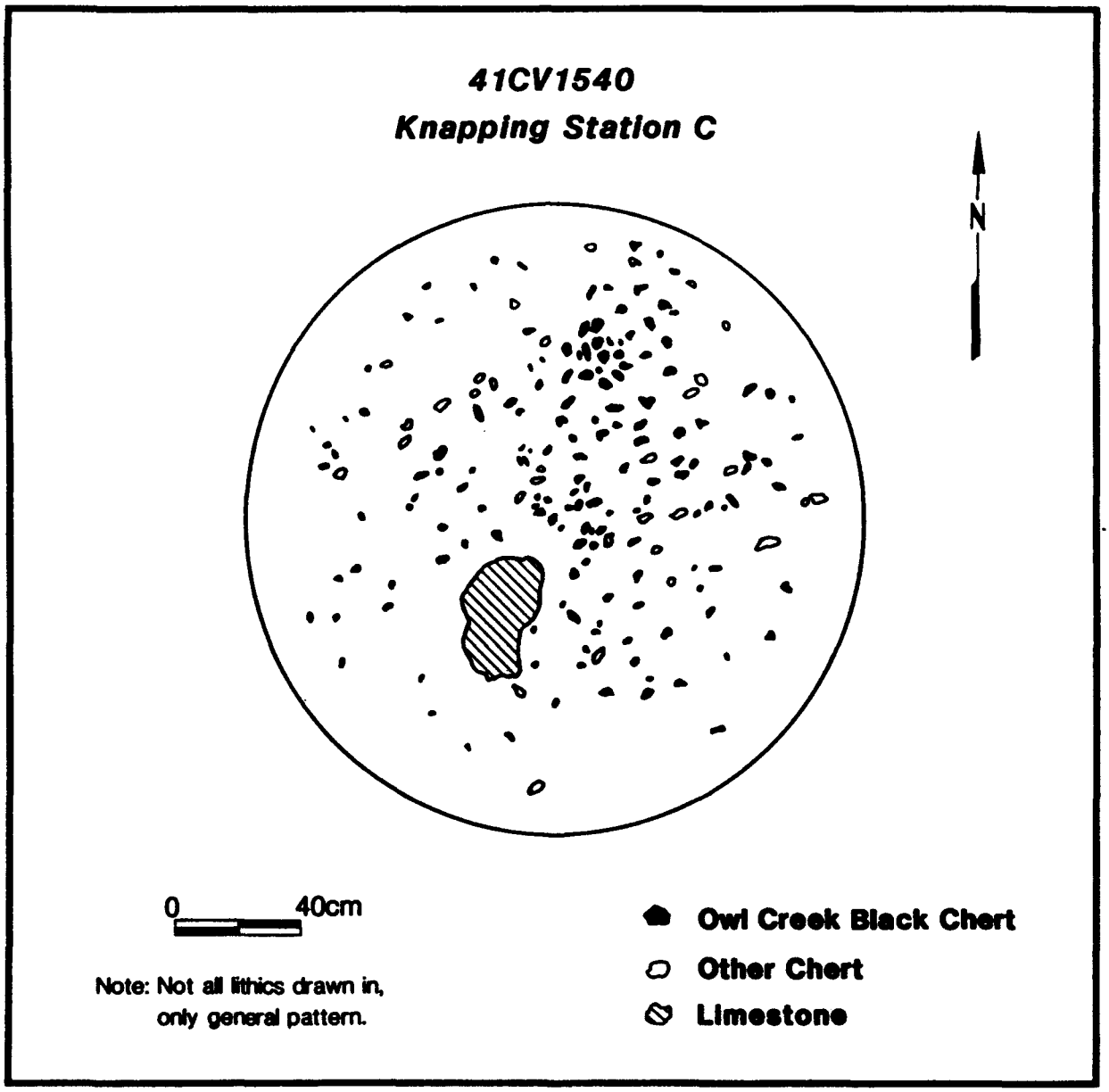

Figure 5. Diagram of one-meter radius debitage collection at Knapping Station C.

CONTENTS OF KNAPPING STATION C

There was a considerable amount of artifactual material upon and within the knapping area, in addition to the debitage. Table 12 summarizes the material collected. One angular piece of chalcedony (not tabulated) was also collected.

Table 12. Summary data of contents of Knapping Station C.

Category	Material	Total
Debitage	1	2615
Debitage	2	596
Scallorn	Unknown chert	1
Group 1 Biface	2	1
Group 2 Biface	1 (N = 4) 2 (N = 3) Unknown (N = 2)	9
Group 3 Biface	1	1
Uniface	Unknown chert	1
Core	2	1

The debitage collected from Knapping Station C consists of 2 distinct chert types. Both cherts are cryptocrystalline and exhibit excellent flaking characteristics. Material 1 is gray to black, some of it having a white patina. It compares very favorably to the chert variety found at Fort Hood called Owl Creek Black (Dickens 1993). Material 2 is tan in color, and compares favorably with Dickens' (1993) Fort Hood chert variety Gray/Brown/Green Mottled. It is possible, however, that Material 2 represents Heiner Lake Tan chert (Dickens 1993). Some of the debitage of each material type was burned. It is also possible that some of the burned material represents different chert types. The range of burning within the two materials is similar. Minor burning is noted by a color/lustre change on the surface of the piece or on a broken surface. More pronounced burning was noted by the presence of heat fractures, crazing, and potlid scars.

Methods of Analysis

The basic assumption underlying this debitage analysis is that the manufacture of flaked stone tools is a reductive process (e.g. Collins 1975). Past and recent lithic research has demonstrated that the manufacture of stone tools can be perceived as a series of stages within this reductive sequence (Collins 1975; Holmes 1894; Muto 1971).

There are discrete traits of debitage that are specific to particular techniques of reduction. These traits provide empirical evidence for the range of formal manufacturing methods within an assemblage. The framework of analysis should be sensitive to variation within the debitage assemblage in an effort to detect technological differences associated with different stages of manufacture.

The method of debitage analysis for this study was size-grading. Ahler (1975) defined the theory behind the technique of mass-analysis. The premise of mass-analysis is that the size distribution of debitage within an assemblage can reflect stages of reduction in stone tool manufacture (Ahler 1975, 1989). The size of waste flakes from the manufacture of bifacially flaked artifacts will decrease systematically from the initial stages of manufacture to the final finishing stages (Henry et al. 1976; Stahle and Dunn 1982; Newcomer 1971). Larger flake size categories should represent the initial and primary stages of reduction while decreasing size grades represent secondary and final stages of reduction.

The debitage from Knapping Station C at 41CV1540 was passed through a series of five nested sieve screens. Six grades were recognized (Table 13), the sixth grade represented by what fell through the smallest screen size. All debitage was allowed to pass freely through the nested screens instead of being shaken through. This negated the amount of damage that accrued along the flake edges. In some cases it was necessary to gently hand manipulate some of the flakes through the screens if they became lodged. Each grade was assigned a value to represent its diagonal dimension (Table 13). These size grades are similar to those used by other researchers (Ahler 1975, 1989; Behm 1983; Dockall 1990; Ensor 1987a; Mueller-Wille et al. 1989; Stahle and Dunn 1982).

Table 13. Screen mesh sizes used during debitage analysis.

Size Grade	Screen Mesh Size (diagonal dimension)	
1	37 mm.	1 in.
2	26 mm.	3/4 in.
3	17 mm.	1/2 in.
4	13 mm.	3/8 in.
5	7 mm.	1/4 in.
6	<7 mm.	<1/4 in.

For this analysis, it was not necessary to separate complete from fragmentary flakes. Stahle and Dunn (1982:86) noted that (1) the maximum size of both flakes and flake fragments is defined by the reduction process and the stage of reduction, (2) flakes tend to break randomly in all stages of reduction, and (3) the inclusion of all flakes and fragments is less time consuming than the task of sorting all complete flakes.

DEBITAGE VARIABLES

Observations on a series of variables were coded during the debitage analysis. These variables include (1) raw material type, (2) degree of cortex on the dorsal surface, (3) total number of flakes within each size grade, (4) total number of burned flakes within each size grade, and (5) the total weight of all flakes in each size grade. Discussion of the technological importance of these variables is presented below.

Raw Material Type

All lithic debris within the knapping station was sorted according to raw material type. Since all of the material was chert, another sort was performed based upon chert type as indicated by color (see previous discussion of material types). By sorting debitage in this manner, it should be possible to detect differences in debitage character that may be related to material type and varying reduction strategies applied to particular raw materials.

Degree of Dorsal Cortex

The degree of cortex on the dorsal surface with regard to size grade was another variable. The basic assumption is that raw material, in its natural state, is entirely covered with cortex. As the reduction process proceeds, there is a decrease in the amount of cortex. According to Ahler (1989:90), the amount of dorsal cortex on a flake or fragment should vary with size grade and stage of reduction. Early stages of reduction should typically have greater amounts of cortex represented among the debitage than later or terminal reduction stages. For this study, numerical values were assigned to represent the degree of cortex present on the dorsal surface: 1=total; 2=partial; 3=none.

Total Number of Flakes

The total number of flakes per size grade is utilized as a measure of reduction intensity and the degree of staging represented by the debitage sample. When this variable is used in conjunction with degree of cortex and total flake weight in each size grade, an indication of the importance (representation in the assemblage) of certain reduction techniques is indicated.

Burning

The presence or absence of burning or thermal alteration was also noted during the debitage analysis. This evidence may indicate the intentional heating of lithic material to improve flaking quality. It may also indicate the unintentional thermal alteration of lithic material. There is a qualitative distinction that is made between heat alteration and burning. Heat alteration includes color changes, luster changes, and noticeable differences in fracture properties. Evidence of burning includes the presence of interior and surface crazing, potlids, and thermal spall fractures. These two types of thermal changes can be associated to varying degrees, but the frequency of these types should be indicative of whether heat exposure was deliberate or incidental. If deliberate heat alteration is present in an assemblage, then the total number of flakes of that exhibit this trait serves as a measure of the importance of deliberate heat alteration as part of the reduction process for a certain material type.

Aggregate Flake Weight

The total weight of flakes in each size grade was also recorded. Flake weight is an indirect measure of flake thickness and shape. The shape and thickness of a flake is a response to the rate of loading during flake removal. For example, of flakes in the same size grade, hard hammer percussion flakes tend to be thicker and heavier than bifacial thinning flakes. There should be a detectable difference between flakes produced by various applied load rates, which should be reflected in the size grade data (Ahler 1989:91). Ahler (1989:91) distinguishes between marginal and non-marginal flaking. These terms apply to biface thinning and freehand core reduction/biface margin trimming and shaping respectively. The importance of recording weight data for each size grade lies in the fact that the average flake weight of a size grade serves as a measure of variation in flake shape that can be used as an indicator of variation in flaking technique.

DISCUSSION

Stone tool manufacture or core reduction produces many more small flakes and fragments than large ones (Ahler 1989:87; Amick 1985:137; Behm 1983:12; Henry et al. 1976). In sampling Knapping Station C, the use of 1/4-inch screening to sift all subsurface material imposed a bias toward larger flake sizes within the recovered sample. Although a few flakes were collected from Size Grade 6, the smallest grade, the expected high total of fragments from this grade was not recovered. Had a complete recovery of all small material been performed, there should have been more material in Grade 6 than any other grade. Because it was not possible to collect every tiny flake, the following analysis will refer to Grades 1 through 5 only. Table 14 illustrates the noticeable increase in flake abundance that corresponds with decreasing flake size.

Table 14. Statistics for material type and size grade for Knapping Station C.

TABLE OF MATERIAL BY GRADE

MATERIAL Frequency Expected Percent	GRADE 1	2	3	4	5	Total
1	4 3.6391 0.15	44 60.245 1.67	275 291.58 10.42	404 412.88 15.31	1392 1344.7 52.77	2119 80.33
2	8 2.3609 0.30	31 14.755 1.18	88 71.417 3.34	110 101.12 4.17	282 329.34 10.69	519 19.67
Total	12 0.45	75 2.84	363 13.76	514 19.48	1674 63.46	2638 100.00

STATISTICS FOR TABLE OF MATERIAL BY GRADE			
Statistic	DF	Value	Prob
Chi-Square	4	53.268	0.000
Phi Coefficient		0.142	
Contingency Coefficient		0.141	
Sample Size = 2638			

During analysis it was noted that the surface material did not differ appreciably from subsurface material. Consequently, the analysis focused on defining the character of the lithic scatter as a unit. There are significant differences between the size grades for both materials (Table 14). There is also a similarity between materials in the proportions of flakes within each size grade. This illustrates that similar reduction techniques were being applied to both materials.

The presence/absence and the degree of cortex per material was also analyzed (Table 15). Materials 1 and 2 both display a similar pattern for degree of cortex present. Primary and secondary cortex is present in virtually all size grades for both materials. Cortex abundance also decreases with a corresponding decrease in flake size. However, only 4.96% (N=105) of Material 1 has any cortex, while over 95% (N=2014) is completely cortex free. Material 2 has 10.41% (N=54) cortical debitage and 89.60% (N=465) cortex free. This information may be used to develop inferences regarding the reduction of these materials. Considering the sample size of each material type, Material 2 has more cortex than Material 1. It also has a greater proportion of flakes in Grades 1-3. This may indicate that Material 1 was reduced in a virtually cortex-free state

Table 15. Statistics for material type and cortex for Knapping Station C.

TABLE OF MATERIAL BY CORTEX

MATERIAL Frequency Expected Percent	CORTEX 1	2	3	Total
1	11 11.246 0.42	94 116.47 3.56	2014 1991.3 76.35	2119 80.33
2	3 2.7544 0.11	51 28.527 1.93	465 487.72 17.63	519 19.67
Total	14 0.53	145 5.50	2479 93.97	2638 100.00

STATISTICS FOR TABLE OF MATERIAL BY CORTEX			
Statistic	DF	Value	Prob
Chi-Square	2	23.384	0.000
Phi Coefficient		0.094	
Cramer's V		0.094	
Sample Size = 2638			

at the location of the knapping area. It may be that Material 1 was initially reduced elsewhere and brought to the present location for final finishing.

The average weight of flakes in each size grade (Figure 6) also indicates that there are basic similarities in the reduction trajectory of each material. Although the basic reduction trajectory of each material is similar, differences in average flake weight indicate that there were differences in the rate of loading during flake removal. Average flake weight is higher for Material 2. It is inferred that the reduction of Material 2 involved more hard hammer percussion and may represent earlier stages of biface core reduction than Material 1. Material 1 reflects primarily biface thinning where the load was applied directly to the edge of the piece. Material 2 represents early stage biface margin trimming and shaping with some thinning and freehand core reduction where load is applied away from the edge (Ahler 1989:91).

The presence of burned pieces among both material types was not significant, indicating that heat treatment was not applied to them as a method of improving flaking quality. Only 15.6% (N=503) exhibited any evidence of burning. 20.8% (N=124) of Material 2 was burned. All burned flakes and fragments exhibited either crazing, potlids, or heat spall fractures in association with a change in color/lustre. This indicates that burning was probably incidental and not deliberate and that heat treatment can be ruled out as a part of the reduction process. Heat treatment is herein considered part of the reduction process if annealing prior to the flaking process can be associated with the material.

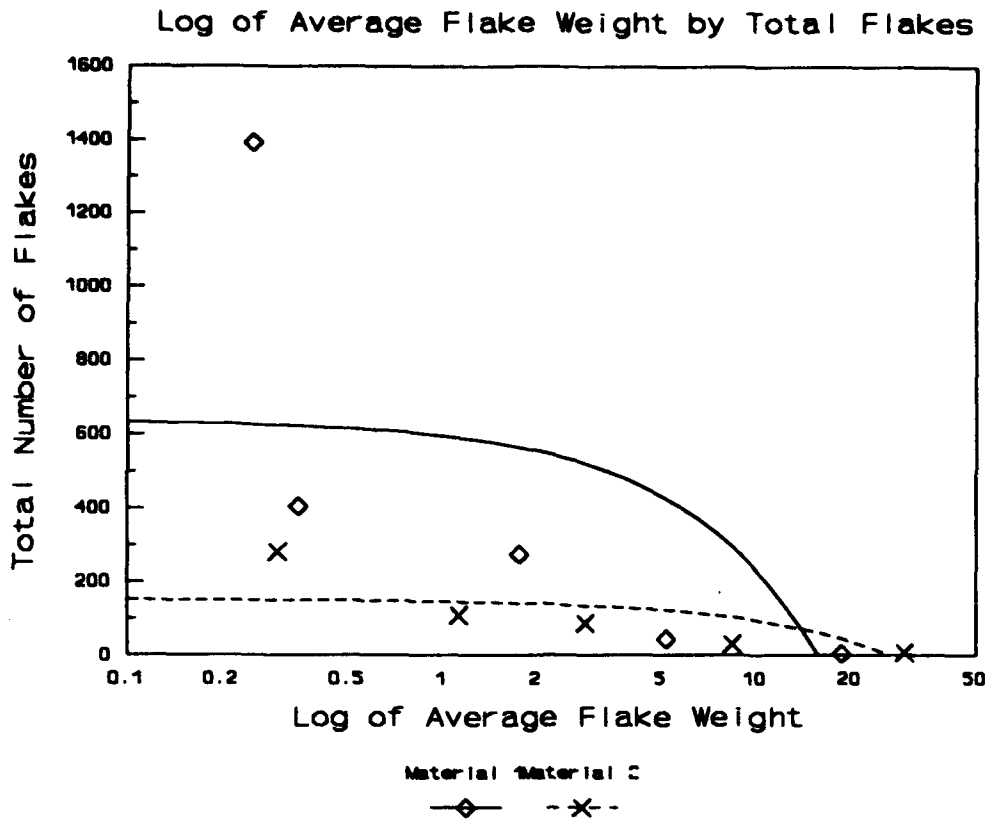

Figure 6. Log of Average Flake Weight.

SUMMARY OF KNAPPING STATION C

Conclusions regarding the possibility that Knapping Station C is a primary deposit are tenuous. The two materials represented exhibited slightly different flaking techniques. Data that are crucial to a discussion of this locality as a primary or secondary deposit are largely lacking in the collected assemblage, i.e., debris from the smallest size grade (See Behm 1983).

Currently, Knapping Station C is tentatively regarded as a mixed primary/secondary deposit. Two distinct materials were reduced at this location. Whether these materials were reduced as one event or as several separate events in the same location is not known. The consistent character of the debitage of both materials is currently used to support the inference that both materials represent two separate events. Material 1 represents the later stages of biface thinning and trimming while Material 2 represents early stage biface shaping and edge trimming and freehand core reduction. The average weight of flakes per size grade is greater for Material 2 than for Material 1, indicating that a greater load was being applied during the reduction of Material 2. Despite the differences in load application, both materials reflect different stages of biface manufacture.

In the future, recovery of discrete debitage concentrations such as this should include 100% recovery of a sample of the area. Statements regarding the primary or secondary nature of these deposits can then be formulated that will further increase our knowledge concerning behaviors associated with stone tool manufacture in the area of Fort Hood.

PREDICTIVE MODELLING

Methods

Predictive models for historic and prehistoric Fort Hood sites were developed using GRASS 4.0 at the Directorate of Environment and Housing. Existing map layers which had been created for a variety of purposes were used in developing the models. No new data were added to the system although new layers were created that were transformations of existing layers. The basic data set consisted of all areas that have been systematically surveyed on the post since 1978, excluding the current survey area since the site distribution for that area will be "predicted" using the models. This area includes 292,434 50x50-m cells. Within this area there are 21,017 cells containing a portion of a prehistoric site (7.2%) and 5,728 cells containing a portion of an historic site (2%). Two random samples were drawn (using Grass procedure r.random) for the prehistoric sites: one sample consisted of 1200 randomly selected cells which contained a portion of a prehistoric site (5.7% of the total) and 1200 randomly selected cells which contained no portion of a prehistoric site (0.4% of the total). The locations of these points are shown in Figure 7. Another two random samples were drawn (using procedure r.random) for the historic sites: one sample consisted of 1200 randomly selected cells which contained a portion of an historic site (20.9% of the total) and 1200 randomly selected cells which contained no portion of a historic site (0.4% of the total). The locations of these points are shown in Figure 8. The predictive models for historic and prehistoric sites are based on these data.

Since this was an initial effort to predict sites, only existing map layers were used. Eighteen variables were selected or developed from these map layers. The predictive models for historic and prehistoric sites are based on stepwise logistic regression using PC-SAS. For each variable, the values for the 1200 site and 1200 non-site locations were downloaded from the Fort Hood computer to a PC at TAMU. The variables selected or developed were as follows:

1. Available water (AV_WATER). This is an existing map layer based on the soils classification. It is a measure of the ability of the soil to retain water in the root zone.

2. Depth to rock (DP_ROCK). This provides an estimate of the depth of bedrock. This is an existing map layer, which is based on the soils classification. It is coded so that category 1 represents the deepest soils (more than 60 in) and category six represents the shallowest (less than 15 in).

3. K_factor (K_FACTOR). This provides one estimate of soil erodibility. This is an existing map layer which is based on the soils classification.

4. Soil pH (PH). This layer provides a general classification of soil pH for the post. This is an existing map layer which is based on the soils classification.

5. Wind erodibility (W_ERODE). This layer provides an estimate of the susceptibility of a soil type to wind erosion. This is an existing map layer which is based on the soils classification.

6. Soil diversity (SOIL_DIV). This is a measure of how many types of soil are found within a 7x7 cell grid. This layer was created for this analysis using procedure r.neighbors on the soil map layer.

7. Cross country movement (CC_MVMT). This is an existing map layer that provides an estimate of the ease of movement. It can be viewed as a very general classification of level, open areas versus steeply sloping, vegetated areas.

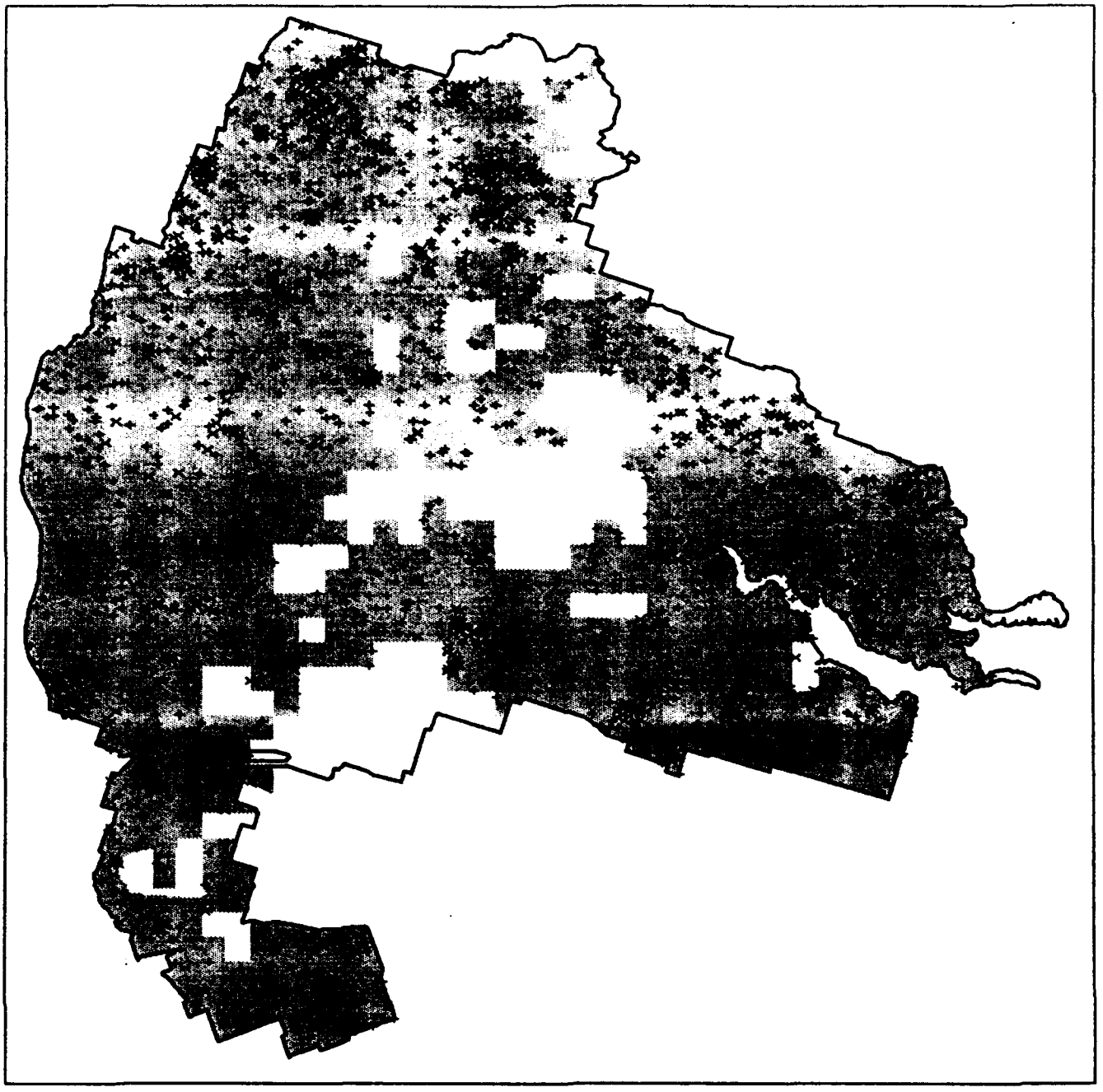

Figure 7. Prehistoric Site (x) and Non-site (+) Locations.

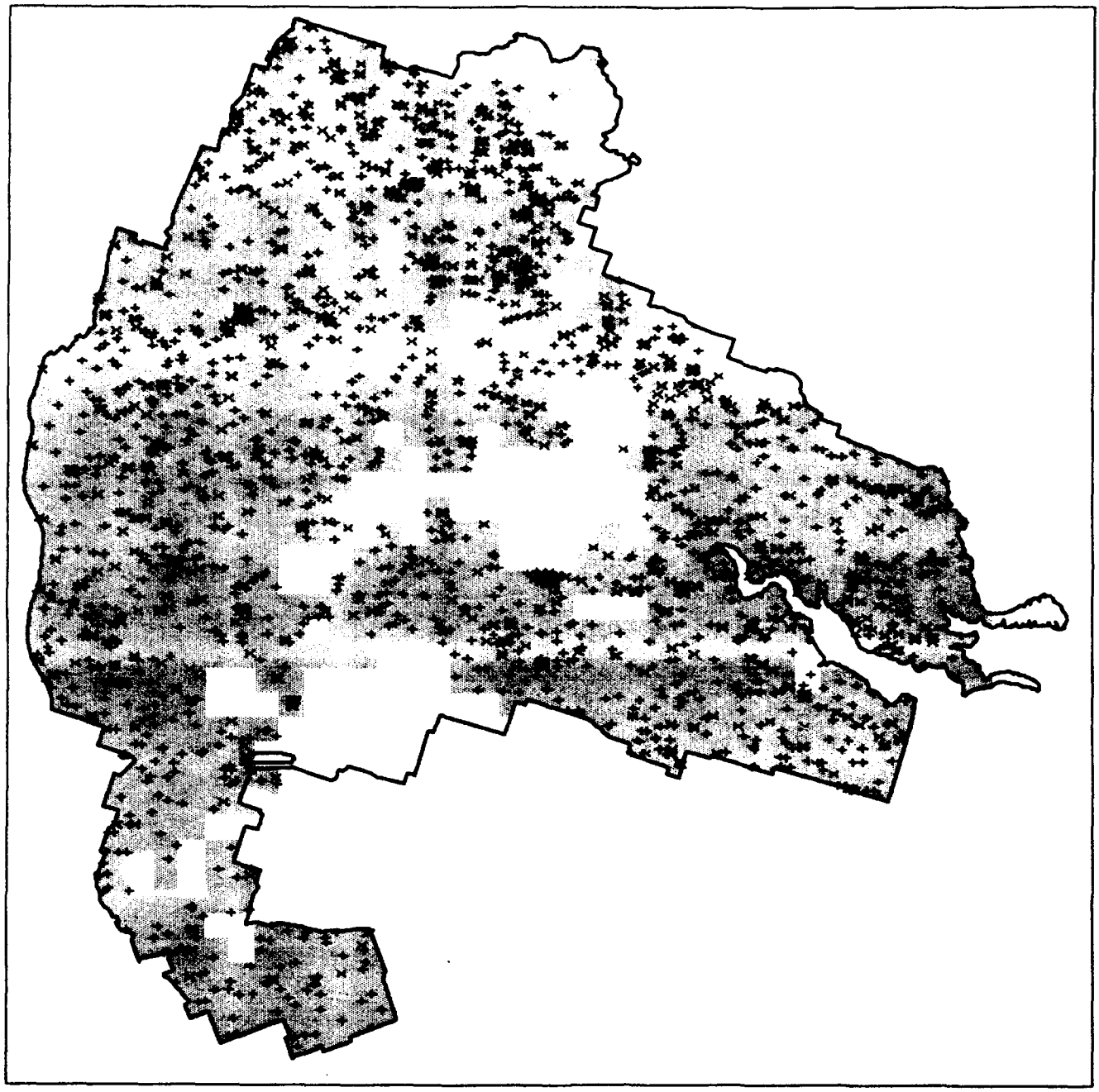

Figure 8. Historic Site (x) and Non-site (+) Locations.

8. Environmental zones (LZONES). This is an existing map layer that provides a very general classification of the Fort Hood topography into lowland, intermediate upland, and upland.

9. Aspect (ASPECT). The direction a slope faces. This is an existing map layer derived from the elevation layer.

10. Elevation (ELEV). The elevation of a cell in meters. This is an existing map layer. The elevation data were originally provided on a 100-m grid although the layer has been interpolated to a 50-m grid. Improving the accuracy of the elevational data would also improve the accuracy of aspect and slope since these layers are based on them.

11. Elevational diversity (ELEV_DIV). This provides a measure of how uneven the terrain is in the vicinity of the cell. A 7 by 7 cell grid is used and the number of different elevation categories counted. This layer was created using r.neighbors.

12. Slope (SLOPE). The percent slope at the cell. This is an existing map layer which is derived from the elevation layer.

13. Distance to any water (D_WATER). This layer provides the distance to any intermittent or permanent stream. It is based on the drain layer and has the problem that the drainages are not ranked in any way. The layer was created using r.buffer.

14. Distance to streams (D_STREAM). This layer provides another kind of distance to water measure. Only streams classed as intermittent on the rivers layer are used. The layer was created using r.buffer.

15. Distance to rivers (D_RIVER). This layer provides the distance to any "river" or "stream" as classified in the existing layer rivers_lg. The layer was created using r.buffer.

16. Distance to chert (D_CHERT). This layer attempts to provide an estimate of the distance to chert-bearing deposits. It was created extracting soil types 10, 11, and 12 and then computing the distance of each cell to any of these types. The layer was created by using r.reclass on the soil layer and then r.buffer on the newly created map layer.

17. Distance to a small drainage divide (D_SMDIV). Another way to look at the landscape is to focus on drainage divides. This layer measures the distance to a small drainage divide as defined by the watershed_sm layer. Using the watershed_sm layer a new layer was created using r.neighbors to count the number of watersheds within a 3x3 cell grid. The resulting map layer was reclassified (r.reclass) so that only cells with values greater than one were included. These cells are the divides between small watersheds. The final map layer was created using r.buffer on this layer.

18. Distance to a large drainage divide (D_LGDIV). This layer measures the distance to a large drainage divide as defined by the watershed_lg layer. Using the watershed_lg layer a new layer was created using r.neighbors to count the number of watersheds within a 3x3-cell grid. The resulting map layer was reclassified (r.reclass) so that only cells with values greater than one were included. These cells are the divides between small watersheds. The final map layer was created using r.buffer on this layer.

Stepwise logistical regression begins with no variables and then selects the best single variable for distinguishing site from non-site areas. The process continues until none of the remaining variables contribute anything to the model. After a variable has been added, the variables in the model are evaluated to see if any could be deleted. Once the stepwise procedure has been completed, the coefficients of each included variable are computed. The SAS version of logistical regression also attempts to determine the overall strength of the model in making predictions by analyzing the original data set of 2400 cases (1200 sites and 1200 non-sites) and trying to predict whether the case is a site or a non-site location.

Results - Prehistoric

Table 16 summarizes the logistical regression results for prehistoric sites. The table provides three kinds of information. First, a summary of the stepwise procedure indicates which variables were selected and their statistical significance. Second, parameter estimates for each variable are presented. These values are used to develop a prediction for any place on the post. Finally, a tabulation of predictions for the 2350 points used in the analysis is provided (50 points had missing values on one or more variable and were excluded from the analysis). Overall, the model correctly predicts sites 69% of the time. This is substantially better than the 50% success rate we would get by guessing, but there is clearly room for improvement. Only about 60% of the non-sites are correctly predicted, which implies that the model is somewhat conservative.

The first variable selected for the model is distance to chert-bearing soils (D_CHERT). This is not particularly surprising since a large number of the site locations necessarily came from the largest sites. The parameter estimate of -0.0871 indicates that sites are less likely the farther we are from chert-bearing soils. The second variable selected is soil diversity (SOIL_DIV). The parameter estimate for this variable is positive, which means that areas of higher soil diversity are more likely to contain sites. Cross-country movement (CC_MVMT) is selected next and is also positive. Since higher values of cross-country movement indicate more rugged or heavily wooded areas, the model predicts more sites in these areas and fewer in level, open areas. Distance to a small drainage divide (D_SMDIV) is positively associated with prehistoric sites. More sites are found away from a divide than near one. Sites are more likely where the soils are more acidic (PH) and where the soils are shallow (DP_ROCK). Distance to a large drainage divide (D_LGDIV) is selected seventh and is positively associated with site locations. Environmental zones (LZONES) are negatively associated with site locations which means that more sites are found in lowland settings than upland ones. Distances to rivers and streams (D_RIVER, D_STREAM) are positively associated with site locations. This is somewhat puzzling since it implies that sites are found away from water while the environmental zone parameter indicated that sites were more likely to be found in lowland settings. These variables are probably interacting in a relatively complex way. Finally soil K-factor (K_FACTOR), a measure of erodibility, indicates that erodible soils are less likely to have sites on them.

The results of the logistic regression accord well with what we would expect to find, except for the discrepancy with the distance-to-water variables. By using the parameter estimates provided in Table 16, it is possible to make a prediction regarding site locations for every place on the post. Figure 9 shows the results. The predictive layer (predict.pre) has 20 categories. Category 1 has the lowest probability of containing a site and category 20 has the highest probability. Figure 9 summarizes these categories into four groups for readability: categories 1-5 are identified as "Very Low" probability areas; categories 6-10 as "Low"; categories 11-15 as "Moderate"; and categories 16-20 as "High." Recently obtained land and Corps of Engineers lands do not have a prediction because the military variable cross-country movement is not coded for these areas. A special predictive model for these areas can be developed that does not depend on that variable. The new model can be used to fill in the blank areas on the map. Strong differences are shown if Figure 9 is compared with the CERL predictive model, which was based

Table 16. Logistical Regression Output for Prehistoric Sites.

Summary of Stepwise Procedure

Step	Variable Entered	Variable Removed	Number In	Score Chi-Square	Pr > Chi-Square
1	D_CHERT		1	113.5	0.0001
2	SOIL_DIV		2	56.4735	0.0001
3	CC_MVMT		3	43.9372	0.0001
4	D_SMDIV		4	40.7098	0.0001
5	PH		5	37.1830	0.0001
6	DP_ROCK		6	12.8351	0.0003
7	D_LGDIV		7	12.1550	0.0005
8	LZONES		8	13.3109	0.0003
9	D_RIVER		9	5.8043	0.0160
10	K_FACTOR		10	4.6636	0.0308
11	D_STREAM		11	4.4868	0.0342

Analysis of Maximum Likelihood Estimates

Variable	Parameter Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square	Standardized Estimate
INTERCPT	-1.7882	0.2936	37.1075	0.0001	.
CC_MVMT	0.1026	0.0218	22.1836	0.0001	0.136401
DP_ROCK	0.1005	0.0223	20.3718	0.0001	0.130700
K_FACTOR	-0.0507	0.0221	5.2579	0.0218	-0.067543
SOIL_DIV	0.2990	0.0519	33.2046	0.0001	0.151422
LZONES	-0.3106	0.0825	14.1728	0.0002	-0.127364
PH	0.1280	0.0271	22.3477	0.0001	0.153514
D_RIVER	0.0140	0.00578	5.8992	0.0151	0.068159
D_STREAM	0.1190	0.0563	4.4726	0.0344	0.057675
D_CHERT	-0.0871	0.0106	66.9844	0.0001	-0.356697
D_SMDIV	0.0973	0.0201	23.3887	0.0001	0.149570
D_LGDIV	0.0229	0.00661	11.9777	0.0005	0.128868

Classification Table

		Predicted EVENT	Predicted NO EVENT	Total
Observed	EVENT	822	364	1186
	NO EVENT	460	704	1164
	Total	1282	1068	2350

Sensitivity= 69.3% Specificity= 60.5% Correct= 64.9%
False Positive Rate= 35.9% False Negative Rate= 34.1%

on a smaller sample and predicted only site centers without distinguishing historic from prehistoric sites. The CERL model shows bands of high probability site locations along rivers and streams, whereas the model developed here predicts high site densities on and along upland areas where chert resources are available.

Warren (1990a; 1990b) discusses ways of calibrating and evaluating predictive models. His approach is shown in Table 17, which is based on the entire surveyed post, not just the 2400 randomly selected locations. The first column in the table is the predictive model category. This is an arbitrary scale from 1 to 20 with 20 being the areas that are most likely to contain sites. Category 0 is reserved for areas for which there are missing values and no prediction can be made. The second column (labeled "Absent") is the number of cells (50x50-m areas) that do not belong to any recorded prehistoric site and the third column ("Present") lists those that do belong to a site. The fourth column is the total number of cells (Absent + Present). The fifth column ("Prob")

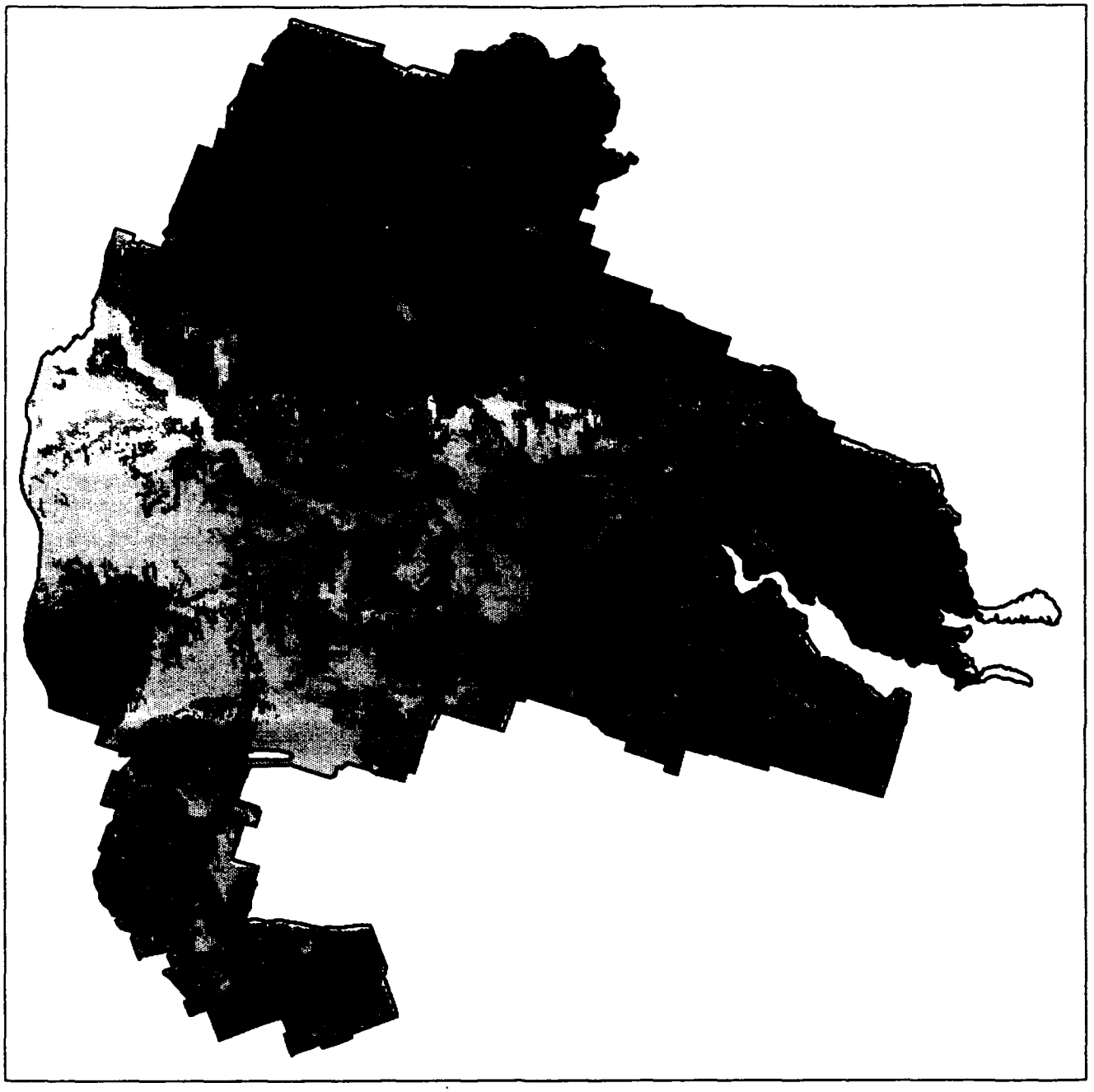

Figure 9. Prehistoric Site Predictive Model Map.

Table 17. Evaluation of Prehistoric Predictive Model.

Cat#	Absent	Present	Total	Prob	Ratio	Cumul Sites	Cumul Sites%	Cumul NoSite	Cumul NoSite%	Correct %
0	3,444	154	3,598							
1	4	0	4	0.0000	0.00	20,863	100.0%	0	0.0%	7.2%
2	5,363	0	5,363	0.0000	0.00	20,863	100.0%	4	0.0%	7.2%
3	6,759	61	6,820	0.0089	0.12	20,863	100.0%	5,367	2.0%	9.1%
4	11,324	208	11,532	0.0180	0.25	20,802	99.7%	12,126	4.5%	11.4%
5	17,095	475	17,570	0.0270	0.37	20,594	98.7%	23,450	8.8%	15.2%
6	19,623	664	20,287	0.0327	0.45	20,119	96.4%	40,545	15.1%	21.0%
7	21,423	867	22,290	0.0389	0.54	19,455	93.3%	60,168	22.5%	27.6%
8	22,032	918	22,950	0.0400	0.55	18,588	89.1%	81,591	30.4%	34.7%
9	23,963	1,202	25,165	0.0478	0.66	17,670	84.7%	103,623	38.7%	42.0%
10	23,322	1,667	24,989	0.0667	0.92	16,468	78.9%	127,586	47.6%	49.9%
11	24,731	2,060	26,791	0.0769	1.06	14,801	70.9%	150,908	56.3%	57.4%
12	23,722	2,334	26,056	0.0896	1.24	12,741	61.1%	175,639	65.5%	65.2%
13	20,480	2,709	23,189	0.1168	1.62	10,407	49.9%	199,361	74.4%	72.6%
14	18,289	2,191	20,480	0.1070	1.48	7,698	36.9%	219,841	82.0%	78.8%
15	13,181	1,809	14,990	0.1207	1.67	5,507	26.4%	238,130	88.9%	84.4%
16	8,994	1,603	10,597	0.1513	2.09	3,698	17.7%	251,311	93.8%	88.3%
17	5,188	1,180	6,368	0.1853	2.57	2,095	10.0%	260,305	97.1%	90.8%
18	2,081	641	2,722	0.2355	3.26	915	4.4%	265,493	99.1%	92.2%
19	398	262	660	0.3970	5.50	274	1.3%	267,574	99.8%	92.7%
20	5	12	17	0.7059	9.77	12	0.1%	267,972	100.0%	92.8%
Total	267,977	20,863	288,840	0.0722				267,977		

provides the probability that a cell in that predictive category contains a site (Present ÷ Total). The average probability for prehistoric sites is 0.07. If logistic regression were unable to find any differences between sites and nonsites, all the values in this column would be about 0.07. Instead, categories 1 through 10 are below 0.07 while the categories above 10 have higher probabilities. The highest probability is associated with category 20, 70% of the cells in this category are part of a site. Unfortunately, this is a very small category. The sixth column ("Ratio") is the ratio between the probability for a category and the average probability (0.07). Values below 1 indicate that sites are less likely to occur than random chance would predict. Values above 1 indicate how much more likely a site is to occur. For example, in category 18 sites are 3.26 times more likely to occur than random chance would predict. Column seven ("Cumul Sites") provides a reverse cumulative frequency for sites (excluding category 0). The following column ("Cumul Sites%") expresses this number as a percentage (Cumul Sites ÷ 20,222 × 100). Columns nine ("Cumul NoSite) and ten (Cumul NoSite%) provide the cumulative frequency of non-site and the cumulative percentage of non-sites. Finally column 11 ("Correct %") provides the percentage of correct predictions. In order to calibrate the predictive model, we need to pick a category as a cutpoint. At or above the cutpoint, we predict the location of a site. Below the cutpoint, we predict no site. Columns eight, ten, and eleven provide us with the data to make an informed choice. For example, if we pick category 1 as the cutpoint, we will correctly predict all of the sites (column eight is 100.0%). However we will incorrectly assign sites to every place on the post so we will incorrectly predict all of the non-site locations (column ten is 0.0%). Different criteria will lead to different cutpoints, but category 11 has a number of advantages. Categories 11 and 12 are the only categories which correctly predict more than half of the sites and more than half the non-sites. Predicting a site whenever a cell belongs to category 11 or above will correctly predict 70% of the sites and 56.3% of the non-sites. Moving the cutpoint to category 12 drops the correct site predictions to about 60% while increasing non-site predictions to 65%. Column 11 provides another way to look at the model. Since sites are rare, the optimal choice (in terms of minimizing errors) is to always predict no site. All sites will be missed, but the percentage of correct predictions is nearly 93% in comparison with category 11 where the percentage of correct predictions is only 57.1%. This approach assumes that missing sites and non-sites are equally serious errors. Of course, if that were the case no predictive model is needed. Columns 8, 10, and 11 are plotted as Figure 10.

It is difficult to compare this predictive model with those in the literature because the detailed information presented in Table 17 is rarely included; however the model developed by Warren (1990b:208) correctly predicted sites 67% of the time, but predicted non-sites only 39% of the time. No published predictive model addresses an area or data set anywhere near as large as this one. With few sites and lots of variables, it will always be possible to predict all of the sites.

Results - Historic

The model for the historic sites was developed in exactly the same way. Table 18 provides the same information for the historic model. Not surprisingly, the variables selected for the model are very different. The first four variables all relate to soils. Depth to rock (DP_ROCK) is selected first and the parameter estimate indicates that deeper soils are more likely to contain sites. Available water (AV_WATER) is selected next. Areas that retain water at the root zone are less likely to contain sites. This is somewhat surprising, but it may reflect a desire to locate on well-drained soils. K factor (K_FACTOR) is the third variable. Erodible soils are less likely to have sites. This was also noted for the prehistoric sites, but the parameter estimate is larger for historic sites. Soil pH (PH) is the fourth variable. Historic sites are more likely to occur on alkaline soils. Sites are more likely at lower elevations (ELEV) and are more likely to be found away from rivers (D_RIVER) and away from chert-bearing soils (D_CHERT). Historic sites are more likely to be found near large drainage divides (D_LGDIV) and near areas of high soil diversity.

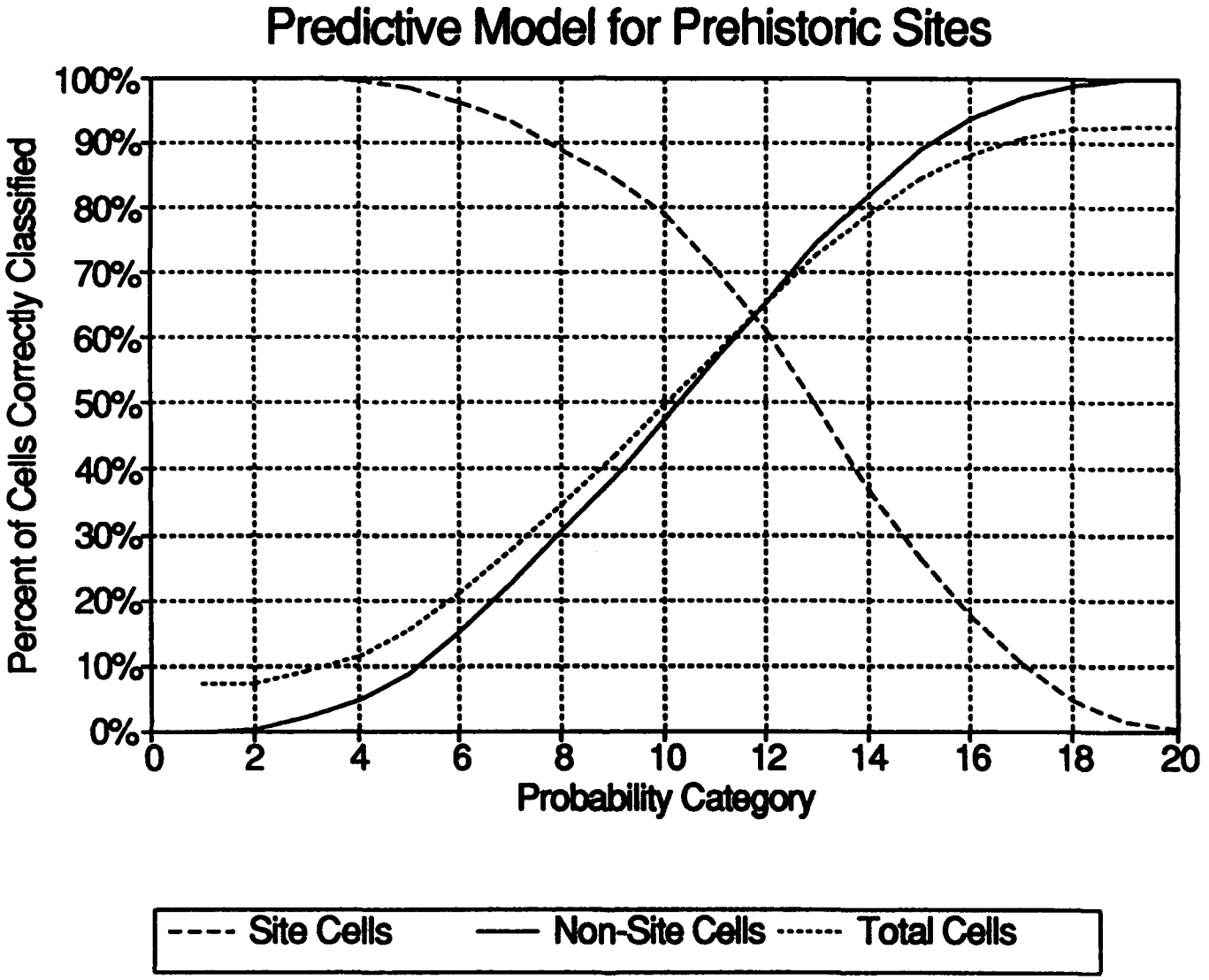

Figure 10. Predictive Model for Prehistoric Sites.

Table 18. Logistical Regression Output for Historic Sites.

Summary of Stepwise Procedure

Step	Variable Entered	Variable Removed	Number In	Score Chi-Square	Pr > Chi-Square
1	DP_ROCK		1	18.7018	0.0001
2	AV_WATER		2	14.5247	0.0001
3	K_FACTOR		3	36.9681	0.0001
4	PH		4	19.8932	0.0001
5	ELEV		5	14.0775	0.0002
6	D_RIVER		6	51.8990	0.0001
7	SOIL_DIV		7	10.9746	0.0009
8	D_CHERT		8	3.9783	0.0461
9	D_LGDIV		9	10.6032	0.0011

Analysis of Maximum Likelihood Estimates

Variable	Parameter Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square	Standardized Estimate
INTERCPT	3.1344	0.4557	47.3076	0.0001	.
AV_WATER	0.4534	0.0574	62.4710	0.0001	0.416984
DP_ROCK	-0.1318	0.0213	38.4642	0.0001	-0.174652
K_FACTOR	-0.2894	0.0391	54.7176	0.0001	-0.363643
SOIL_DIV	0.1933	0.0498	15.0884	0.0001	0.094418
PH	-0.0789	0.0255	9.5830	0.0020	-0.082749
ELEV	-0.0149	0.00199	56.2602	0.0001	-0.266186
D_RIVER	0.0558	0.00764	53.3647	0.0001	0.267046
D_CHERT	0.0351	0.0095	13.5910	0.0002	0.153677
D_LGDIV	-0.0208	0.00642	10.5560	0.0012	-0.122241

Classification Table

		Predicted EVENT	Predicted NO EVENT	Total
Observed	EVENT	715	476	1191
	NO EVENT	444	731	1175
	Total	1159	1207	2366

Sensitivity= 60.0% Specificity= 62.2% Correct= 61.1%
False Positive Rate= 38.3% False Negative Rate= 39.4%

The results of the logistic regression accord well with what we would expect to find. Overall the model correctly predicted 60% of the random sites. This is not as good as the prehistoric model, but is better than the 50% success rate we would get by guessing. About 62% of the non-sites are correctly predicted. By using the parameter estimates provided in Table 18 it is possible to make a prediction regarding site locations for every place on the post. Figure 11 shows the results. The predictive layer (predict.his) has 20 categories. Category 1 has the lowest probability of containing a site and category 20 has the highest probability. Figure 11 summarizes these categories into four groups for readability: categories 1-5 are identified as "Very Low" probability areas; categories 6-10 as "Low"; categories 11-15 as "Moderate"; and categories 16-20 as "High." Columns 8, 10, and 11 are plotted as Figure 12.

Table 19 provides the calibration information for the historic sites model using the entire surveyed post. Categories 11 and 12 again provide correct predictions of sites and non-sites above 50%. Selecting the category 11 allows us to correctly predict 67% of the historic sites which is better than the correct predictions for the sample (60%) and is only 3% lower than the prehistoric predictive model.

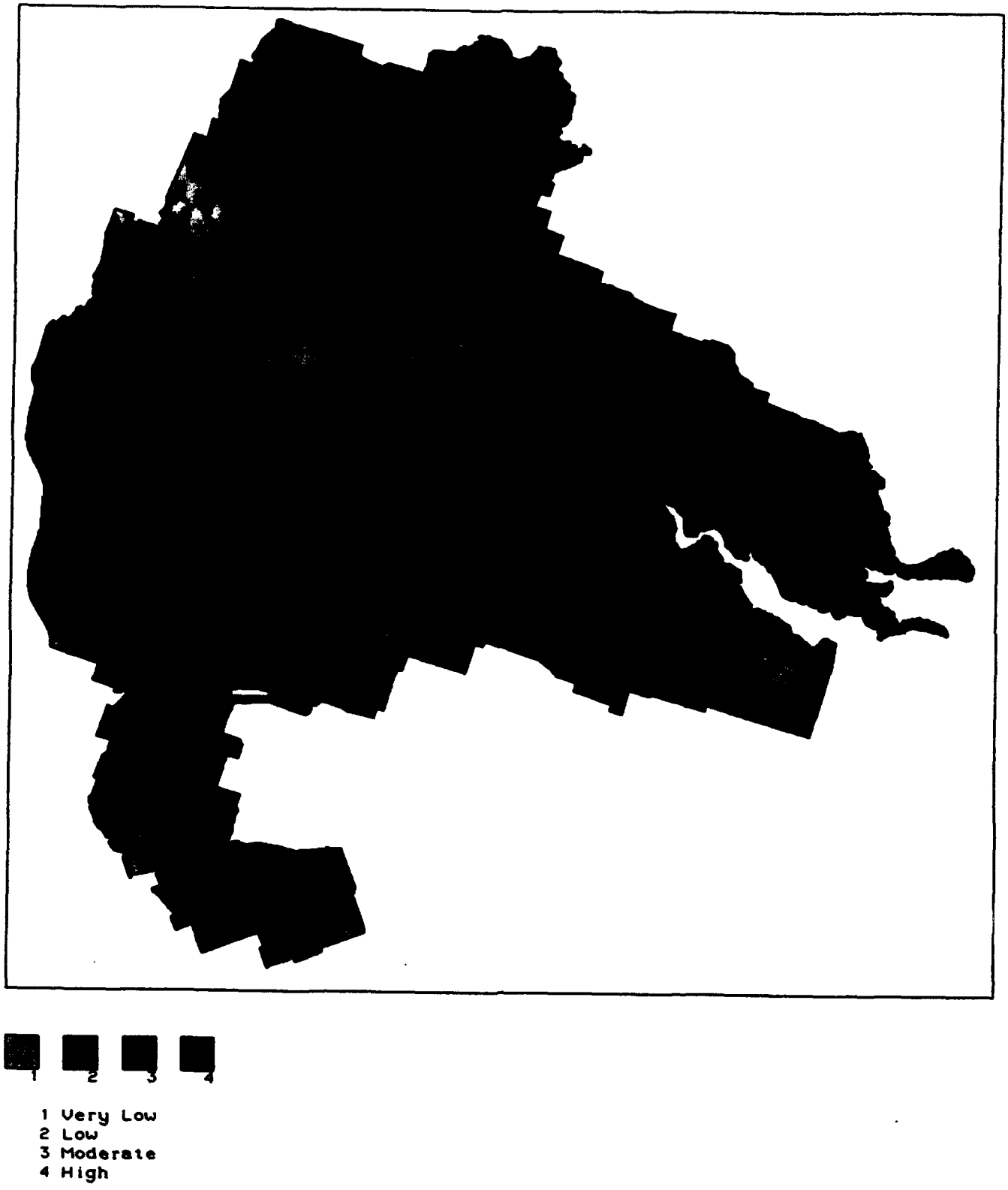

Figure 11. Historic Site Predictive Model Map.

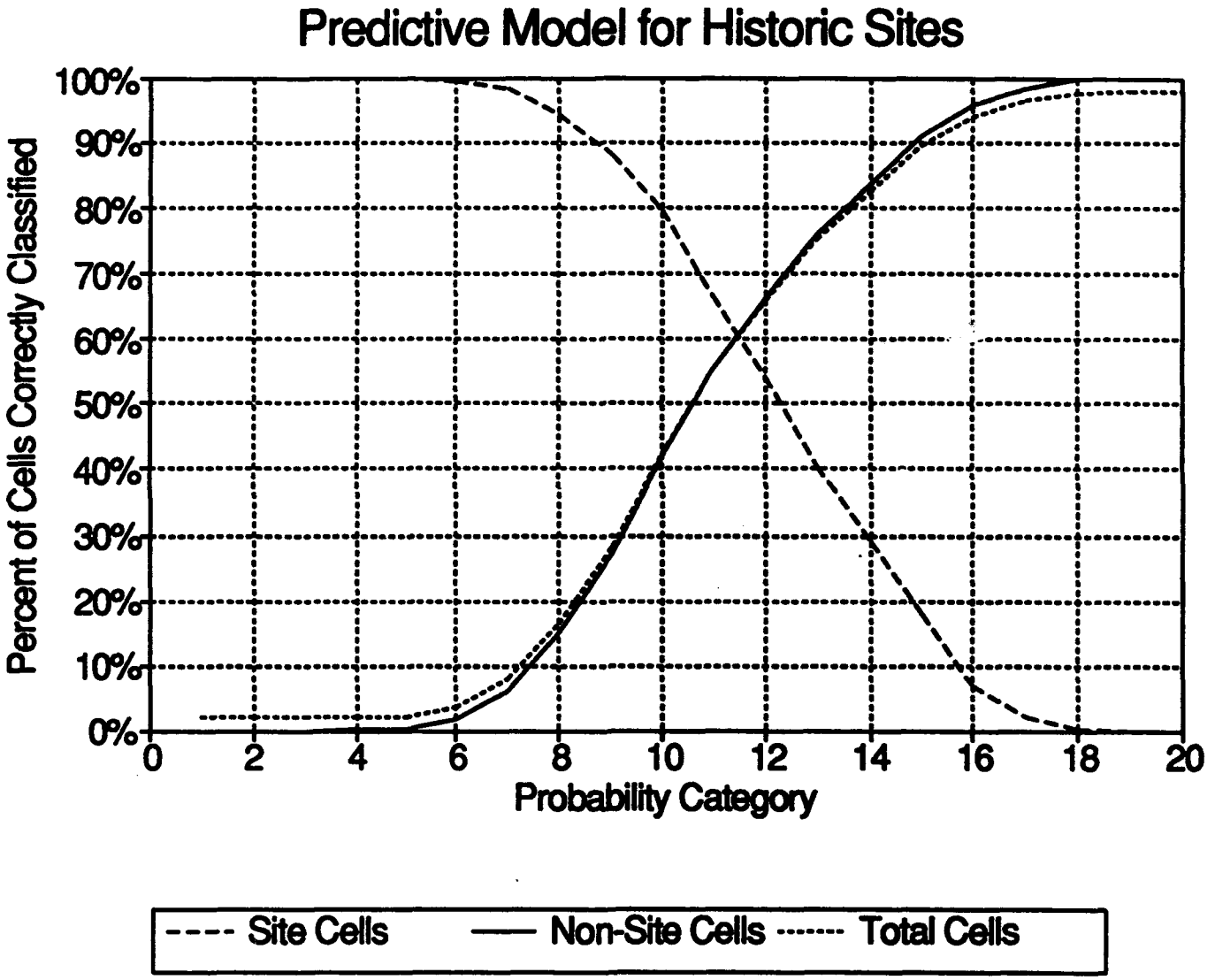

Figure 12. Predictive Model for Historic Sites.

Table 19. Evaluation of Historic Predictive Model.

Cat#	Absent	Present	Total	Prob	Ratio	Cumul Sites	Cumul Sites%	Cumul NoSite	Cumul NoSite%	Correct %
0	445	4	449							
1	0	0	0			5,724	100.0%	0	0.0%	2.0%
2	0	0	0			5,724	100.0%	0	0.0%	2.0%
3	83	0	83	0.0000	0.00	5,724	100.0%	0	0.0%	2.0%
4	869	0	869	0.0000	0.00	5,724	100.0%	83	0.0%	2.0%
5	3,628	14	3,642	0.0038	0.20	5,724	100.0%	952	0.3%	2.3%
6	12,677	73	12,750	0.0057	0.29	5,710	99.8%	4,580	1.6%	3.5%
7	26,048	232	26,280	0.0088	0.45	5,637	98.5%	17,257	6.0%	7.8%
8	34,923	357	35,280	0.0101	0.52	5,405	94.4%	43,305	15.1%	16.7%
9	41,327	485	41,812	0.0116	0.59	5,048	88.2%	78,228	27.3%	28.5%
10	38,767	737	39,504	0.0187	0.95	4,563	79.7%	119,555	41.8%	42.5%
11	31,740	720	32,460	0.0222	1.13	3,826	66.8%	158,322	55.3%	55.5%
12	27,321	783	28,104	0.0279	1.42	3,106	54.3%	190,062	66.4%	66.2%
13	22,811	660	23,471	0.0281	1.43	2,323	40.6%	217,383	75.9%	75.2%
14	20,437	639	21,076	0.0303	1.55	1,663	29.1%	240,194	83.9%	82.8%
15	14,290	638	14,928	0.0427	2.18	1,024	17.9%	260,631	91.0%	89.6%
16	7,743	262	8,005	0.0327	1.67	386	6.7%	274,921	96.0%	94.3%
17	3,122	114	3,236	0.0352	1.80	124	2.2%	282,664	98.7%	96.8%
18	475	10	485	0.0206	1.05	10	0.2%	285,786	99.8%	97.9%
19	4	0	4	0.0000	0.00	0	0.0%	286,261	100.0%	98.0%
20	0	0	0			0	0.0%	286,265	100.0%	98.0%
Total	286,265	5,724	291,989	0.0196						

Comparison with the CERL Model

The CERL predictive model was developed as an exercise in using GRASS in 1984 using only the data from the random sample surveys (FY 78 and FY 80). The model was created to demonstrate the capability of GRASS for developing predictive models. No effort was made to distinguish historic from prehistoric sites and only site centers had been entered into GRASS. The model was based on a chi-square analysis to identify the associations between sites and existing data layers. Although the details are sketchy, fewer variables were probably used in generating the predictions and "distance to" layers were not created. The classifications of the soils data did not exist at the time the model was developed. For these reasons, CERL labeled the model as provisional and warned against depending on it for any substantive purposes. The purpose of the comparison here is simply to see if the present approach offers any advantages. The CERL predictive model uses 10 categories so the TAMU models were grouped into 10 categories as well. Although there are a number of ways to compare the models, a simple histogram will demonstrate the superiority of the new models.

Figure 13 provides a histogram showing the probability that a cell in a particular category will be part of a prehistoric site for the CERL and TAMU models. Both models show that higher categories have higher probabilities, but the TAMU model manages to create categories that are much more likely to contain sites. Figure 14 shows the same information for historic sites. Again the TAMU model has created categories which are more likely to contain sites than any of the CERL categories. The TAMU model is somewhat overdefined, however, since the highest probability is in category 15. The CERL model handles the historic sites very poorly even though they made up half of the data points. This shows clearly the importance of the soil classification data in predicting historic sites. As indicated earlier, these layers were not available when the CERL model was created.

Predictions for the Delivery Order 10 Survey

Converting the predictive models into predictions concerning how many sites should be found is not straightforward. The model only ranks areas on their potential to contain sites. It does not draw the boundaries and count the sites for us. The model also can be used to compare two blocks and indicate which have the potential to contain more sites. Figure 15 enlarges the predictive model for prehistoric sites shown in Figure 9 for the Delivery Order 10 survey area. Although the "Very Low" category makes up about 14 percent of the post, no areas in the D.O. 10 survey are placed in this category. Secondly, only 7 percent of the post is classified as "High" whereas about 14 percent of the D. O. 10 survey area is so classified. The "High" areas do not spread over large portions of the survey area which would suggest that these areas should be potential lithic resource areas. Instead, they cluster along the Leon River.

Figure 16 enlarges the predictive model for historic sites shown in Figure 11 for the Delivery Order 10 survey area. Whereas the prehistoric predictive model suggested that the survey area should have higher than average site densities, the historic model suggests average or lower than average site densities. Less than one percent of the area is classified as having "High" site potential (as compared with the overall value for the post of four percent). Most of the survey area (67 percent) has "Low" potential for historic sites. These general predictions accord well with the survey results. The prehistoric site density was 2.08 sites/km^2 as compared with an average density for all previously surveyed areas of 1.32 sites/km^2. Historic site density was 0.88 sites/km^2 as compared with an average density for all previously surveyed areas of 1.45 sites/km^2.

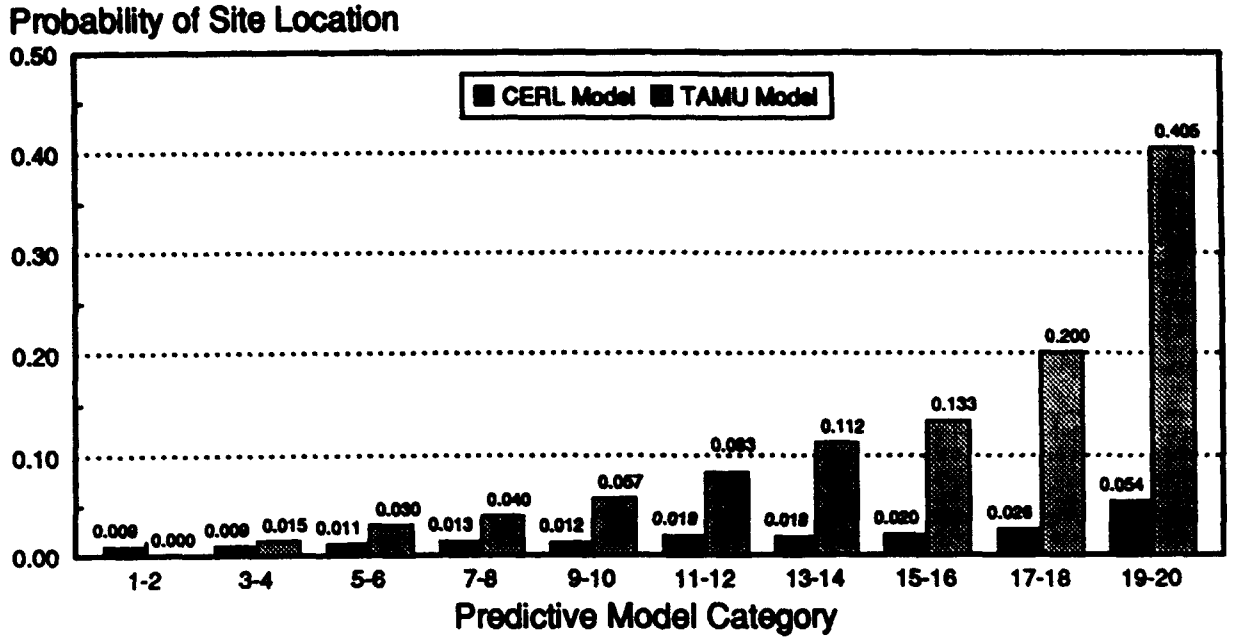

Figure 13. Comparison of CERL and TAMU Predictive Models for Prehistoric Sites.

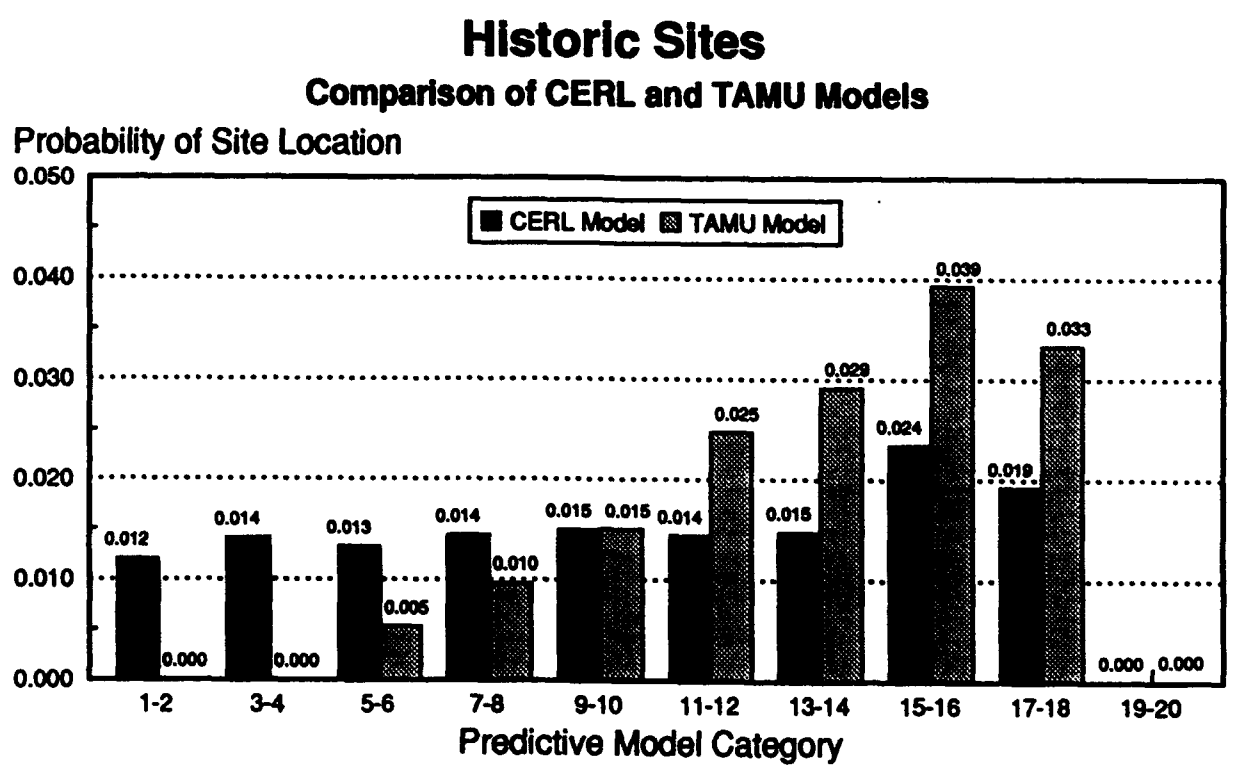

Figure 14. Comparison of CERL and TAMU Predictive Models for Historic Sites.

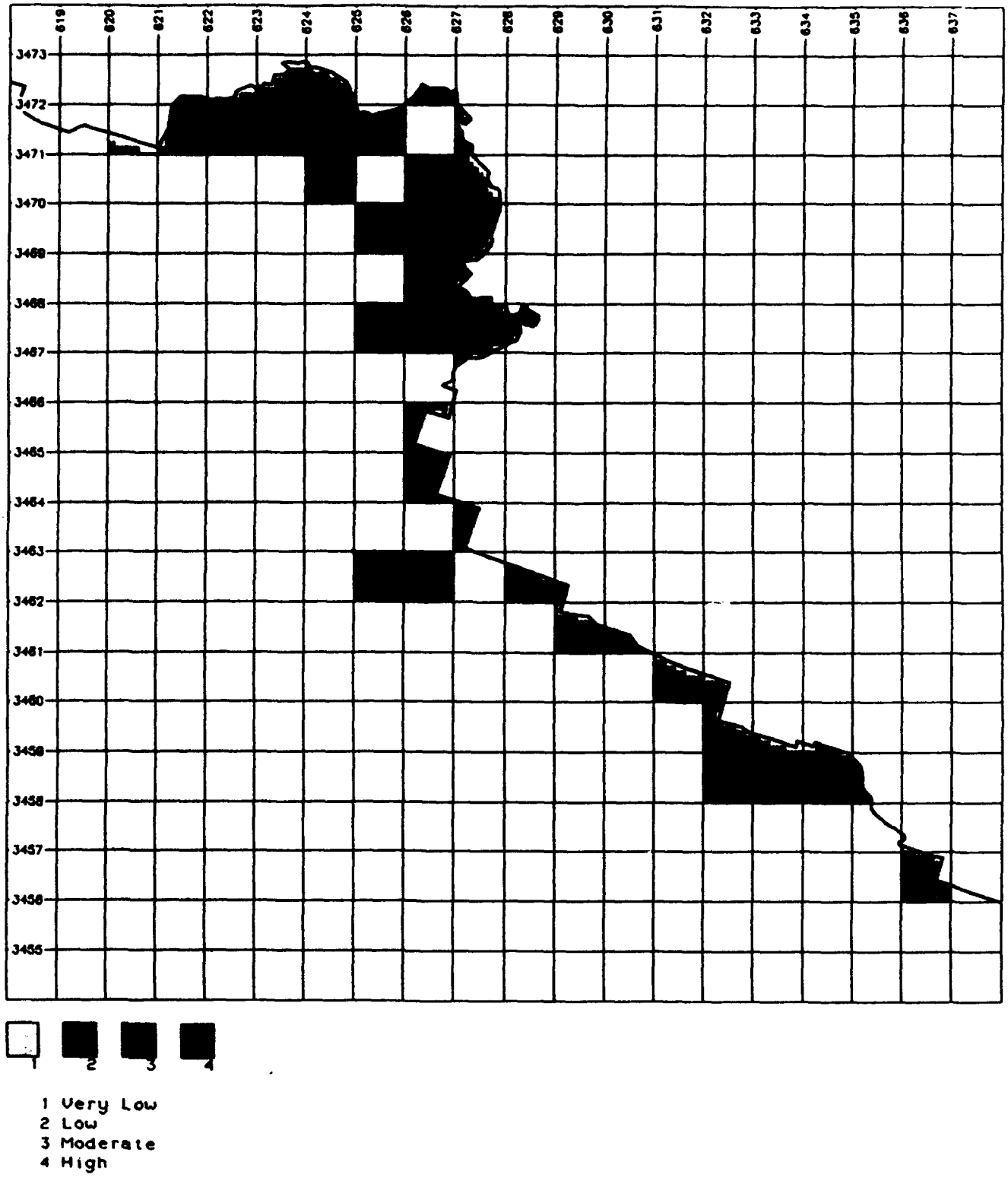

Figure 15. **Predictive Model for Prehistoric Sites along the Northeastern Perimeter.**

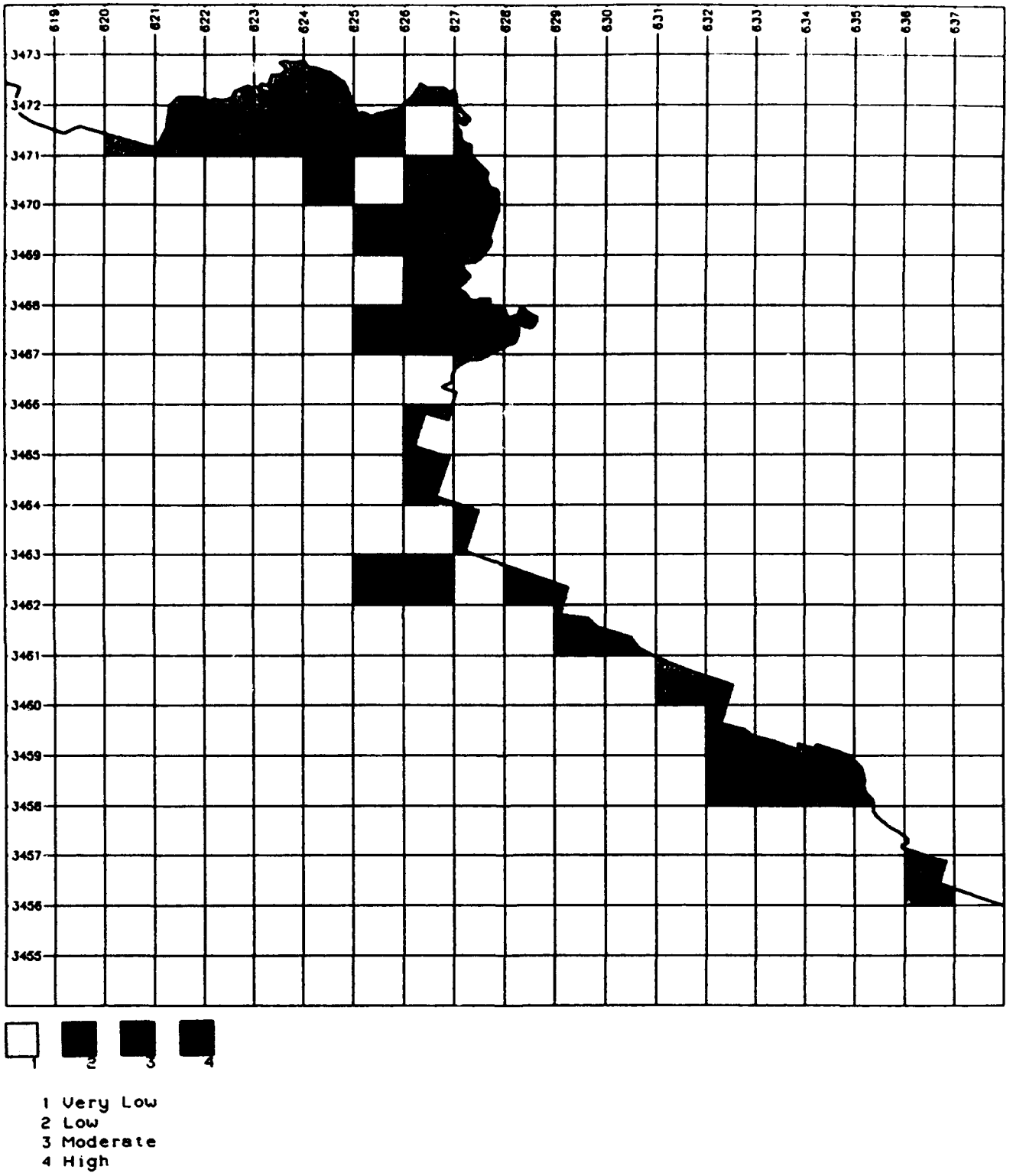

Figure 16. Predictive Model for Historic Sites along the Northeastern Perimeter.

CONCLUSIONS

The development of predictive models using the existing GRASS layers clearly demonstrates the potential for this analytical technique. The models developed here are useable and useful. More testing is needed to compare predictions and results for each survey project. Refinement of the existing models would also be very desirable. The limitations of the current models probably could be overcome by refining the models in two ways. First, the prehistoric and historic sites should be separated by site type and separate model developed for each. For the prehistoric sites that may require some additional digitizing to locate burned rock mounds and rockshelters accurately within the larger sites of which they are a part. Historic predictions probably can be increased by focusing on the development of a predictive model for domestic dwellings and farm/ranch sites. Secondly, refinement of the base data in the system would lead to better predictions. Replacement of the existing elevation data with data gathered at 50-m intervals would improve the data for elevation, slope, aspect, and the boundaries of the drainages. The current stream layers are too crude to allow different kinds of streams to be distinguished from one another. Simply re-digitizing these data to include stream categories on existing maps would be helpful.

RECOMMENDATIONS AND CONCLUSIONS

The future research potential of these sites and their potential eligibility for listing on the National Register of Historic Places have been preliminarily evaluated as follows: those sites with substantial research potential——one prehistoric; those sites which require subsurface testing and/or documentary and informant research to adequately assess research potential——35 prehistoric and 9 historic; and those sites which appear to have limited research potential——18 prehistoric and 14 historic. Individual site assessments are discussed in Appendices I (prehistoric sites) and II (historic sites).

SITE RECOMMENDATIONS

Sites recorded during the Delivery Order No. 10 survey were evaluated for significance based on the survey level data provided by the field crew. National Register of Historic Places eligibility criterion (d)—[sites] that have yielded, or may be likely to yield, information important in prehistory or history (36CFR60.6)—was used as a basis for evaluating significance.

The development of specific cultural contexts or problem domains for the Fort Hood locality is underway. Once fully developed, they may be used to generate specific, testable research questions and serve as the basis for determining site significance within criterion (d) above. Until then, recommendations are based on an implicit set of research questions that involve such traditional archaeological concerns as chronology, subsistence, environmental change, site type and function, and geographic location.

All sites for both surveys were classified by environmental zone, site type, and temporal period. Tables 20 and 21 give the frequency and percent of all sites recorded during the Delivery Order No. 10 survey by environmental zone, site type, and components for prehistoric and historic sites, respectively. Additionally, recommendations regarding each site's significance are given in Table 22. They are divided into three groups: (1) those eligible for inclusion in the National Register based on present data; (2) those considered potentially eligible based on present knowledge, but require additional work; and (3) those that do not appear to be eligible based on current information.

It is seen in Tables 20 and 21 that half of all sites are recommended for additional work or appear to have research potential. Of these, however, slightly over 63% of the prehistoric sites are deemed either eligible or potentially eligible, while only 39% of the historic sites are so judged. For those prehistoric sites that require further evaluation, testing, either by formal excavation units and/or shovel probes, will be necessary. For the historic sites, a combination of archival/oral history with possible field testing may be necessary in some cases.

DISCUSSION AND CONCLUSIONS

Analysis of knapping debris from a surface concentration of lithics at site 41CV1540 suggests that relatively discrete activity areas may be preserved on some surfaces at Fort Hood. The analysis demonstrated that two different types of chert were being made into tools. One material was being roughed out into a early stage biface, presumably for further thinning and shaping later. The other material was nearing completion. Since different chert types were involved, the early stage material may be local. The later stage material seems to represent a

Table 20. Distribution of Prehistoric Sites by Environmental Zone, Site Type, and Temporal Period for Delivery Order No. 10 Survey.

Environmental Zone	Total Sites	Percent	Sites in Groups 1&2	Percent
Lowland	22	40.74	19	54.29
Intermediate Upland	23	42.59	14	40.00
Upland	9	16.67	3	8.57
Total	54	100.00	35	100.00

Site Type	Total Sites	Percent	Sites in Groups 1&2	Percent
Middens	5	9.26	5	14.29
Burned Rock Scatter with Lithics	11	20.37	10	28.57
Lithic Scatter	25	46.30	10	28.57
Lithic Procurement Sites	7	12.96	4	11.43
Rockshelters	1	1.85	1	2.86
Others	5	9.26	5	154.29
Total	54	100.00	35	100.00

Chronological Placement	Total Sites	Percent	Sites in Groups 1&2	Percent
Late Paleoindian/ Early Archaic	2	7.14	2	8.00
Early Archaic	7	25.00	4	16.00
Middle Archaic	6	21.43	5	20.00
Late Archaic	4	14.29	3	12.00
Terminal Archaic	6	21.43	4	16.00
Austin Phase	3	10.71	3	12.00
Unknown	38	--.--	25	--.--
Total Known Components	28	100.00	21	100.00

preform which was carried to the site and refined there. Although we do not know when this happened and cannot be certain that both materials were worked during the same occupation, the analysis gives us something to use when comparing knapping techniques at other sites. As we learn more about how to classify raw material types on the post, we can begin to identify networks to show where and how far people traveled to get the materials they used for stone tools.

Two new predictive models have also been developed for Fort Hood. Both models provide reasonable predictions and can be used for a number of purposes. In a qualitative sense, the models predicted a higher than average number of prehistoric sites and a lower than average

Table 21. Distribution of Historic Sites by Environmental Zone, Site Type, and Temporal Period for Delivery Order No. 10 Survey.

Environmental Zone	Total Sites	Percent	Sites in Groups 1&2	Percent
Lowland	6	26.09	2	22.22
Intermediate Upland	17	73.91	4	44.44
Upland	0	0.00	3	33.33
Total	23	100.00	9	100.00

Site Type	Total Sites	Percent	Sites in Groups 1&2	Percent
Domestic Dwelling	1	4.35	1	11.11
Farm/Ranch Complex	15	65.21	7	77.78
Cemetery	1	4.35	1	11.11
Isolated Structures/Areas	4	17.39	0	0.00
Special Purpose Sites	1	4.35	0	0.00
Unknown	1	4.35	0	0.00
Total	23	100.00	9	100.00

Chronological Placement	Total Comp.	Percent	Comp. in Groups 1&2	Percent
1850-1879	3	37.50	2	40.00
1880-1929	4	50.00	2	40.00
1930-1953	1	12.50	1	20.00
1954-Present	0	0.00	0	0.00
Unknown	18	--.--	7	--.--
Total Components	26	100.00	12	100.00

number of historic sites. Both predictions were correct. Comparing the predictive models to the results of surveys conducted from 1978 to 1989 on the post will make it possible to quantify these predictions. The most interesting feature of the models is how different the historic and prehistoric models were. While distance to chert resources was the most important predictor for prehistoric sites, soil characteristics were the most important predictor for historic sites. While the differences were to be expected, models which did not identify these differences in settlement strategy would have been suspect. Refinement of the basis data at Fort Hood should lead to more refined models. It would also be useful to develop models for specific site types and specific time periods. In the mean time, approximately 70% of the sites at Fort Hood can be predicted by identifying areas on the predictive map layers belonging to category 11 or higher.

Table 22. Summary of Recommendations for Delivery Order 10 Sites.

Eligible--Prehistoric Sites				
41CV1505				
Potentially Eligible--Prehistoric Sites				
41CV0092	41CV1478	41CV1494	41CV1510	41CV1526
41CV0579	41CV1479	41CV1495	41CV1511	41CV1527
41CV0580	41CV1480	41CV1496	41CV1512	41CV1531
41CV0601	41CV1482	41CV1501	41CV1515	41CV1533
41CV1471	41CV1485	41CV1506	41CV1516	41CV1536
41CV1472	41CV1487	41CV1507	41CV1517	41CV1540
41CV1473	41CV1493	41CV1509	41CV1522	41CV1543
Not Eligible--Prehistoric Sites				
41BL0967	41CV1477	41CV1492	41CV1524	41CV1541
41CV0271	41CV1483	41CV1499	41CV1528	41CV1542
41CV1376	41CV1489	41CV1504	41CV1530	
41CV1469	41CV1490	41CV1508	41CV1539	
Potentially Eligible--Historic Sites				
41CV0600	41CV1484	41CV1514	41CV1534	41CV1476
41CV1470	41CV1500	41CV1532	41CV1535	
Not Eligible--Historic Sites				
41CV0574	41CV1474	41CV1497	41CV1503	41CV1525
41CV0617	41CV1481	41CV1498	41CV1513	41CV1538
41CV0953	41CV1486	41CV1502	41CV1520	

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APPENDIX I

PREHISTORIC SITE DESCRIPTIONS

by

Ben W. Olive

SITE: 41BL0967

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 300 feet

NEAREST WATER (DISTANCE): 200 meters

AREA: 5,000 square meters

VEGETATION: Wooded area (25-50% canopy closure)

SITE TYPE: Burned rock scatter with lithics

DESCRIPTIVE SUMMARY: This site consists of a thin lithic scatter with a fair to moderate amount of fire-cracked rock. Fire-cracked limestone could be possible dispersed hearths or recent army campfires. No ecofacts observed, and fire burned rock density is medium (limestone). Artifact density is low, and artifacts observed include a *Pedernales* dart point fragment, flakes with retouch, flakes, and chips. A total of two dart bases was collected; the second is untyped. The site is reported to be in poor condition with 80% of the surface area affected by erosion and point collecting. The diagnostic artifacts of this site indicate a chronology of Middle Archaic for this site. No other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site was recorded as a thin scatter of lithics with fire-cracked rock present. Because of the poor condition of the site and the surficial nature of the site, it appears to have limited potential for providing information relevant to the prehistory of Central Texas. No further work is recommended and the site is not eligible for the National Register.

SITE: 41CV0092

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 720 feet

NEAREST WATER (DISTANCE): 200 meters

AREA: 29,200 square meters

VEGETATION: Wooded area (50-75% canopy closure)

SITE TYPE: Lithic scatter/procurement area

DESCRIPTIVE SUMMARY: This site consists of a large lithic scatter on the upper slopes of a point of land overlooking the Leon River and Henson Creek. All stages of tool manufacture are represented with an abundance of secondary and tertiary flakes, some thermally altered. Debitage is concentrated along the upper slopes, and several concentrations of bifaces and scrapers occur within this area. Ecofacts observed include mussel shell. Artifact density is high, and observed artifacts include Types I, II, and III bifaces, drill bases, a retouched flake, a side scraper, an end

scraper, cores, many hammerstones, and flakes. The only material collected was a groundstone quartzite cobble. The site is reported to be in good condition with 50% of the surface area affected by local collectors, erosion and modern military activities. The chronology of this site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a lithic procurement and knapping area consisting of a large lithic scatter overlooking the Leon River and Henson Creek. Because the surveyors noted that the entire tool manufacturing sequence is represented and artifact density is high, further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV0271

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 760 feet

NEAREST WATER (DISTANCE): 240 meters

AREA: 90,900 square meters

VEGETATION: Wooded area

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a thin lithic scatter intermixed with a large and dense chert/gravel outcrop. Much material appears to be tested but is likely non-cultural "tankofacts". Much of the chert has been thermally altered by recent grass fires. No ecofacts were observed, and burned rock density is light (grassfires). Artifact density is low, and artifacts observed include Type I and II bifaces, blanks, a side scraper, a chopper, flakes, and chips. No artifacts were collected. The site is reported to be in poor condition with 75% of the surface area affected by erosion, military activities, and road construction. The chronology of this site is unknown. Two other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: This site is a thin lithic scatter, probably the result of modern military maneuvers. Because of the artificial nature of the site, it appears to have limited potential for providing information relevant to the prehistory of Central Texas. No further work is recommended and the site is not eligible for the National Register.

SITE: 41CV0579

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 700 feet

NEAREST WATER (DISTANCE): 0 meters

AREA: 162.5 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Burned rock scatter with lithics

DESCRIPTIVE SUMMARY: This site consists of material eroding out of the southern bank of the Leon River. The only ecofacts observed were mussel shells, and a light density of burned rock was noted. Artifact density is low and observed artifacts include two dart points, flakes and chips. The only material collected were the two dart points, a *Darl*, and a *Pedernales*. The site is reported to be in poor condition with 80% of the surface area affected by erosion and collecting. One shovel test was excavated to a depth of 75 cm. It contained only two pieces of mussel shell at a depth of 30-45 cm. The diagnostic artifacts collected indicate a chronology of Middle Archaic and Transitional Archaic for this site. This is the only prehistoric site found in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is highly eroded and located on a steep cut-bank. However, intact cultural deposits are likely and testing in recommended. Until that time, it should be considered potentially eligible for the National Register.

SITE: 41CV0580

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: General slope

ELEVATION: 710 feet

NEAREST WATER (DISTANCE): 10 meters

AREA: 1,375 square meters

VEGETATION: Thick brush

SITE TYPE: Burned rock scatter with lithics

DESCRIPTIVE SUMMARY: This site consists of a dense scatter of lithics, fire cracked rocks, and mussel shell, located on a terrace of the Leon River. Ecofacts observed include charcoal, bone and mussel shell, and burned rock density is medium. Artifact density is high, and observed artifacts include a retouched flake, a core, flakes, chips and a one-sided ground stone fragment. Cultural deposits (shell, fire-cracked rocks) are present in the south wall of the pothole which abuts the base of an intermediate upland slope. No artifacts were collected. The site is reported to be in poor condition with 60% of the surface affected by pothunter holes and road construction. The chronology of this site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is exposed by a pothunter's pothole and consists of a lithic scatter with burned rock. Intact deposits are present in the south wall of the pothole. Although much of the site has been disturbed, further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV0601

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 745 feet

Figure 17. View of Military "Foxhole" Impacting Site 41CV0601.

NEAREST WATER (DISTANCE): 260 meters

AREA: 16,100 square meters

VEGETATION: Wooded area (50-75% canopy closure)

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a large lithic scatter overlooking the Leon River. Ecofacts observed include shell, and burned rock density is light. Artifact density is high and observed artifacts include a *Clear Fork* tool, a biface, a *Bulverde* dart point, a retouched flake, a side scraper, a core, a chopper, flakes, and ground stone. Material collected include flakes, the *Clear Fork* tool, and the *Bulverde* dart point. Three shovel tests were excavated on the site. One contained 11 flakes and another 21 flakes extending to 45 cm. A shovel test yielded 27 unburned flakes and 5 burned flakes. The site is reported to be in good condition with 40% of the surface area affected by foxhole digging road construction (Figure 16). The diagnostic artifacts collected indicate a chronology of Early Archaic for this site. No other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a lithic scatter overlooking the Leon River with both ecofacts and diagnostic artifacts. The site is in good condition and shovel testing by the surveyors indicate that cultural material is present. Testing of the site is recommended and it is potentially eligible for the National Register.

SITE: 41CV1376

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 765 feet

NEAREST WATER (DISTANCE): 1,820 meters

AREA: 16,800 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a very thin lithic scatter (most are non-cultural due to tank traffic) and possible procurement area. No ecofacts were observed. Artifact density is low to none, and no artifacts were observed. The condition of the site is reported to be poor with 60% of the surface area affected by erosion and military tank traffic. The chronology of this site is unknown. No other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: This site consists of a very thin lithic scatter, probably caused by tank traffic. The surveyors noted that if the previous survey (FIN 1943) hadn't found a point, they would not have recorded it. Because this is probably an "artificial" site created by modern military traffic, it appears to have limited potential for providing information relevant to the prehistory of Central Texas. It is not eligible for the National Register and no further work is recommended.

SITE: 41CV1469

ENVIRONMENTAL ZONE: Lowland

ANDFORM: Terrace

ELEVATION: 745 feet

NEAREST WATER (DISTANCE): 600 meters

AREA: 4,900 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of lithic scatter on the surface and lithics eroding out of and into a disturbed area. No ecofacts were noted. Artifact density is low with the majority located in the depression. Observed artifacts were cores, a retouched flake, a Type I biface, and a uniface scraper. Material collected include the Type I biface and uniface scraper. The site is reported to be in poor condition with 80% of the surface area affected by erosion and plowing. The chronology of this site is unknown. Three negative shovel tests were excavated. Three other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: This site consists of a surficial lithic scatter eroding out of and into a disturbed area. This site appears to have limited potential for providing information relevant to the prehistory of Central Texas. The thin, disturbed, and eroding condition of the lithics and poor condition of the site severely limits its research potential in comparison to other sites within the Fort Hood Military Installation. No further work is recommended.

SITE: 41CV1471

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Terrace

ELEVATION: 735 feet

NEAREST WATER (DISTANCE): 0 meters

AREA: 75 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Midden

DESCRIPTIVE SUMMARY: This site is located on a cut-bank south of Turnover Creek approximately and 5 meters up from the creek bed and consists of a single hearth of burned limestone, a few mussel shells, and thermally altered chert flakes. Ecofacts observed were the mussel shells and charcoal, and burned rock density is heavy. Artifact density is low and observed artifacts include chips, and flakes. No artifacts were collected but soil samples and charcoal were collected for possible dating purposes in the future. The site is listed in poor condition with 65% of the site destroyed due to erosion by flooding. The chronology of this site is unknown. Three other prehistoric sites were found in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: This site was described by the surveyors as a hearth of burned limestone eroding into Turnover Creek. Because the site is in extreme danger of eroding, additional testing in recommended to determine the nature and extent of the site. The site is considered to be potentially eligible for the National Register.

SITE: 41CV1472

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Secondary Terrace

ELEVATION: 735 feet

NEAREST WATER (DISTANCE): 70 meters

AREA: 5,800 square meters

VEGETATION: Grassland with scattered trees

SITE TYPE: Midden

DESCRIPTIVE SUMMARY: This site is an open campsite whose western boundary is cut off at a small dirt road, and consists of a midden with exposure of chert flakes, burned limestone and mussel shells due to pothunters holes. This site seems to be associated with a series of sites along the terrace. Ecofacts observed were shell and bone, and a medium concentration of burned rock was present. Artifact density is high and observed artifacts include chert flakes and chips, a retouched flake, a side scraper, and a metate. The only artifact collected was the metate. A shovel test yielded 10 unburned flakes and 1 burned flake. The site is reported to be in fair condition with 40% of the surface area affected by pothunting and erosion. One shovel test was excavated to depth of 41 cm. The chronology of this site is unknown. Three other prehistoric sites were found in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is an excellent prehistoric campsite with a depth of approximately 50 cm. that is moderately damaged by pothunting and some erosion. The backdirt from the pothunters revealed lithics, mussel shell, burned limestone, a graver a rough side scraper and a metate. Additional testing and excavation is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1473

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Secondary Terrace

ELEVATION: 740 feet

NEAREST WATER (DISTANCE): 300 meters

AREA: 28,400 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Burned rock scatter with lithics

DESCRIPTIVE SUMMARY: The site consists of and open campsite which contains 4 lithic concentration areas and 2 burned rock scatters. Lithic reduction might have been occurring due to the presence of various stages of flake production. The majority of materials was exposed in erosional scars. Mussel shell was the only ecofact noted, and a medium density of burned rock was observed. Artifact density is medium and observed artifacts include flakes and chips, a retouched flake, a side scraper, one untyped dart point, a *Pedernales* dart point, and a graver. The condition of the site was fair with 75% of the surface area affected by erosion, collecting, and road construction. The two dart points were collected. The diagnostic artifact collected indicate a chronology of the Middle Archaic for this site. Three other prehistoric sites were found in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: This is an open campsite with burned rock scatters and lithic concentrations with a depth of approximately 30 cm. Much of the lithic material is exposed in erosional scars and has good potential for intact buried deposits. Additional testing and excavation is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1477

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 735 feet

NEAREST WATER (DISTANCE): 200 meters

AREA: 28,400 square meters

VEGETATION: Wooded area

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a large lithic scatter which begins on a knoll and erodes down slope to the second terrace. This site is also located on the same landform as historic site 41CV600. Ecofacts observed consists of mussel shells, and a light density of burned rock was noted. Artifact density is medium and observed artifacts include chips, flakes, a retouched flake, a burin, and a chopper. A dart point identified as a *Marcos* was collected. The site is reported to be in fair condition with 60% of the surface area affected by road construction, erosion, and tank damage. One sterile shovel test pit was excavated. The diagnostic artifact collected indicate that a chronology of Late to Transitional Archaic for this site. This is the only prehistoric site found in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: Because the site is only a surface scatter of lithics, it appears to have limited potential for providing information relevant to the prehistory of Central Texas. The site is not considered eligible for the National Register and no further work is recommended.

SITE: 41CV1478

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 705 feet

NEAREST WATER (DISTANCE): 0 meters

AREA: 1,100 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Burned rock scatter with lithics

DESCRIPTIVE SUMMARY: This site consists of cultural materials eroding out of a zone a cut-bank of Turnover Creek. Most of the artifacts are intact with sterile material above and below. Ecofacts observed include deer bone, charcoal, and mussel shell, and a medium density of burned rock was observed. Artifact density is medium and observed artifacts include a chopper and flakes and chips. Material collected include 4 teeth, 1 bone, and a charcoal sample. The site is reported to be in poor condition with 60% of the surface area affected by erosion. The field crew reported that the site is too deep to test adequately by shovel testing. The chronology of this site is unknown. Two other prehistoric sites were located in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of a lithic and burned rock scatter eroding out of a cut-bank of Turnover Creek and appears to be intact and not a flood deposit site. The depth of the deposit is two meters and impractical for shovel testing. Additional testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1479

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 700 feet

NEAREST WATER (DISTANCE): 0 meters

AREA: 500 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Burned rock scatter with lithics

DESCRIPTIVE SUMMARY: This site consists of a campsite and lithic scatter eroding out of the cut-bank at Turnover creek. A slab lined hearth is just beginning to be eroded by a small gully that drains into Turnover Creek. Burned rock is coming out at different depths which indicate that this is a multicomponent site. Ecofacts observed include charcoal, and mussel shell, and a light density of burned rock was noted. Artifact density is low and observed artifacts include a core and flakes. A charcoal sample was collected. The site is reported to be in fair condition with 60% of the surface area affected by erosion and root activity. One sterile shovel test was excavated. The chronology of this site is unknown. Two other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: This is a multicomponent site with intact deposits of approximately three meters. Testing in recommended because of the nature of the intact deposits and the site is potentially eligible for the National Register.

SITE: 41CV1480

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 700 feet

NEAREST WATER (DISTANCE): 0 meters

AREA: 300 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Lens

DESCRIPTIVE SUMMARY: This site is a 15 centimeter thick lens of various material 4 feet below present ground surface. The lens is approximately 15 centimeters thick and extends 3 meters

horizontally. The site may extend to the east but its too deep to shovel test. The ecofacts observed include charcoal and mussel shell and a light density of burned rock. No artifacts are present at the site. The condition of the site is poor with 60% of the surface affected by erosion and by casual visitors (fishermen). The site is reportedly too deep to shovel test. The chronology of this site is unknown. Two other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of a lens of ecofacts approximately four feet below the ground surface along a cut-bank on the Leon River. Because the site most likely extends further to the east and the possibility of intact cultural deposits are likely, further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1482

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 700 feet

NEAREST WATER (DISTANCE): 25 meters

AREA: 550 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Burned rock scatter with lithics

DESCRIPTIVE SUMMARY: The site consists of a burned rock scatter containing lithics. Mussel shell was the only ecofact observed and burned rock density is light. Artifact density is low, and observed artifacts include a small projectile point, flakes, and ground stone. Material collected include the *Scallorn* projectile point and the ground stone. The site is reported to be in good condition with 40% of the surface area affected by erosion. One shovel test, which was excavated to a depth of 60 cm, contained a few pieces of mussel shell. The diagnostic artifact collected indicate a chronology of the Austin phase for this site. One other prehistoric site occurs in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The survey indicated that this is a burned rock scatter with lithics exposed by a cut-bank by the Leon River. A shovel test five meters from the edge of the cut-bank yielded mussel shell and fire-cracked rock suggesting the presence of intact cultural deposits. Due to the good condition of the site and the presence of diagnostic artifacts, further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1483

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 740 feet

NEAREST WATER (DISTANCE): 260 meters

AREA: 1,400 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: The site consists of a very diffuse scatter of lithics exposed in the walls of an old sandy clay borrow pit, road cuts, and cattle trails. No ecofacts were observed. Artifact density is low, and observed artifacts include Type I and III bifaces, flakes with retouch, and flakes. No artifacts were collected. The condition of the site was reported to be poor with 80% of the surface area affected by a borrow pit. The chronology of the site is unknown. One other prehistoric site occurs in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The survey indicates that the site has a low density of artifacts and no ecofacts. Because of the poor condition of the site due to the borrow pit and erosion, it appears to have limited potential for providing information relevant to the prehistory of Central Texas. Therefore the site is not eligible for the National Register and no further work is recommended.

SITE: 41CV1485

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 725 feet

NEAREST WATER (DISTANCE): 200 meters

AREA: 13,100 square meters

VEGETATION: Grassland with scattered trees

SITE TYPE: Lithic scatter/procurement area

DESCRIPTIVE SUMMARY: The site consists of a diffuse surface lithic scatter with at least two areas of concentration. No ecofacts were observed. Lithics are exposed on the surface and also along the tops of the sides of a natural drainage that has been enlarged by borrowing activities. Abundant gravels and the presence of tested cobbles suggests the site was a locus for lithic raw material procurement. Artifact density is low to medium and observed artifacts include Type II and III bifaces, a retouched flake, end scraper, core, hammerstone, and flakes. No artifacts were collected. The site is reported to be in poor condition with 60% of the surface area affected by erosional drainage expanded by burrowing activities. The chronology of the site is unknown. No other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a lithic procurement area consisting of a surficial lithic scatter. Shovel tests indicate that cultural deposits extend to a depth of 10 cm. below the surface. Because intact cultural deposits are indicated, further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1487

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 700 feet

NEAREST WATER (DISTANCE): 0 meters

AREA: 200 square meters

VEGETATION: Wooded area (50-75% canopy closure)

SITE TYPE: Shell lens

DESCRIPTIVE SUMMARY: This site consists of a thin mussel lens approximately 4.9 meters below ground surface with associated flakes and fire cracked rock exposed by a cut-bank along the Leon River. No ecofacts were observed, and burned rock density is light. The artifact density is low and the only artifacts observed were flakes. No artifact collection was made. The site is reported to be in fair condition with 50% of the surface area affected by erosion. The chronology of the site is unknown. No other prehistoric sites appear in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a shell lens exposed in a cut-bank approximately five meters below ground surface. The depth of the deposit indicates intact cultural material. Further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1489

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 725 feet

NEAREST WATER (DISTANCE): 80 meters

AREA: 2,100 square meters

VEGETATION: Wooded area (0-25% canopy closure)

SITE TYPE: Lithic scatter/procurement area

DESCRIPTIVE SUMMARY: The site consists of a large lithic scatter on a north-facing slope overlooking the Leon River. No ecofacts were observed. Observed artifacts include Type II and III bifaces, a retouched flake, a core, a hammerstone, flakes, and chips. Most of the debitage is comprised of primary and secondary flakes. Lithic raw materials are abundant in the gravels eroding out of the slope. This site probably served as a locus for the procurement of lithic raw materials. No artifacts were collected. The site is reported to be in poor condition with 60% of the surface affected by erosion and road construction. The chronology of this site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a probable lithic procurement station consisting of gravels and cherts eroding out of a slop overlooking the Leon River. Due to the surficial nature of the site and its poor condition, it appears to have limited potential for providing information relevant to the prehistory of Central Texas. No further work is recommended and the site is not eligible for the National register.

SITE: 41CV1490

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 735 feet

NEAREST WATER (DISTANCE): 60 meters

AREA: 2,300 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a thin chert lithic scatter. No ecofacts were observed. Artifact density is low and observed artifacts include a Type I biface, a core, flakes, and chips. The majority of flakes are secondary. No artifacts were collected. The site is reported to be in poor condition with 55% of the surface affected by bulldozing, gas pipeline construction, and erosion. The chronology of this site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of a surficial lithic scatter with a low density of artifacts. Due to the poor condition and the low density of artifacts, this site appears to have limited potential for providing information relevant to the prehistory of Central Texas. No further work is recommended and the site is not eligible for the National Register.

SITE: 41CV1492

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 710 feet

NEAREST WATER (DISTANCE): 40 meters

AREA: 800 square meters

VEGETATION: Wooded area (0-25% canopy closure)

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a diffuse scatter of lithics, fire cracked rock, and mussel shell. Ecofacts include bone and mussel shell, and burned rock density is medium. Artifact density is low and observed artifacts include a Type II biface, a core, and flakes. Five large potholes have been dug into the site. No artifacts were collected. The site is reported to be in poor condition with 60% of the surface affected by pothunter holes and erosion. The chronology of this site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of a lithic scatter with fire cracked rock. The site has been largely impacted by pothunters and is poor condition. Due to the low artifact density and the condition of the site, it appears to have limited potential for providing

information relevant to the prehistory of Central Texas. No further work is recommended and the site is not considered eligible for the National Register.

SITE: 41CV1493

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 730 feet

NEAREST WATER (DISTANCE): 140 meters

AREA: 3,200 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a large lithic scatter on an intermediate upland overlooking the Leon River. No ecofacts were observed. Artifact density is medium and artifacts observed include a Type II biface, an end scraper, cores, a chopper, and flakes. Primary, secondary, and tertiary flakes are present. No artifacts were collected. The site is reported to be in fair condition with 55% of the surface affected by road construction, erosion, and pothunting. The chronology of the site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of a large lithic scatter overlooking the Leon River. The presence of primary, secondary, and tertiary flakes suggests that the site is a knapping station. Shovel tests indicate that intact cultural deposits are present in the northeast portion of the site to a depth of 40 cm. Further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1494

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 730 feet

NEAREST WATER (DISTANCE): 240 meters

AREA: 38,000 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a large, diffuse lithic scatter on an intermediate upland overlooking the Leon River. No ecofacts were observed. Artifact density is medium and artifacts observed include *Bulverde*, *Nolan*, and *Pedernales* dart points, a core, and flakes. Material collected include the three dart point. The site is reported to be in fair condition with

60% of the surface affected by erosion, road construction, and borrow pit activities. The diagnostic artifacts indicate a chronology of Middle Archaic for this site. No other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a scatter of lithics on a slope overlooking the Leon River. The site is in fair condition with several diagnostic artifacts. Further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1495

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Secondary terrace

ELEVATION: 720 feet

NEAREST WATER (DISTANCE): 35 meters

AREA: 1,700 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a moderately dense lithic scatter eroding out of a gully. No ecofacts were observed. Artifact density is medium and artifacts observed include a retouched flake, a core, a hammerstone, flakes, and chips. No artifacts were collected. The site is reported to be in fair condition with buried deposits still intact. Fifty percent of the surface area has been affected by erosion and point collection. The chronology of this site is unknown. No other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of an eroding lithic scatter approximately 60 cm. from the ground surface. The site is highly eroded but the surveyors state that the site has good potential for buried deposits. Further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1496

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 720 feet

NEAREST WATER (DISTANCE): 1,550 meters

AREA: 6,000 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Lithic scatter/procurement area

Figure 18. View of Cutbank Wall at 41CV1495.

DESCRIPTIVE SUMMARY: This site consists of a diffuse lithic scatter. No ecofacts were observed and burned rock density is light. Artifact density is low to medium and observed artifacts include a Type II biface, a core, chopper and flakes. Five flakes were collected from a shovel test. The site is reported to be in poor condition with 60% of the surface area affected by airstrip construction and a dirt road. Of two nonsterile shovel tests, one contained one flake at 15-30 cm and the other contained 4 flakes at 15-45 cm. The chronology of this site is unknown. One other prehistoric site occurs in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is described by the surveyors as a small diffuse lithic scatter and procurement area with chert gravels present in the deposits. Although the site has been disturbed by construction, shovel tests indicate intact cultural materials may be present in the higher portions of the site. Further work is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1499

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 720 feet

NEAREST WATER (DISTANCE): 840 meters

AREA: 3,100 square meters

VEGETATION: Bare ground

SITE TYPE: Lithic scatter/procurement area

DESCRIPTIVE SUMMARY: This site is a small diffuse lithic scatter and lithic procurement area. No ecofacts were observed and burned rock density was light. Artifact density is low and artifacts observed include a Type II biface, an end scraper, core fragments, and flakes. Some of the lithics have been thermally altered. Most lithics are primary and secondary flakes. Chert occurs in the form of cobbles, not tabular pieces. No artifacts were collected. The site is reported to be in poor condition with 75% of the surface area affected by a military road/trail, a borrow pit, and erosion. The chronology of this site is unknown. No other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a surficial scatter of lithics and probably a lithic procurement area. Because artifact density is low and the poor condition of the site, it appears to have limited potential for providing information relevant to the prehistory of Central Texas. It is not eligible for the National Register and no further work is recommended.

SITE: 41CV1501

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 700 feet

NEAREST WATER (DISTANCE): 470 meters

AREA: 6,300 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site is a very diffuse lithic scatter, however shovel testing shows that the deposit extends to a depth of at least 70 cm. Site boundaries are unclear due to the buried nature of the site. No ecofacts were observed. Artifact density is low and artifacts observed include core fragments and flakes. No artifacts were collected. The site is reported to be in fair condition with 40% of the surface affected by military trails and land clearing. The chronology of this site is unknown. No other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a very diffuse lithic scatter. Two shovel tests indicate the site is mainly buried and has intact cultural deposits to a depth of 70 cm. Further testing is recommended to establish the boundaries and depth of the site. The site is potentially eligible for the National Register.

SITE: 41CV1504

ENVIRONMENTAL ZONE: Upland

LANDFORM: Contact Zone

ELEVATION: 800 feet

NEAREST WATER (DISTANCE): 820 meters

AREA: 380 square meters

VEGETATION: Wooded area (0-25% canopy closure)

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a very diffuse lithic scatter with some fire-cracked rocks on the lower slopes of Langford Mountain. No ecofacts were observed, and burned rock density was light. Artifact density is low, and observed artifacts include a projectile point, a retouched flake and flakes. No artifacts were collected. The site is reported to be in poor condition with 70% of the surface area affected by modern military activities and erosion. The chronology of this site is unknown. Two other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of a diffuse lithic scatter with fire-cracked rocks on a lower slope of Langford Mountain. The surveyors noted that the situation of the site suggests cultural materials probably eroded or washed down from higher elevations. The site is in poor condition and is severely impacted. The cultural materials are out of primary context and the site appears to have limited potential for providing information relevant to the prehistory of Central Texas. The site is not eligible for the National Register and no further work is recommended.

SITE: 41CV1505

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 740 feet

NEAREST WATER (DISTANCE): 400 meters

AREA: 52,000 square meters

VEGETATION: Wooded area (0-25% canopy closure)

SITE TYPE: Lithic scatter/medicine wheel

DESCRIPTIVE SUMMARY: This site consists of a "medicine wheel" and associated lithic scatter. The rock alignment consists of two concentric circles joined by a series of approximately 1 meter wide spokes. The inner circle is approximately 27 meters in diameter. The outer circle is approximately 49 meters in diameter. The sides of the spokes are delineated by 2 parallel rows of limestone rocks and the area between the sides is filled with smaller limestone pebbles. The undisturbed rocks are firmly set in the ground, with only the tops visible. Only the western half of the alignment is visible. The eastern half is obscured by vegetation and many of the rocks have been displaced (six spokes are visible). The associated lithic scatter is large and diffuse, but in several concentrations of debitage and tools. Two concentrations of large scrapers indicate heavy-duty activities. No ecofacts were observed, and burned rock density (limestone) is medium. Artifact density is medium, and observed artifacts observed include 1 *Clear Fork* tool, 2 uniface scrapers, 1 *Angostura* dart point, 1 untyped dart point, 1 *Scallorn* arrow point, Type III biface fragments, retouched flakes, cores hammerstones, choppers, flakes, chips, and a pestle. Material collected include the projectile points, the pestle, the *Clear Fork* tool, and the uniface scrapers. The condition of the site is reported to be in good condition with 50% of the surface area affected by erosion, tree clearance, and modern military activities. The diagnostic artifacts collected

indicate a chronology of Late Paleoindian/Early Archaic and the Austin phase for this site. One other prehistoric occur in the same quad. Four negative shovel tests were excavated in the terrace below the medicine wheel (east).

ASSESSMENTS AND RECOMMENDATIONS: This site consists of a "medicine wheel" and associated lithic scatter. The site was surveyed and mapped by the Texas A&M University Field school in 1990. Because of its uniqueness, diagnostic artifacts and good condition of the site, nomination to the National Register and protection is recommended.

SITE: 41CV1506

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Hillock or knoll

ELEVATION: 700 feet

NEAREST WATER (DISTANCE): 300 meters

AREA: 24,000 square meters

VEGETATION: Wooded are (25-50% canopy closure)

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a large lithic scatter on high ground overlooking the Leon River. Ecofacts observed include mussel shell, and burned rock density is medium. Artifact density is high, and artifacts observed include Type I and II bifaces, a *Martindale* dart point, a retouched flake, a side scraper, an end scraper, a core, a chopper, flakes, and a mano (fragments of quartzite). Secondary and Tertiary Flakes are abundant, suggesting the site functioned as a knapping station. Material collected include the dart point and 1 lithic for chert identification. The condition of the site is reported to be in fair condition with 50% of the surface area affected by erosion and modern military activities. The diagnostic artifacts collected indicate a chronology of Early Archaic for this site. Two other prehistoric site occurs in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of a large lithic scatter overlooking the Leon River. Although the higher elevations of the site are deflated, the presence of thicker soils on the lower areas remains suggesting intact cultural deposits. Due to the high artifact density and the presence of diagnostic artifacts, and probable intact cultural deposits, further testing is recommended. The site is potentially eligible for the National Register.

SITE: 41CV1507

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 775 feet

NEAREST WATER (DISTANCE): 300 meters

AREA: 88,000 square meters

VEGETATION: Wooded are (0-25% canopy closure)

SITE TYPE: Burned rock scatter with lithics

DESCRIPTIVE SUMMARY: This site is a very large lithic scatter/campsite on high ground and slopes overlooking the Leon River. Ecofacts observed include mussel shell, and burned rock density is heavy. Artifact density is medium (especially along the bluff edge and lower slopes), and artifacts observed include Type II and III bifaces, 2 untyped dart points bases, a *Marcos* dart point base, a *Pedernales* dart point base, a retouched flake, a side scraper, a burin scraper resharpening flake, a core, a hammerstone, a chopper, and flakes. The 4 point bases were collected. The condition of the site is reported to be in fair condition with 60% of the surface area affected by vegetation burning/clearing and erosion. The diagnostic artifacts recovered indicate a chronology of Middle, and Late to Transitional Archaic for this site. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a very large lithic scatter with two burned rock middens. Much of the burned limestone in the area is probably recent. Although much of the site has been deflated and materials have been displaced downslope, testing is recommended for the two observed burned rock middens which are still basically in primary context. The site is potentially eligible for the National Register.

SITE: 41CV1508

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Hillock or knoll

ELEVATION: 750 feet

NEAREST WATER (DISTANCE): 420 meters

AREA: 750 square meters

VEGETATION: Wooded area (0-25% canopy closure)

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site is a very light lithic scatter situated on a tongue of land bounded by two natural drainages leading into the Leon river valley. Small concentrations of lithics occur at either end of the site. No ecofacts were observed. Artifact density is low and artifacts observed include Type II and III bifaces, projectile points, a side scraper, a chopper, and flakes. No artifacts were collected. The condition of the site is reported to be in fair condition with 60% of the surface area affected by erosion and vegetation clearing and burning. The chronology of the site is unknown. Two other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a light lithic scatter, probably associated with 41CV1507 from which it is separated by a natural drainage. Due to the low artifact density, the surficial and deflated nature of the site, and its poor condition, it appears to have limited potential for providing information relevant to the prehistory of Central Texas. No further work is recommended and the site is not eligible for the National Register.

SITE: 41CV1560

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 693 feet

NEAREST WATER (DISTANCE): 35 meters

AREA: 450 square meters

VEGETATION: Wooded area (25-50% canopy closure)

SITE TYPE: Campsite

DESCRIPTIVE SUMMARY: This site consists of a deeply buried (2.5-3 meters) materials. It is exposed in the south bank of an unnamed tributary near its confluence with the Leon River. Most of the material observed was in an area of slump. The depth of the deposits indicate intact materials are present. Ecofacts observed include mussel shell, and burned rock density is light. Artifact density is low, and artifacts observed includes a possible hammerstone, fire-cracked rocks, and flakes. No artifacts were collected. The condition of the site is reported to be in fair condition with 50% of the surface area affected by erosion. The chronology of this site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of cultural materials exposed in the south cut-bank of an unnamed tributary of the Leon River. Because the site is deeply buried and intact materials are present, further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1510

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 695 feet

NEAREST WATER (DISTANCE): 50 meters

AREA: 24,400 square meters

VEGETATION: Grasslands

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a light lithic scatter exposed in a meander scar. There are several areas of concentrations. The site probably extends beyond the scar, however ground visibility is obscured by dense grass cover. There is a high probability of intact subsurface cultural deposits. Ecofacts observed include mussel shell, and burned rock density is light. Artifacts observed include a Type III biface and flakes. No artifacts were collected. The condition of the site is reported to be in good condition with 30% of the surface affected by erosion. The chronology of this site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of a light lithic scatter with several areas of concentration. Because the site extends into dense grass cover, the exact extent of the site is unknown. The surveyors stated that there is a high probability of intact subsurface cultural deposits. Because of the high probability of intact cultural deposits and the good condition of the site, further testing is recommended and it is potentially eligible for the National Register.

SITE: 41CV1511

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 690 feet

NEAREST WATER (DISTANCE): 3 meters

AREA: 100 square meters

VEGETATION: wooded area (0-25% canopy closure)

SITE TYPE: Hearth

DESCRIPTIVE SUMMARY: This site consists of a hearth with mussel shell and charcoal. Ecofacts observed include mussel shell, and burned rock density is medium. Artifact density is low, and no artifacts were observed. Material collected include a matrix sample for C-14 dating. The condition of the site is reported to be fair with 60% of the surface area affected by erosion and tree fall. The chronology of this site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of mussel shell and charcoal associated with a hearth. Because the hearth appears to be intact and in danger of eroding away and a high potential exists for other buried deposits, further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1512

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: ?

NEAREST WATER (DISTANCE): 0 meters

AREA: 250 square meters

VEGETATION: Wooded area (0-25% canopy closure)

SITE TYPE: Midden

DESCRIPTIVE SUMMARY: This site is located at the base of a toe slope and probably extends 20 meters in all directions. Ecofacts observed include mussel shell, and burned rock density is medium. Artifact density is low, and artifacts observed include flakes and chips. No artifacts were collected. The site is reported to be in poor condition with 50% of the surface affected by

potholes, erosion, and tracks. The chronology of this site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a midden located at the base of a toe slope with burned rock, lithics, and mussel shell. The site is probably associated with 41CV1511. Due to the high potential for buried cultural deposits because of the fluvial nature of the deposit and the likely association with 41CV1511, further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1515

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 690 feet

NEAREST WATER (DISTANCE): 3 meters

AREA: 124 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Midden

DESCRIPTIVE SUMMARY: This site consists of several burned rock, mussel shell and two flakes eroding out of the south bank of the Leon River about 1 meter below the surface. The exact dimensions of the site is unknown as the site is deeply buried. Ecofacts observed include mussel shell, and burned rock density is light. Artifact density is low and artifacts observed include flakes and chips. No artifacts were collected. The site is reported to be in fair condition with 50% of the surface area affected by erosion. One sterile shovel test was excavated to a depth of 75 cm. The chronology of this site is unknown. Three other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a midden consisting of burned rock, mussel shell and flakes eroding out of the south bank of the Leon River. The exact dimensions of the site are unknown because the site is deeply buried. Due to the depth of the deposit, intact cultural material is highly likely and further testing is recommended. The site is potentially eligible for the National Register.

SITE: 41CV1516

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 690 feet

NEAREST WATER (DISTANCE): 160 meters

AREA: 1,200 square meters

VEGETATION: Wooded are (0-25% canopy closure)

SITE TYPE: Burned rock scatter with lithics

DESCRIPTIVE SUMMARY: This site consists of a possible buried hearth and fire-cracked rock exposed in the left cutbank of Henson Creek. The hearth and other fire-cracked rock are tabular limestone. Mussel shell and chert flakes (some heated) are associated with the hearth. Given the depth of the hearth, intact cultural deposits may be present. However, the materials may have been flood deposited. Ecofacts observed include mussel shell, and burned rock density is light. Artifact density is low, and artifacts observed include flakes. Two shovel tests were excavated to a depth of 75 cm. Mussel shell fragments and 1 flake (burned) were recovered from a shovel test. The condition of the site is reported to be in fair condition with 50% of the surface area affected by erosion, modern military activities, and vegetation clearing. The chronology of this site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of a possible buried hearth and fire-cracked rock exposed in the left cutbank of Henson Creek. Because the hearth is approximately one meter below the ground surface, intact cultural materials is likely. However, the materials may have been flood deposited. The site should be revisited and further assessed prior to any specific recommendations. Until that time, it should be considered potentially eligible for the National Register.

SITE: 41CV1517

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 690 feet

NEAREST WATER (DISTANCE): 22 meters

AREA: 1,700 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Midden

DESCRIPTIVE SUMMARY: This site consists of a scatter of mussel shell, lithics, and fire-cracked rocks exposed in the left (north) cutbank of Henson Creek at its confluence with the Leon River. The fire-cracked rock is tabular limestone, possibly used in slab-lined hearths. Material occurs at approximately 70 cm. below surface in the cutbank. Two pothunter holes are present at the top of the cutbank with shell, lithics, and fire-cracked rock occurring in the backdirt piles. Secondary and tertiary flakes are abundant in the cutbank and shovel test holes. Ecofacts observed include mussel shell, and burned rock density is medium. Artifact density is medium, and artifacts observed include flakes. Three shovel tests were excavated to a depth of 75 cm. Material collected include the shovel test materials consisting of 18 unburned flakes, 2 burned flakes, mussel shell, snails, and burned rock. The condition of the site is reported to be in good condition with 50% of the surface area affected by erosion, modern military activities, pot hunters, and vegetation clearing. The chronology of this site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a probable midden with a scatter of mussel shell, lithics, and fire-cracked rocks exposed in the north cut-bank of Henson Creek. Shovel tests by the surveyors indicate the presence of intact cultural materials extending farther

into the floodplain. Further testing is recommended due to the intact nature of the deposits and to determine the extent of the site. The site is potentially eligible for the National Register.

SITE: 41CV1523

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 725 feet

NEAREST WATER (DISTANCE): 160 meters

AREA: 38,800 square feet

VEGETATION: Wooded area

SITE TYPE: Lithic scatter/procurement area

DESCRIPTIVE SUMMARY: This site consists of a large lithic procurement station and knapping area located on high ground of the upper slopes and fingers overlooking the Leon River. The lithic scatter is generally thin, but several areas of concentration are present. Much of the site is deflated, especially the northern half. Very little fire-cracked rock is present and most appears to be the result of modern fires. Many quartzite cobbles suitable for use as hammerstones were observed and some had been utilized as hammerstone. A scattered hearth was observed in the northeast portion of the site. Ecofacts observed include mussel shell, some which were associated with the hearth. Burned rock density is light. Artifact density is medium, and artifacts observed include Type I and II bifaces, a projectile point, a retouched flake, a core, hammerstones, and flakes. No artifacts were collected. The site is reported to be in poor condition with 80% of the surface area affected by erosion, modern military activities, cattle, and road construction. The chronology of this site is unknown. One other prehistoric site occurs in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: This site consists of a lithic procurement and knapping station overlooking the Leon River. Although much of the site is deflated, and subject to slopewash, the southern area is not completely deflated and intact deposits may be present. Further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1524

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 720 feet

NEAREST WATER (DISTANCE): 280 meters

AREA: 29,600 square meters

VEGETATION: Wooded area

SITE TYPE: Lithic scatter/procurement area

DESCRIPTIVE SUMMARY: This site consists of a lithic scatter and chert procurement area on a south-facing slope near Henson Creek. Many tested cobbles and primary flakes are present. Many small/light artifacts and flakes have been washed to the bottom of the slope where they have collected, forming mini-"alluvial fans". Very little material appears to be in primary context. The remnants of a historic rock wall is also present. No ecofacts were observed. Artifact density was medium, and artifacts observed include Type I, II, and III bifaces, a retouched flake, an end scraper, a core, a chopper, flakes, tested cobbles, and chips. No artifacts were collected. The site is reported to be in poor condition with 85% of the surface are affected by erosion, modern military activities, and tree cutting. The chronology of this site is unknown. Three other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of a lithic scatter and chert procurement area on a south-facing slope near Henson Creek. The site has been subject to a large amount of erosion and modern military activities. Due to the poor condition and lack of integrity of the site, it appears to have limited potential for providing information relevant to the prehistory of Central Texas. The site is not eligible for the National Register, and no further work is recommended.

SITE: 41CV1526

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 690 feet

NEAREST WATER (DISTANCE): 250 meters

AREA: 875 square meters

VEGETATION: Croplands

SITE TYPE: Burned rock scatter with lithics

DESCRIPTIVE SUMMARY: This site consists of burned limestone rock, flakes and mussel shell about 1 meter below ground surface in the south cut-bank of Henson Creek. The deposit is about 50 cm. thick and extends for about 10 meters. Ecofacts include mussel shell, and burned rock density is light (limestone). Artifact density is low, and artifacts observed include flakes. No artifacts were collected. The site is reported to be in poor condition with 60% of the surface area affected by erosion. The chronology of this site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a cluster of burned limestone, a few flakes and some mussel shell. The site is not eligible for the National Register due to the poor condition of the site and the fact that the site extends onto private property adjacent to the military post. No further work is recommended.

SITE: 41CV1527

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 690 feet

NEAREST WATER (DISTANCE): 70 meters

AREA: 625 square feet

VEGETATION: Wooded area (0-25% canopy closure)

SITE TYPE: Burned rock scatter with lithics

DESCRIPTIVE SUMMARY: This site consists of a sporadic thin scatter of burned limestone, few flakes, and some mussel shell buried about 1 meter below ground surface. Ecofacts observed include mussel shell, and burned rock density is light (limestone). Artifact density is low, and artifacts observed consists of only flakes. No artifacts were collected. The site is reported to be in poor condition with 60% of the surface area affected by erosion. The chronology of this site is unknown. Four other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The deposit is not constant but rather a sporadic clustering of fire-cracked rock, shell, and flakes. The site is not eligible for the National Register due to the thin nature of the deposit and the poor condition of the site. No further work is recommended.

SITE: 41CV1528

ENVIRONMENTAL ZONE: Upland

LANDFORM: Ridge

ELEVATION: 880 feet

NEAREST WATER (DISTANCE): 500 meters

AREA: 4,100 square meters

VEGETATION: Wooded area (50-75% canopy closure)

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a diffuse lithic scatter situated on a ridge overlooking Henson Creek and an unnamed tributary. Much of the material is near the edge of the ridge. The presence of an abundance of lithics on the slopes indicate the site has been subject to erosion. Some of the areas of the site appear to be deflated. No ecofacts were observed. Artifact density was low, and material observed include Type III biface, two untyped dart point, 2 *Martindale* dart points, a core, and flakes. Material collected consisted of several projectile points. The condition of the site is reported to be in fair condition with 60% of the surface area affected by erosion, cutting of trees, and modern military activities. The diagnostic artifacts indicate a chronology of Early Archaic for this site. No other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of a very diffuse lithic scatter overlooking Henson Creek and an unnamed tributary. The site has been subjected to much erosion and modern military activities and tree cutting. It appears to have limited potential for

providing information relevant to the prehistory of Central Texas. The site is not eligible for the National Register, and no further work is recommended.

SITE: 41CV1530

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 900 feet

NEAREST WATER (DISTANCE): 300 meters

AREA: 5,200 square meters

VEGETATION: Wooded area (50-75% canopy closure)

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a diffuse lithic scatter on a ridge overlooking an unnamed intermittent creek. No ecofacts were observed. Artifact density is low, and artifacts observed include a type III biface, an untyped dart point, an *Ensor* dart point, and flakes. The 2 dart points were collected. The site is reported to be in fair condition with 60% of the surface area affected by erosion and the cutting of trees. The diagnostic artifacts indicate a chronology of Transitional Archaic. One other prehistoric site occurs in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a diffuse of lithic scatter overlooking an unnamed intermittent creek. Because artifact density is low and the site has been subjected to much erosion, it appears to have limited potential for providing information relevant to the prehistory of Central Texas. The site is not eligible for the National Register and no further work is recommended.

SITE: 41CV1531

ENVIRONMENTAL ZONE: Upland

LANDFORM: Ridge

ELEVATION: 890 feet

NEAREST WATER (DISTANCE): 40 meters

AREA: 35 square meters

VEGETATION: Wooded area (0-25% canopy closure)

SITE TYPE: Rockshelter

DESCRIPTIVE SUMMARY: This site consists of a limestone rockshelter overlooking an unnamed tributary of the Leon River. The rockshelter is 8.5 meters long and has a maximum depth of 2.5 meters. The opening height is approximately 90 cm. Although no lithics were observed on the surface above the rockshelter, several flakes were recovered from a shovel test placed just inside

the dripline. There are a series of small rockshelters running up and down the ridge. Shovel tests indicate cultural materials are present. No ecofacts were observed. Artifact density was low in the subsurface and none on the surface, and the only artifacts present were flakes. Two shovel tests were excavated to a depth of 20-30 cm. One contained 5 flakes. The site is reported to be in good condition with 30% of the surface area affected by erosion, rock fall/spalling, and rodent disturbance. The chronology of this site is unknown. One other prehistoric site occurs in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is a limestone rockshelter overlooking an unnamed tributary of the Leon River. Because shovel tests indicate that intact cultural deposits are present and the good condition of the site, further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1533

ENVIRONMENTAL ZONE: Upland

LANDFORM: Ridge

ELEVATION: 810 feet

NEAREST WATER (DISTANCE): 1,550 meters

AREA: 10,8000 square meters

VEGETATION: Wooded area (50-75% canopy closure)

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a diffuse lithic scatter on a ridge overlooking an intermittent drainage. Much of the site is deflated. Limestone bedrock is exposed along the ridgetop. Some of the lithics have been thermally altered. No ecofacts were observed, and burned rock density is light. Artifact density is low, and artifacts observed include Type III bifaces, a *Wells* dart point, a side scraper, core fragments, hammerstone fragments, and flakes. The site is reported to be in fair condition with 50% of the surface area affected by erosion and modern military activities. The diagnostic artifacts indicate a chronology of Early Archaic for this site. No other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: This site was recorded as a diffuse and surficial lithic scatter overlooking an intermittent drainage with some of the lithics thermally altered. The surveyors noted that the junipers and brush have held some of the soil in place therefore these areas may potentially contain intact deposits. Consequently, further testing is recommended and the site is potentially eligible for the National Register.

SITE: 41CV1536

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 880 feet

NEAREST WATER (DISTANCE): 260 meters

AREA: 120,000 square meters

VEGETATION: Wooded area (25-50% canopy closure)

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a large lithic scatter in the intermediate upland near a creek. At least two lithic concentrations are present. Some of the lithics have been thermally altered. No ecofacts were observed, and burned rock density is light (limestone). Artifact density is high, and observed artifacts include Type II and III bifaces, an untyped dart point, *Angostura*, *Ensor*, *Pedernales*, *Nolan*, and *Castroville* dart points, a retouched flake, a side scraper, a core, a chopper, flakes, and fragments of a quartzite mano. Material collected include the mano fragments and the dart points. The site is reported to be in good condition with 40% of the surface area affected by erosion and modern military activities. The diagnostic artifacts indicate a chronology of Late Paleoindian, Early, Middle, Late, and Transitional Archaic for this site. No other prehistoric sites occur in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: This site was recorded as a large lithic scatter near an unnamed creek. Based on recovered projectile points, the site was intermittently occupied from the Late Paleoindian Period through the Terminal Archaic. Because of the good condition of the site and the high frequency of artifacts, further testing is recommended to determine the site boundaries and to determine of intact cultural deposits are present. Until that time, the site should be considered potentially eligible for the National Register.

SITE: 41CV1539

ENVIRONMENTAL ZONE: Upland

LANDFORM: Ridge

ELEVATION: 790 feet

NEAREST WATER (DISTANCE): 300 meters

AREA: 2,600 square meters

VEGETATION: Wooded area (50-75% canopy closure)

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a lithic scatter on an upland slope overlooking Preacher's Creek. Tested chert cobbles are abundant and flakes are mainly primary and secondary. A few finished tools are present. The most common tool form is the biface preform. No ecofacts were observed. Artifact density is medium, and observed artifacts include Type II and III bifaces, an end scraper, a hammerstone, and flakes. No material was collected. The site is reported to be in fair condition with 60% of the surface area affected by erosion and a powerline road. The chronology of this site is unknown. One other prehistoric site occurs in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The surveyors indicate that this site is a lithic scatter overlooking Preacher's Creek. Due to the surficial and deflated nature of the site and its poor condition, it appears to have limited potential for providing information relevant to the

Figure 19. Overview of Northern Portion of Site 41CV1536.

prehistory of Central Texas. The site is not eligible for the National Register and no further work is recommended.

SITE: 41CV1540

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Ridge

ELEVATION: 735 feet

NEAREST WATER (DISTANCE): 240 meters

AREA: 8,800 square meters

VEGETATION: Wooded area (50-75% canopy closure)

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a dense lithic scatter on a high bench of a ridge. At least 3 distinct, knapping stations are present. They are fairly tight cluster of the same type of chert chipping debris. Although these knapping stations are exposed in deflated areas, the tightness of the clusters suggest they are intact. The chert present do not occur naturally on the site. No ecofacts were observed, and burned rock density was light (limestone and chert). Artifact density is high, and observed artifacts include a *Marcos* dart point, an *Ensor* dart point, 5 *Scallorn* arrow points, 2 untyped arrow points, a *Castroville* dart point, a uniface scraper, a utilized biface

fragment, Type II and III bifaces, a retouched flake, a core, a hammerstone, and flakes. The projectile points and 30 unburned and 4 burned flakes from 2 shovel tests were collected. The site is reported to be in good condition with 40% of the surface area affected by erosion. The diagnostic artifacts indicate a chronology of Late and Transitional Archaic, and the Austin phase for this site. One other prehistoric site occurs in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: This site was recorded as a dense lithic scatter on a high bench of a ridge. The surveyors noted at least three distinct knapping stations, probably intact. Because the three knapping stations appear to be fairly intact, the high density of artifacts, further collection and testing is needed before they are destroyed by erosion. Until that time, the site should be considered potentially eligible for the National Register.

SITE: 41CV1541

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Contact Zone

ELEVATION: 715 feet

NEAREST WATER (DISTANCE): 80 meters

AREA: 7,400 square feet

VEGETATION: Grasslands with scattered trees

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a small lithic scatter situated on the lower portion of a toe slope. It is bounded on the east by a military fence and on the south by an intermittent drainage. The site may extend farther up-slope to the west, however visibility is poor. Much of the site is deflated and has been subject to erosion. No ecofacts were observed, and burned rock density is light (chert). Artifact density is medium, and artifacts observed include Type II and III bifaces, projectile points, a core, hammerstone fragments, and flakes. No material was collected. The site is reported to be in poor condition with 70% of the surface affected by erosion and tree cutting. The chronology of this site is unknown. One other prehistoric site occurs in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: This site consists of a small, deflated lithic scatter on the lower portions of a toe slope. Because of the poor and deflated condition of the site, it appears to have limited potential for providing information relevant to the prehistory of Central Texas. No further testing is recommended and the site is not considered eligible for the National Register.

SITE: 41CV1542

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Contact zone

ELEVATION: 715 feet

NEAREST WATER (DISTANCE): 120 meters

AREA: 9,300 square meters

VEGETATION: Grassland with scattered trees

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a lithic scatter exposed on an erosional scar of a toe slope overlooking Preacher's Creek. Most of the site is deflated and tertiary flakes are abundant. No ecofacts were observed and burned rock density is light (limestone). Artifact density is medium, and artifacts observed include Type II and III bifaces, a knife fragment, an end scraper, a core, a hammerstone, and flakes. No artifacts were collected. The site is reported to be in poor condition with 80% of the surface area affected by erosion. The chronology of this site is unknown. One other prehistoric site occurs in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site is recorded as a deflated lithic scatter overlooking Preacher's Creek. Because most of the site is deflated and much of the cultural material occurs on the slopes and bottoms of erosional cuts on the site, it appears to have limited potential for providing information relevant to the prehistory of Central Texas. No further work is recommended and the site is not eligible for the National Register.

SITE: 41CV1543

ENVIRONMENTAL ZONE: Upland

LANDFORM: Ridge

ELEVATION: 880 feet

NEAREST WATER (DISTANCE): 340 meters

AREA: 300 square meters

VEGETATION: Wooded area (0-25% canopy closure)

SITE TYPE: Lithic scatter

DESCRIPTIVE SUMMARY: This site consists of a lithic scatter on a toe slope near an unnamed intermittent tributary of Owl Creek. Some of the lithics have been thermally altered. Shovel tests indicate intact cultural deposits are present. No ecofacts were observed, and burned rock density is light. Artifact density is medium, and artifacts observed include Type I and II bifaces, and flakes. The only material collected were 7 unburned and 2 burned flakes from a shovel test. The site is reported to be in fair condition with 55% of the surface area affected by erosion, tree cutting, burrowing mammals, and a trail/road. The chronology of this site is unknown. No other prehistoric site occurs in the same quad.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of a lithic scatter on a toe slope near an unnamed intermittent tributary of Owl Creek. Shovel tests by the surveyors indicate that intact cultural materials are present. Further testing is recommended to determine the vertical and horizontal extent of the cultural deposits. Until that time, the site should be considered potentially eligible for the National Register.

APPENDIX II

PREHISTORIC MATERIAL CULTURE DISCUSSION

by

John E. Dockall

PREHISTORIC MATERIAL CULTURE DISCUSSION

INTRODUCTION

Lithic remains constitute the most abundant artifact category recovered during the present survey. Thirty-nine complete and fragmentary projectile points, 21 broken or complete formal tools, 3331 pieces of debitage, and 11 pieces of burned rock were collected. The 3211 pieces of debitage were recovered from one knapping station at 41CV1540; a further 120 pieces were recovered from shovel tests at various sites. All burned rock was recovered during shovel testing. This discussion of the recovered lithic material concentrates on a morphological and technological description of all projectile points and formal tools. Previous techniques of analysis used for Fort Hood investigations are applied herein to retain comparability with previous reports. The presentation of formal tool and projectile point data is altered from previous reports. Information is provided on raw material type, artifact form, and technology. The technological discussions incorporate information on techniques of artifact manufacture and breakage. Attempts are also made to determine causes of artifact breakage: manufacture, use, burning, or a combination of factors.

HAFTED BIFACE CLASSIFICATION

The system of classification and description of fragmentary and complete hafted bifaces for this analysis is based upon a scheme developed by Futato (1983) and applied by Ensor (1987a, 1987b). Detail of the theoretical content and methodology may be found in Futato (1983) and Ensor (1987a). The format for hafted biface descriptions follows that used by Ensor (1987a). The format includes (1) class definition following Futato (1983), (2) metric data, (3) raw materials, (4) summary of technological attributes, and (5) a comments section where the point is assigned to a type. Established type names are taken from Turner and Hester (1985) and Suhm and Jelks (1962). Descriptions of other formal flaked artifacts follow a similar format utilized by Ensor (1987a). Metric and provenience data for all projectile points are provided in Table 23.

The concept of clusters, utilized in previous reports (Ensor 1987b) are retained in this report. Projectile point clusters represent groupings that transcend regional sequences/traditions and are useful in interregional comparisons (Carlson et al. 1987:68). Ensor (1987b) utilized chronologies such as Prewitt (1981) and Jelks (1978) as the basis for a chronology for Fort Hood data. A modified and expanded version of the taxonomic classification scheme presented in Krause (1985:23), but originally detailed in Willey and Phillips (1958) was applied by Ensor (1987b) in an analysis of lithic material from Fort Hood. The reader is urged to consult Carlson (1987:25-33) and others for a discussion of the application of this scheme.

FLAKED STONE ARTIFACT CLASSIFICATION

The classification system used for flaked stone artifacts other than projectile points is derived from Collins (1975) and Boisvert et al. (1979:60-65) with slight modifications. This classification system includes both a technological and morphological analysis to develop formal artifact categories. Recently, this analytical system has been successfully applied to studies of lithic assemblage variability for other sites (Ensor 1987a; Ensor and Mueller-Wille 1988; Fields 1988; Saunders and Mueller-Wille 1988). See Boisvert and others (1979:60-65) and Ensor (1987a) for details of the theoretical content and methodology of this classification scheme. Metric and basic provenience data for these artifacts are provided in Table 24.

Table 23. Metric Data for Projectile Points

Site	Type	Catalog Number	Length	Width	Thickness	Basal Width	Juncture Width	Maximum Width	Haft Length	Weight
41BL0967	PEDERNALES	054-179	0.0	0.0	8.0	19.4	0.0	0.0	22.1	00
41BL0967	UNTYPED DART POINT	054-178	0.0	0.0	13.0	21.3	17.7	0.0	13.2	00
41CV0601	BULVERDE	054-012	0.0	25.1	7.5	13.3	16.6	25.1	19.2	00
41CV1473	PEDERNALES	054-209	0.0	25.5	8.2	18.4	19.1	25.5	17.7	00
41CV1473	UNTYPED DART POINT	054-208	90.0	27.0	10.2	15.9	16.6	27.0	19.0	206
41CV1477	MARCOS	054-215	0.0	0.0	9.0	25.8	20.6	0.0	12.7	00
41CV1482	SCALLORN	054-222	24.5	16.7	3.1	8.2	4.9	16.7	5.5	09
41CV1494	BULVERDE	054-048	0.0	33.0	9.8	14.9	18.1	33.0	23.5	00
41CV1494	NOLAN	054-049	58.4	21.2	8.2	17.6	14.5	21.2	15.4	98
41CV1494	PEDERNALES	054-050	65.6	30.3	8.5	17.8	20.1	30.3	18.3	153
41CV1505	ANGOSTURA	054-005	0.0	0.0	5.2	11.2	0.0	0.0	0.0	00
41CV1505	SCALLORN	054-007	0.0	0.0	3.8	10.4	5.2	0.0	8.3	00
41CV1505	UNTYPED DART POINT	054-004	0.0	26.1	7.8	12.2	14.0	26.1	13.9	00
41CV1506	MARTINDALE	054-010	0.0	0.0	6.8	17.8	15.9	0.0	11.2	00
41CV1507	MARCOS	054-056	0.0	0.0	8.0	25.3	19.8	0.0	12.7	00
41CV1507	PEDERNALES	054-058	0.0	0.0	0.0	20.3	0.0	0.0	0.0	00
41CV1507	UNTYPED DART POINT	054-057	0.0	0.0	9.4	18.9	16.1	0.0	17.5	00
41CV1507	UNTYPED DART POINT	054-059	55.2	25.9	6.5	4.8	10.6	25.9	10.0	86
41CV1528	MARTINDALE	054-107	0.0	0.0	7.3	21.0	16.1	0.0	14.3	00
41CV1528	MARTINDALE	054-106	0.0	28.9	7.9	18.2	14.6	28.9	13.4	00
41CV1528	UNTYPED ARROW POINT	054-105	0.0	0.0	3.4	0.0	0.0	0.0	0.0	00
41CV1528	UNTYPED DART POINT	054-104	0.0	32.0	9.5	13.1	15.1	32.0	8.7	00
41CV1530	ENSOR	054-108	0.0	24.2	6.5	22.9	14.6	24.2	11.6	00
41CV1530	UNTYPED DART POINT	054-109	0.0	25.4	6.3	0.0	14.9	25.4	9.2	00
41CV1533	WELLS	054-115	0.0	22.1	7.5	0.0	15.0	22.1	0.0	00
41CV1536	ANGOSTURA	054-117	0.0	6.9	9.0	0.0	0.0	0.0	0.0	00
41CV1536	CASTROVILLE	054-122	0.0	0.0	4.9	19.2	17.5	0.0	11.9	00
41CV1536	ENSOR	054-120	0.0	20.5	5.1	17.7	12.4	20.5	9.2	00
41CV1536	NOLAN	054-121	55.2	21.1	7.2	14.6	13.9	21.1	16.3	82
41CV1536	PEDERNALES	054-116	50.5	25.2	8.4	16.8	19.0	25.2	16.1	91
41CV1536	UNTYPED DART POINT	054-118	29.2	19.3	6.8	9.9	10.6	19.3	9.6	34
41CV1540	CASTROVILLE	054-123	0.0	0.0	6.1	0.0	0.0	0.0	11.5	00
41CV1540	ENSOR	054-132	0.0	0.0	0.0	22.5	17.7	0.0	8.7	00
41CV1540	MARCOS	054-131	0.0	0.0	6.6	20.6	16.5	0.0	9.8	00
41CV1540	SCALLORN	054-124	36.8	20.0	5.4	11.1	5.2	20.0	8.3	23
41CV1540	SCALLORN	054-127	0.0	0.0	4.4	0.0	0.0	0.0	7.8	00
41CV1540	SCALLORN	054-125	0.0	0.0	3.3	8.3	5.5	0.0	6.2	00
41CV1540	SCALLORN	054-126	0.0	15.5	2.7	10.2	6.0	15.5	4.7	00
41CV1540	SCALLORN	054-240	0.0	0.0	3.8	11.3	4.6	0.0	8.0	00
41CV1540	UNTYPED ARROW POINT	054-130	35.4	16.8	3.6	11.4	9.1	16.8	6.5	18
41CV1540	UNTYPED ARROW POINT	054-128	19.2	0.0	3.7	12.6	7.7	0.0	8.0	00

Table 24. Metric Data for Stone Artifacts.

Site Number	Lithic Type	Catalog Number	Length	Width	Thickness	Weight
41CV1469	Uniface	054-181	53.0	29.5	4.9	10.9
41CV1472	Metate	054-228	0.0	0.0	0.0	0.0
41CV1478	Core	054-218	71.0	61.1	77.5	88.3
41CV1480	Core	054-220	46.7	40.3	17.8	43.1
41CV0801	Clear Fork Tool	054-021	81.3	36.3	23.2	68.5
41CV1505	Clear Fork Tool	054-003	0.0	0.0	0.0	0.0
41CV1505	Biface II	054-006	0.0	0.0	0.0	0.0
41CV1505	Uniface	054-002	0.0	0.0	0.0	0.0
41CV1505	Uniface	054-008	0.0	0.0	0.0	0.0
41CV0092	Hammerstone	054-102	87.4	58.6	48.5	416.1
41CV1536	Mano	054-119	0.0	0.0	42.1	0.0
41CV1540	Corner Tang Knife	054-129	56.0	27.0	7.1	10.2
41CV1540	Biface I	054-237	0.0	48.9	13.0	34.9
41CV1540	Biface II	054-239	0.0	0.0	8.4	0.0
41CV1540	Biface II	054-229	0.0	0.0	0.0	0.0
41CV1540	Biface II	054-236	0.0	0.0	0.0	0.0
41CV1540	Biface II	054-234	0.0	0.0	0.0	0.0
41CV1540	Biface II	054-232	0.0	0.0	13.7	0.0
41CV1540	Biface II	054-242	0.0	0.0	0.0	0.0
41CV1540	Biface II	054-243	0.0	0.0	0.0	0.0
41CV1540	Biface II	054-230	0.0	0.0	0.0	0.0
41CV1540	Biface II	054-231	0.0	0.0	0.0	0.0
41CV1540	Biface II	054-235	0.0	0.0	0.0	0.0
41CV1540	Biface III	054-241	0.0	0.0	4.7	0.0
41CV1540	Uniface	054-238	0.0	44.0	9.3	0.0
41CV1540	Core	054-233	81.4	31.8	46.1	96.6

HAFTED BIFACES

Paleoindian Stage (9,000 - 5,000 or 6,000 B.C.)

LANCEOLATE PALEOINDIAN CLUSTER (N=2)

Ensor (1987b) includes three types within this cluster. These are *Plainview*, *Golondrina*, and *Angostura*. Specimens from only one type were recorded during this survey.

Angostura (N=2: illustrated is 054-117[1], Figure 20; 054-005)
Raw Material: Both points are manufactured from chert.
Metric Data: See Table 23.
Form: Both specimens are proximal fragments and could not be assigned to a particular morphological class. Basal edges are incurvate and lateral haft element edges are straight and contracting. The cross-sections of these points are biconvex.
Technology: Collateral flaking is present on both specimens. One specimen is slightly beveled in appearance. Bending fractures are present distally on both, and one specimen also exhibits what may be an impact scar remnant along one lateral edge. Lateral edge grinding extends the length of both fragments.

[1]Denotes catalog number.

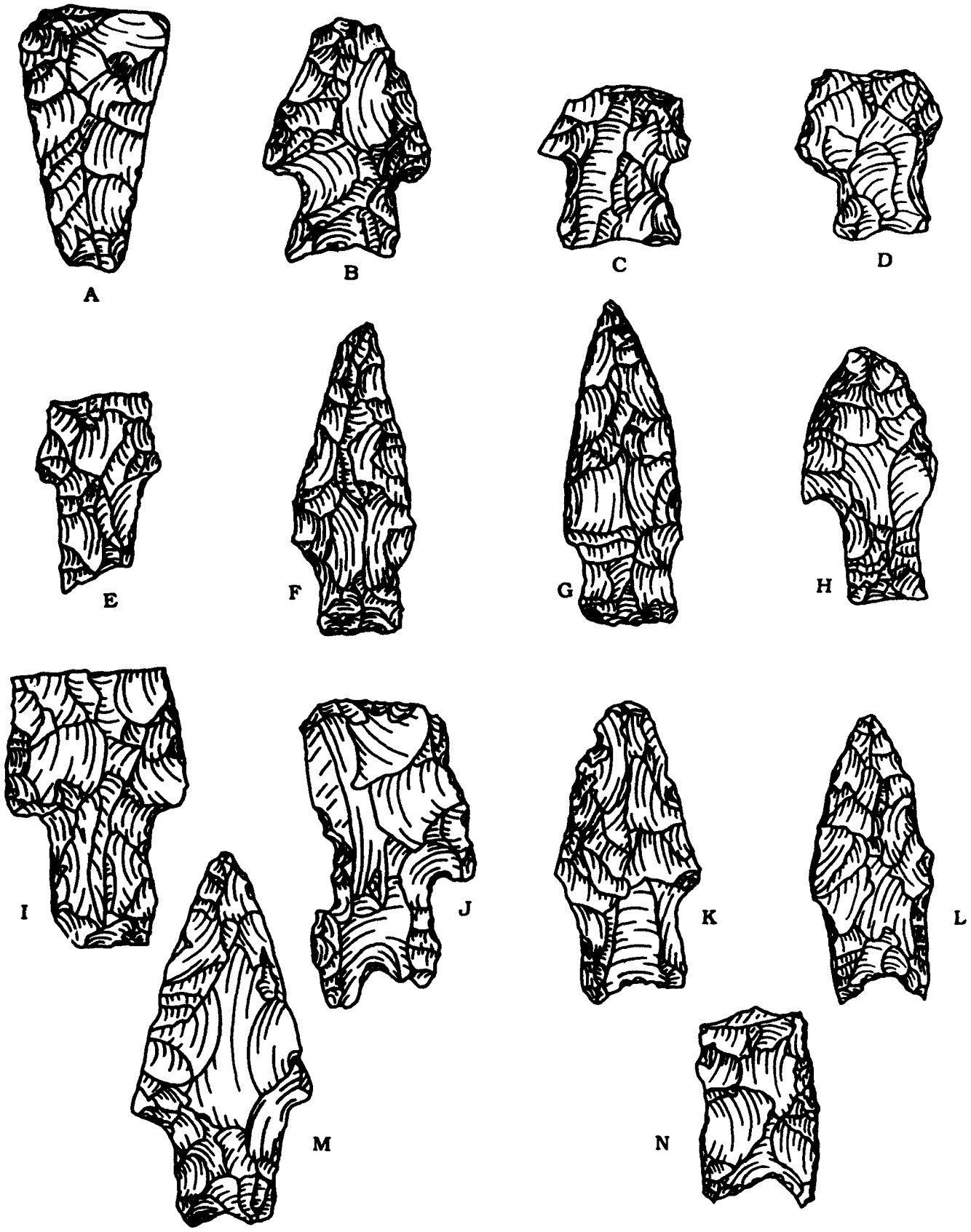

Figure 20. Late Prehistoric and Early Archaic Projectile Points. A: *Angostura*; B-D: *Martindale*; E: *Wells*; F-G: *Nolan*; H-I: *Bulverde*; J-N: *Pedernales*.

Comments: Turner and Hester (1985:66) assigned *Angostura* to the Late Paleoindian stage (6,500-6,000 B.C.).

Early Archaic Period (6,000 or 5,000 B.C. - 2,500 B.C.)

MARTINDALE CLUSTER (N=3)

Martindale is the only type assigned to this cluster (see Ensor 1987b). This type is reported to be similar to other Early Archaic forms such as *Bandy* (Turner and Hester 1985:69) and *Uvalde* (Ensor 1987b:264). *Bandy* appears more similar morphologically to *Martindale* than *Uvalde*.

Martindale (N=3: 054-106, 054-107, 054-110, Figure 20)
Raw Material: All specimens are chert.
Metric Data: See Table 23.
Form: Only one specimen could be assigned to a particular morphological class. Other points were complete enough to type but not to assign to a class. The classed specimen possesses diagonally modified haft element edges, straight blade edges, recurvate base, incurvate barbed shoulders, straight expanding lateral haft element edges, and a biconvex cross-section. The fragmentary specimens exhibit similar shape characteristics as complete specimens.
Technology: These artifacts were manufactured by a combination of hard and soft hammer percussion. Secondary pressure flaking is present along the blade and haft element edges. Two specimens exhibit bending fractures across the blade and two are heat altered. Blade edges of the complete specimen are beveled by pressure retouch.
Comments: Suhm and Jelks (1962:213) assigned *Martindale* to an age of 4,000 or 3,000 B.C. to 1,000 A.D. They also noted a morphological similarity to *Frio* and *Uvalde* points. Turner and Hester (1985:120) remarked that *Bandy* may be a lower Pecos variant of *Martindale*.

WELLS CLUSTER (N=1)

Wells is the only type included in this cluster. Ensor (1987b:264) states that this point seems to be morphologically similar to other types such as *Morrill, Early Stemmed, Travis*, and *Bulverde*.

Wells (N=1: 054-115, Figure 20)
Raw Material: This specimen is chert.
Metric Data: See Table 23.
Form: This specimen is a proximo-medial fragment and could not be assigned to a morphological class. This point does exhibit a diagonally modified haft element, incurvate tapered shoulders, and straight contracting lateral haft element edges. The stem and blade cross sections of this point are biconvex.
Technology: This point was manufactured by a combination of percussion and pressure flaking. Secondary flaking is present along the lateral edges of the blade and stem. Stem edges are slightly ground and beveled. The blade and base were broken in a bending fracture. Breaks are identified as recent because they do not exhibit the heavy white patina present on the surfaces of the point.
Comments: Turner and Hester (1985:157) assigned this type to the Early Archaic. Suhm and Jelks (1962:257) attributed *Wells* to the Archaic.

Middle Archaic Period (2,500 - 300 B.C.)

TRAVIS CLUSTER (N=2)

Ensor (1987b:267) assigns both *Travis* and *Nolan* types to this cluster. These types are further related to Early Archaic forms such as *Wells*.

Nolan (N=2: 054-049, 054-121, Figure 20)

Raw Material: Both specimens are chert.
Metric Data: See Table 23.
Form: The general form established for *Nolan* is characterized by excurvate blade edges, straight base, incurvate tapered shoulders, and straight parallel lateral haft element edges. Both of these specimens have biconvex cross-sections.
Technology: These points were manufactured by a combination of percussion and pressure flaking. The blade edges of one specimen are alternately beveled by pressure flaking also.
Comments: Turner and Hester (1985:132) assigned *Nolan* to the Early Archaic (4,000 - 2,500 B.C.). *Pandale* points may be a Pecos River area variant of *Nolan*.

PEDERNALES CLUSTER (N=7)

Ensor (1987b:269) placed both *Pedernales* and *Bulverde* within this cluster. Both of these forms appear to be closely related Middle Archaic types at Fort Hood. They are similar to other earlier types such as *Morrill, Travis, Nolan, Wells,* and *Early Stemmed*.

Bulverde (N=2: 054-012, 054-048, Figure 20)
Raw Material: Both are chert.
Metric Data: See Table 23.
Form: These artifacts are assigned to the same morphological class and possess a diagonally modified haft element, excurvate blade edges, an incurvate base, a straight parallel lateral haft element edges, and biconvex cross-sections.
Technology: These points were manufactured by percussion and pressure flaking. Pressure flaking is also present along the lateral edge of one specimen that has been distally reworked. The stem and base of one specimen are ground. Bases of both points are wedge-shaped in cross-section as the result of pressure flaking. The blade of one was broken in a bending fracture.
Comments: Ensor (1987b:269) placed *Bulverde* during the early portion of the Middle Archaic period (2,000 - 1,400 B.C.) following Prewitt (1981). *Bulverde* may also be present during the later portion of the Early Archaic period (3,000 - 2,500 B.C.) (Turner and Hester 1985:73). Suhm and Jelks (1962:169) noted a similarity among *Bulverde, Carrolton,* and *Travis* points.

Pedernales (N=5: 054-050, 054-116, 054-058, 054-179, 054-209, Figure 20)
Raw Material: All specimens are chert.
Metric Data: See Table 23.
Form: The general form of these four points includes a diagonally modified haft element, straight to excurvate blade edges, an incurvate base, tapered or barbed shoulders, and straight expanding, straight contracting, or expanding convex lateral haft element edges, with biconvex cross-sections.
Technology: All specimens were manufactured by percussion flaking. Pressure flaking is present in three specimens that have been reworked distally. One exhibits alternately beveled stem and blade edges. Grinding is present on the basal and lateral haft element edges of two specimens. Two specimens are broken. One appears to have broken in a bending fracture during manufacture. The other specimen exhibits an impact fracture that removed much of one lateral edge. The blade was also broken in a bending fracture. Three show signs of heat treatment denoted by a color/luster change.
Comments: Ensor (1987b:275) placed *Pedernales* within the later portion of the Middle Archaic (ca. 1,400 - 600 B.C.) following the sequence developed by Prewitt (1981:13). Ensor also stated that this type could be sub-divided into varieties. Turner and Hester (1985:139) assigned the type to the Middle Archaic (ca. 2,000 -1,200 B.C.). Suhm and Jelks (1962:237) gave *Pedernales* an age range of 4,000 B.C. - 1,000 A.D.

Late Archaic (300 B.C. - A.D. 700)

CASTROVILLE CLUSTER (N=2)

Castroville is the only point type assigned to this cluster (Ensor 1987b:277). This type is assigned to the early portion of the Late Archaic in Central Texas.

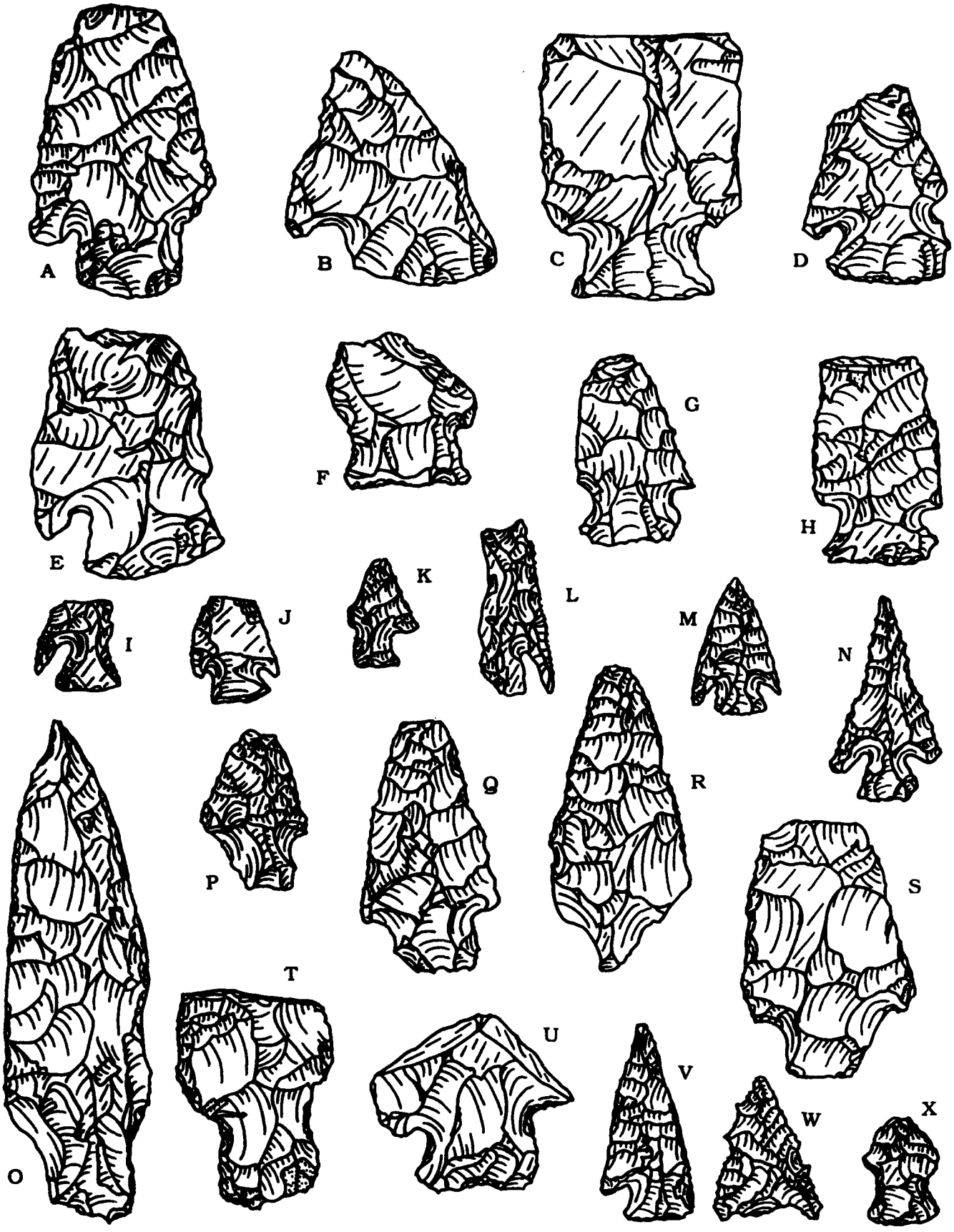

Figure 21. Late Archaic to Late Prehistoric Projectile Points and Untyped Points. A-B: *Castroville*; C-E: *Marcos*; F-H: *Ensor*; I-N: *Scallorn*; O-T: Untyped Dart Points; V-X: Untyped Arrow Points.

Castroville (N=2: 054-122, 054-123, Figure 21)
Raw Material: These specimens are chert.
Metric Data: See Table 23.
Form: Only one point was complete enough to assign to a morphological class. This specimen exhibits a diagonally modified haft element, straight blade edges, an excurvate base, incurvate barbed shoulders, and straight expanding lateral haft element edges. The fragmentary example has incurvate barbed shoulders and an excurvate base. The cross-sections of both specimens are biconvex.
Technology: These points were manufactured by a combination of soft hammer percussion and pressure flaking. Soft hammer percussion created the thin, flattened cross-sections. The haft element was created by the removal of a series of conchoidal flakes diagonal to the midline of the point and originating from the basal plane. Lateral edges were further shaped by pressure flaking. The more complete specimen has been heat treated; the tip was broken in a bending fracture. The fragmentary point is highly patinated on one surface, but the cause of breakage could not be determined.
Comments: Turner and Hester (1985:76) assigned *Castroville* to the Late Archaic (ca 800 B.C. - 400 B.C.).

Marcos (N=3: 054-215, 054-131, 054-056, Figure 21)
Raw Material: All specimens are chert.
Metric Data: See Table 23.
Form: These points possess a diagonally modified haft element, straight to excurvate blade edges, a straight to excurvate base, incurvate barbed shoulders, straight to incurvate expanding lateral haft element edges, and flattened, biconvex cross-sections.
Technology: These points were manufactured by soft hammer percussion that resulted in thin and somewhat flattened biconvex cross-sections. The haft elements were created by the removal of conchoidal flakes diagonal to the midline of the points. Pressure flaking is present along the basal edges of two specimens and the lateral blade edges of one reworked specimen. All points are fractured distally; one in a bending fracture, one by thermal fracture (potlids), and one by crushing. The basal edge of one is ground and two are heavily patinated.
Comments: Ensor (1987b:280) noted a close morphological similarity of *Marcos* to *Castroville* and *Marshall* points. Prewitt (1981) placed the *Marcos* type within the Late Archaic from ca. 300 B.C.-A.D. 150. Turner and Hester (1985:117 stated that this type dates to the Transitional Archaic between 600 B.C. - A.D. 200.

Terminal Archaic (A.D. 150 - 550)

ENSOR CLUSTER (N=3)

This cluster has been defined to include both *Ensor* and *Frio* types (Ensor 1987b:284). No *Frio* points were recovered during the survey. The cluster includes a series of expanding haft, corner to side notched forms, some retaining basal notches. Ensor (1987b:284) also noted that this cluster represents a possible combination of Late Archaic corner notching technology and a later side notching technology. No new classes were established.

Ensor (N=3: 054-120, 054-108, 054-132, Figure 21)
Raw Material: All specimens are chert.
Metric Data: See Table 23.
Form: The two morphological classes defined in this study exhibit diagonally modified haft elements, straight blade edges, straight to excurvate basal edges, incurvate barbed to incurvate tapered shoulders, and incurvate expanding lateral haft element edges. The fragmentary specimen possesses a diagonally modified haft element, a straight base, straight barbed shoulders, and incurvate expanding lateral haft element edges. The cross-sections of both recovered specimens are biconvex.

Technology: These points were manufactured by a combination of soft hammer percussion and pressure flaking. Slightly serrated blade edges were produced on two specimens by pressure flaking. The haft element was created by the removal of a series of flakes diagonal to the midline of the point. Two points exhibit distal impact fractures and one was broken in a bending fracture at the blade. One specimen was heat treated.
Comments: Turner and Hester (1985:94) included the *Ensor* type within the Transitional Archaic (ca. 200 B.C. - A.D. 600 or later). Ensor (1987b:284), after Prewitt (1985:215), assigned this type to the later portion of the Late Archaic from about 150 B.C. - A.D. 550.

Late Prehistoric Period (A.D. 750 - 1750)

SCALLORN CLUSTER (N=7)

Scallorn is the only point included in this cluster (Ensor 1987b:293). This point type has a wide distribution over much of Texas (Turner and Hester 1985).

Scallorn (N=7: illustrated are 054-222, 054-126, 054-127, 054-124, 054-240, 054-125, Figure 21; 054-007)
Raw Material: All specimens are chert.
Metric Data: See Table 23.
Form: The morphological characteristics of these points include diagonally modified haft elements, straight, excurvate, or incurvate blade edges, straight or excurvate bases, incurvate barbed shoulders, and straight to incurvate expanding lateral haft element edges and biconvex to flattened cross-sections.
Technology: These points were manufactured exclusively by pressure flaking. Blade edges are serrated on two specimens. The haft element was created by the removal of small pressure flakes diagonal to the midline of the point. All of the points are well thinned and shaped. The blades of two are broken by bending fractures. One specimen is burned and exhibits a heat fracture along a lateral edge of the blade. Potlid scars are also present on the surface of the point.
Comments: Prewitt (1981) and Ensor (1987b:293) included this point within the early portion of the Late Prehistoric after about A.D. 800 until 1300. Turner and Hester (1985:189) also placed it in the Late Prehistoric, but from A.D. 700 to 1200. *Scallorn* is also associated with the Austin phase of this period. Suhm and Jelks (1962:285) listed its age range from A.D. 500 to 1200.

General Archaic

Untyped Dart Points (N=8: illustrated are 054-208, 054-118, 054-109, 054-059, 054-104, 054-057, 054-178, Figure 21; 054-004)

This category includes complete and fragmentary specimens that could not be identified to any known or established type. Their assignment to the general Archaic is based on technology, size, and overall form.
Raw Material: All are chert.
Metric Data: See Table 23.
Form: One specimen was fragmentary and all specimens have biconvex cross-sections.
Technology: These points were manufactured by percussion or percussion and pressure flaking. Three were broken in a bending fracture and the blade of one was snapped in compression.
Comments: One specimen each resembles a *Nolan*, *Darl*, and an *Ensor*. The remaining specimens resemble no known type.

General Late Prehistoric

Untyped Arrow Points (N=3: 054-105, 054-130, 054-128, Figure 21)

This category also includes complete and fragmentary specimens that could not definitely be assigned to an established type. They are identified as arrow points on the basis of technology, size, and overall shape.

Raw Material: All are chert.
Metric Data: See Table 23.
Form: No morphological classes are defined for this section. Cross-sections are flattened.
Technology: All specimens were manufactured by pressure flaking. The haft element of one was broken in a bending fracture. Another has no barbs and has been reworked distally. The single complete specimen is triangular and has a single corner notch created by pressure flaking and a barb on one lateral edge.
Comments: All may be examples of broken and reworked *Scallorn* points.

OTHER FORMAL ARTIFACT TYPES

Corner Tang Knife (N=1: 054-129, Figure 22) (Fort Hood Lithic Category 32)
Raw Material: Chert.
Metric Data: See Table 24.
Form: This specimen was manufactured from a flake blank. A portion of the ventral surface is still visible. The blade edges and base of the knife are excurvate, the base of the tang is excurvate, and the lateral edges of the haft element are incurvate. The blade is lenticular in cross-section.
Technology: This single example was manufactured by a percussion technique.
Pressure flaking was used to create the notches and refine the blade edges. The distal tip was broken by a transverse fracture. Maximum thickness occurs at the base of the knife while minimum thickness occurs at the distal end. The locations of these maximum thicknesses and the presence of the ventral surface remnant indicate that the proximal end of the flake blank served as the location of the base of the knife.
Comments: This specimen appears to have been heavily reworked. Corner tang knives are a diagnostic artifact of the Late Archaic for this region (Turner and Hester 1985:210).

Group I Biface (N=1: 054-237, Figure 22) (Fort Hood Lithic Category 38)
Raw Material: Chert.
Metric Data: See Table 24.
Form: This specimen retains the shape of the original flake blank as well as a remnant of the ventral surface.
Technology: Only the initial stages of reduction are present on this artifact, which appears to have broken during manufacture. During shaping of the base, or proximal end of the flake, a blow was delivered to the edge that carried the fracture too far resulting in an overshot fracture or *outrepasse* just above the base. Cortex is still present on both lateral edges.
Comments: Breakage probably occurred during basal thinning.

Group II Biface (N=11: illustrated are 054-232, 054-239, 054-234, Figure 22; 054-229, 054-230, 054-231, 054-236, 054-006, 054-242, 054-243, 054-235) (Fort Hood Lithic Category 39)
Raw Material: All specimens are chert.
Metric Data: See Table 24.
Form: The original form of these artifacts could not be determined because of their fragmentary condition.
Technology: This group is composed of fragments of primary stage bifaces. Reduction techniques include both hard and soft hammer percussion. Six specimens were broken during manufacture. Manufacturing errors of these six include transverse breaks or snap fractures (N=4), a combination of perverse break and thermal fracture (N=1), and perverse break (N=1). An additional five specimens could not be assigned with any certainty to manufacturing errors. Fracture types for these specimens include transverse breaks or snap (N=3), a combination of transverse break and thermal fracture (N=1), and transverse break (N=1).
Comments: Since these are considered to represent unfinished artifacts it is highly probable that all specimens are manufacturing errors.

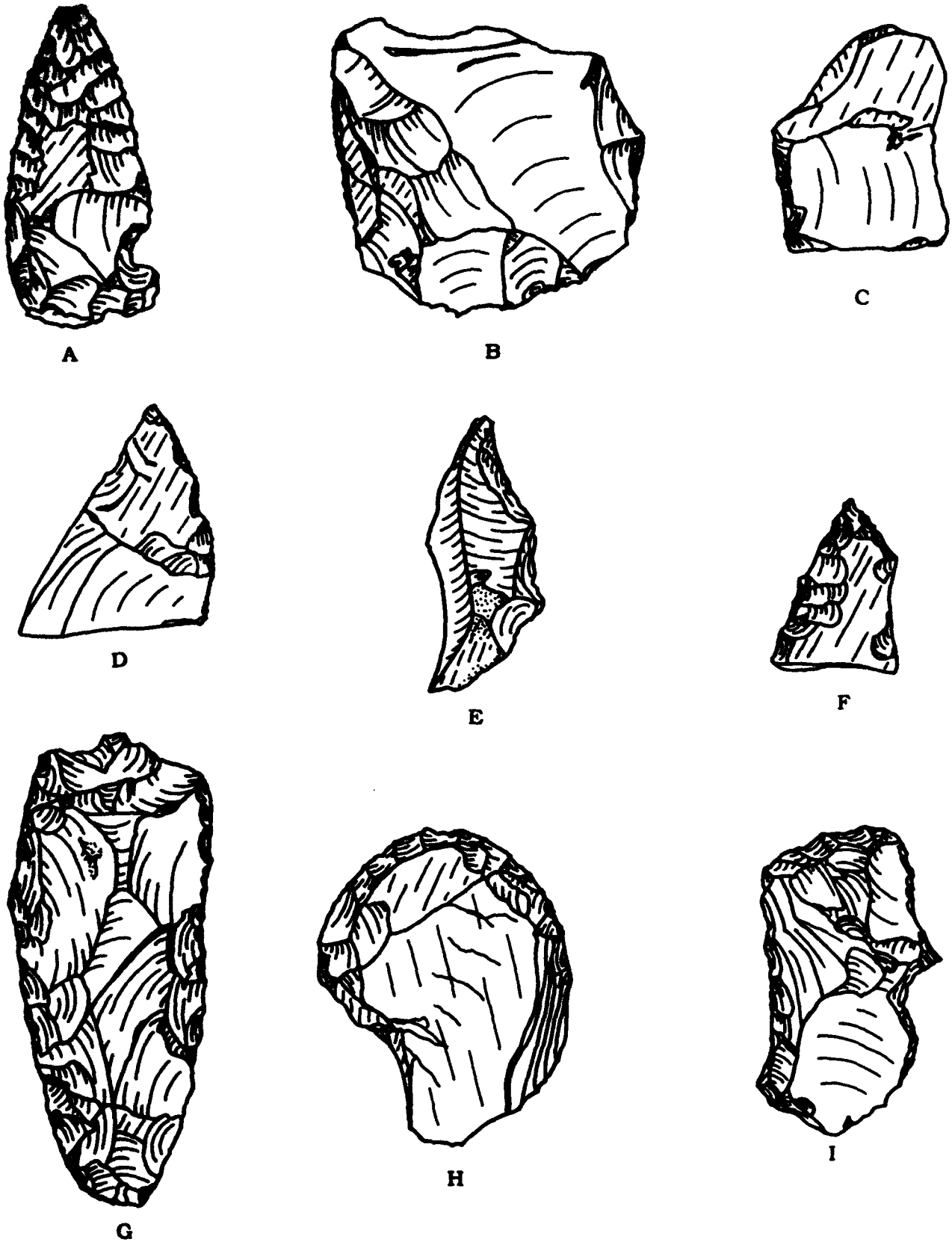

Figure 22. **Miscellaneous Chipped Stone Tools. A: Corner Tang Knife; B: Group I Biface; C-E: Group II Biface; F: Group III Biface; G: *Clear Fork* Tool; H-I: Uniface.**

Group III Biface (N=1: 054-241, Figure 22) (Fort Hood Lithic Category 40)
Raw Material: Chert.
Metric Data: See Table 24.
Form: This artifact was manufactured from a flake.
Technology: This is a distal fragment of a secondary biface with secondary trimming represented by pressure flaking along the lateral edges. The specimen seems to have broken in a transverse break during manufacture.
Comments: This specimen may represent a fragment of a dart point preform.

Clear Fork Tool (N=2: illustrated is 054-021, Figure 22; 054-003) (Fort Hood Lithic Category 43)
Raw Material: Both specimens are chert.
Metric Data: See Table 24.
Form: One example is an oval biface, biconvex in cross-section. (This specimen is illustrated in Figure 22. The other tool retains the shape of the original flake blank and is plano-convex in cross-section.
Technology: *Clear Fork Tools* as a type commonly occur in both bifacial and unifacial forms (Turner and Hester 1985:205). The bifacial specimen recovered during the present survey was manufactured by hard hammer percussion. The bit angle is 67 degrees and has been retouched by hard hammer percussion. Flake scar removal gives the bit a scooped out or concave appearance while the bit edge is slightly convex. The unifacial specimen still retains cortex on the platform and was manufactured from a hard hammer percussion flake. The bit edge was retouched by hard hammer percussion and is slightly convex in cross section.
Comments: This tool form occurs from the Paleoindian to Early Archaic periods and into the Middle Archaic (see Turner and Hester 1985:205).

Uniface (N=4: illustrated are 054-238, 054-181, Figure 22; 054-002, 054-008) (Fort Hood Lithic Category 46)
Raw Material: All specimens are chert.
Metric Data: See Table 24.
Form: All tools of this category were manufactured from flakes. The retouched end is plano-convex in cross section and convex in edge outline.
Technology: These tools have all been retouched by hard hammer percussion on the distal end of the flake blank. None retain a bulb of percussion. One specimen is retouched on all edges and has a beak or projection that may have served as a graver or perforator. The retouch angle for the distal end of this tool 75 degrees. Another specimen is fragmentary, missing the proximal end and a portion of a lateral edge. The retouch angle ranges from 53-74 degrees. Retouch on this specimen is more invasive onto the dorsal surface of the flake than the other specimens.
Comments: This category is identical to *Uniface Scraper* of previous reports for Fort Hood. The current term is used to avoid functional connotations. This tool form undoubtedly spans the entire range of prehistory for the Fort Hood area (Ensor 1987b:303).

Metate (N=1: 054-228) (Fort Hood Lithic Category 47)
Raw Material: Fossiliferous sandstone.
Metric Data: See Table 24.
Form: This specimen has a roughly oval shape.
Technology: This specimen was shaped by pecking. The working surface of this artifact is flat, identifying it as a slab-type metate. This surface has also been pecked to renew the abrasive quality. One end has been possibly fractured by burning.
Comments: These tools occur throughout the Archaic and Late Prehistoric periods (Ensor 1987b:307).

Mano (N=1: 054-119, Figure 23) (Fort Hood Lithic Category 48)
Raw Material: Sandstone:
Metric Data: See Table 24.

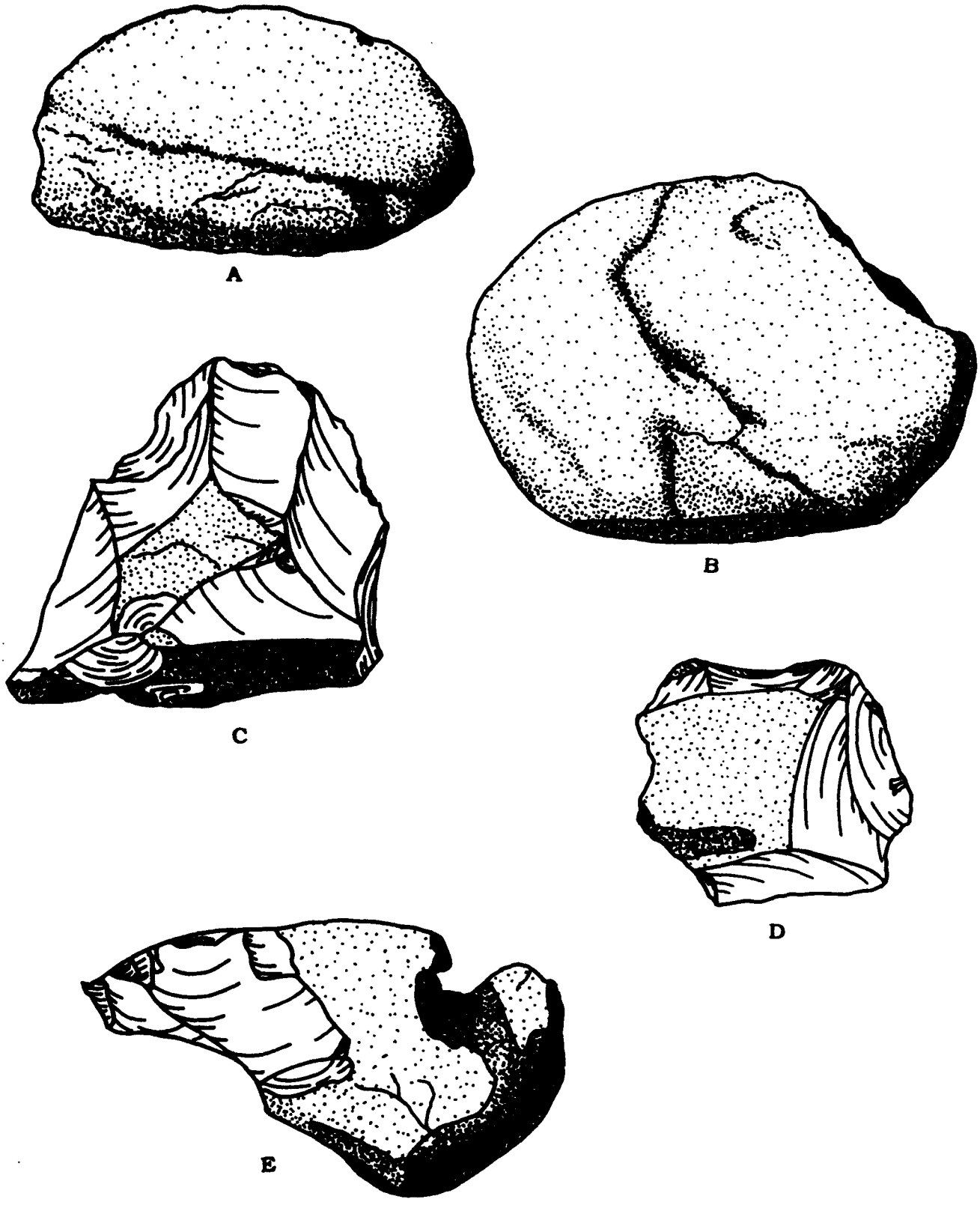

Figure 23. Other Stone Tools and Cores. A: Mano fragment; B: Hammerstone; C-E: Cores.

Form: Shape could not be determined due to the fragmentary condition of the artifact. The end of the fragment is convex and is plano-convex in cross section.
Technology: This specimen is an end fragment of a mano with two working surfaces; one convex and the other relatively flattened. The edge of the fragment appears to have been heavily battered.
Comments: These artifacts occur throughout the Archaic and Late Prehistoric periods (Ensor 1987b:307).

Hammerstone (N=1: 054-102, Figure 23) (Fort Hood Lithic Category 53
Raw Material: Dense Quartzite.
Metric Data: See Table 24.
Form: This specimen is a roughly sub-rectangular to oval nodule.
Technology: There is no evidence of deliberate shaping present. One end has been fractured, exposing the interior of the nodule. Moderately battered areas are present on the opposing end of the nodule also.
Comments: These implements were probably used in a variety of tasks, including tool manufacture and occur throughout the entire prehistoric sequence at Fort Hood (Ensor 1987b:307).

Cores (N=3: 054-220, 054-218, 054-233, Figure 23) (Fort Hood Lithic Category 55)
Raw Material: All specimens are chert.
Metric Data: See Table 24.
Form: These specimens are considered to be expended cores. One specimen may be a recycled core or core fragment. This specimen is burned, but two distinct episodes of flake removal are evident. The most recent flake removals have removed much of the patination and negative flake scar features of previous reduction. Two directions of current flake removal are present, with no platform preparation. The second core retains some cortex on one surface. Two directions of flake removal are also present on this core. The final specimen may be a spall utilized as a core. Only one direction of flake removal is evident. No platform preparation is present. A slight lustre on the flake scar surfaces may indicate that it has been thermally altered.
Comments: These artifacts represent the nuclei from which flakes were removed for tool manufacture. They are primarily the residue of flake production.

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APPENDIX III

PREHISTORIC SITE CODING FORMAT

by

David L. Carlson

FORT HOOD PREHISTORIC SITE CODING FORMAT

ENVIRONMENTAL VARIABLES

TARL: TARL trinomial site number (if available).

FIELD: SITE field number (if available).

EASTQUAD: Quad Easting (southeastern corner of square kilometer, to be read X 1000 m).

NORTHQUAD: Quad Northing (same as above).

PROJECT: Project (most recent). There are nine choices: "FY78," fiscal year 1978; "BS78," "brave shield" sample of 1978; "FY79," fiscal year 1979; "F80S," spring of fiscal year 1980; "F80F," fall of fiscal year 1980; "FY81," fiscal year 1981; "FY82," fiscal year 1982; "FY83," fiscal year 1983; and "FY84," fiscal year 1984.

EASTING: UTM Easting (The most precise location of the site's center, rounded to the nearest 10 m).

NORTHING: UTM Northing (same as above).

DRAINAGE: Drainage. This is the major drainage whose basin contains the site. There are five choices:

1 - Leon River
2 - Owl Creek
3 - Cowhouse Creek
4 - Nolan Creek
5 - Lampasas River

ENV_ZONE: Environmental Zone. This is a broad classification divided into three choices:

1 - Lowland (a zone devised by Fort Hood archaeologists to portray the bottomland associated with perennial and intermittent streams)
2 - Intermediate upland (land higher than the lowland zone, but not including the bedded, massive limestone found in certain portions of Fort Hood)
3 - Upland (the bedded, massive limestone coded "1" on the Engineering Geology maps of Fort Hood)

CRK_CRST: Creek/Crest Classification. This locates a site in nearest relation to a major drainage or a topographic divide separating drainages.

1 - Creek
2 - Crest

LANDFORM: Landform. These are physiographic headings defined by the Fort Hood archaeologists. As a refinement of the Environmental Zone, the initial coding here has been based on notes. Certain categories occasionally overlap to present problems for coders. Also, identification of various terrace types (codes 8-10) was difficult and the general terrace code (7) was used more often. Many sites appear in rather nondescript physiographic settings, and the slope designation (Intermediate Upland, code 15) was common. Because the codes below may be formed into new variables by the computer, divisions such as that between "hillock" and "knoll" can be easily adjusted.

1 - Outlier (may include eroded buttes)
2 - Buttes (cf. Reed Mountain near Quad E24/N52)
3 - Ridge/Plateau (these may be large areas and correspond to bedded massive limestone)
4 - Bench (upland associated)
5 - Spur (upland associated)
6 - Draw (upland associated)
7 - Terrace (see discussion above)
8 - Primary Terrace
9 - Secondary Terrace
10 - Tertiary Terrace
11 - Rudimentary Terrace (usually not visible on maps)
12 - Escarpment Edge (bedded massive limestone escarpments)
13 - Hillock (considered slightly larger than a knoll)
14 - Knoll
15 - Slope (Intermediate Upland, see discussion above)
16 - Interfluvial (type of slope)
17 - Bank (type of slope——on edge of intermittent stream)
18 - Drainage Divide (area between two major watersheds)

POSITION: Position. This locates the site relative to the landform. For example, a site may be at the base of a butte.

1 - Top
2 - Slope
3 - Base

ELEVATION: Elevation (feet).

VEG_ZONE: Vegetation Zone. These categories were interpreted directly from the Environmental Ground Tactical Data Maps of Fort Hood. The numerical codes and titles used here are those of the maps.

1 - Baregrounds
2 - Croplands
3 - Grasslands
4 - Grasslands with scattered trees
5 - Wooded area (0- 25%)
6 - Wooded area (25- 50%)
7 - Wooded area (50- 75%)
8 - Wooded area (75-100%)
9 - Thick brush

P_WATER: Perennial Water. The first (decimal place) number of the codes is equivalent to the major Drainage coding of columns 29-30. Numbers have been added to form series of less perennial drainages which connect to the major drainage. Minor perennial drainages are defined by any occurrence of the solid or long-dashed blue lines indicated on the basic terrain maps of Fort Hood. Intermittent streams and water courses shown by dotted lines are not included.

10 - Leon River
11 - Shoal Creek
20 - Owl Creek (below Preacher's Creek)
21 - Preacher's Creek (below southern edge of quad E29/N57)
22 - Flint Creek (below southern edge of quad E39/N57)
30 - Cowhouse Creek
31 - Brown's Creek (below eastern center of quad E19/N55)
32 - House Creek (below eastern center of quad E19/N55)
33 - Table Rock Creek (western edge of quad E2/N56)
34 - Settlement Branch (tributary of Table Rock, below center of quad E0/N53)
35 - Bee House Creek (west of Fort Hood near quad E6/N61)
36 - Stampede Creek
37 - Tributary to Stampede Creek
38 - Two Year Old Creek
39 - Waddle Hollow
40 - Nolan Creek
41 - North Nolan Creek (below stock tank in quad E31/N47)
42 - South Nolan Creek (below quad E19/N43)
43 - Tributary of South Nolan Creek (below quad E19/N43)
50 - Lampasas River
51 - Clear Creek (below northeastern corner of quad E5/N31)
52 - Reese Creek (below southern edge of quad E16/N32)
60 - Cottonwood Creek
61 - Unnamed tributary to Cottonwood Creek

DIST_P_W: Distance to Perennial Water (m). This is a straight measurement in meters from the site to the nearest perennial water, using the same drainages offered above. Note that the nearest perennial water is not always the drainage basin that contains the site.

N_WATER: Nearest Water (m). Drainages as above (perennial water), or:

1 - Intermittent Creek (shown by orange dotted lines on the basic terrain maps of Fort Hood)
2 - Spring

Many sites are near intermittent creeks (1) which are very minor watercourses, normally dry.

DIST_N_W: Distance to Nearest Water (m). This is a measurement to the drainage identified as nearest water.

AREA: Area (square meters, obtained from site records)

EXPOSURE: Exposure. Coded or commented on in site records, this is an assessment of the site's ground cover and visibility.

1 - Poor
2 - Fair
3 - Good

CONDITN: Condition. An assessment of the site's condition was coded from the most recent field notes.

1 - Destroyed
2 - Poor
3 - Fair
4 - Good
5 - Excellent

PCT_DIST: % Disturbed. This is a judgmental assessment made by the field recorders.

SLOPE: Slope. The basic terrain maps of Fort Hood provide a ground slope classification of six choices:

1 - 0 - 3% (basically flat)
2 - 3 - 10%
3 - 10 - 30%
4 - 30 - 45%
5 - 45 - 100%
6 - 100+%

TYPE: Site Type. The most appropriate qualitative label is coded here for prehistoric or historic sites. The coding here is presently incomplete but will have great importance for the study of site functions. To allow for future categories, the prehistoric series begins at zero, and historic sites begins with 50.

0 - Unknown
1 - Cave
2 - Rockshelter
3 - Petroglyph
4 - Pictograph
5 - Midden
6 - Burned rock scatter with no lithics
7 - Burned rock scatter with lithics
8 - Single burned rock mound
9 - Multiple burned rock mounds
10 - Lithic scatter (chipping debris)
11 - Lithic quarry (on-site lithic resources)

CULTURAL VARIABLES

FIELD: Site Field Number

FEATURE: Features Present:

1 - Slab hearth
2 - Burned rock midden
3 - Burned rock hearth
4 - Burned clay hearth
5 - Shell concentrations
6 - Rock cairn
7 - Numbers 3 and 5 above
8 - "Wall"/windbreak
9 - Midden associated with rock shelter

[illegible]: Charcoal
0 - Absent
1 - Present

BONE: Bone
0 - Absent
1 - Present

SHELL: Shell
0 - Absent
1 - Present

DENSITY: Artifact Density
0 - None
1 - Low
2 - Medium
3 - High

B_ROCK: Burned Rock
0 - Absent
1 - Light
2 - Medium
3 - Heavy

FLAKES: Flakes
0 - Absent
1 - Present

CHIPS: Chips
0 - Absent
1 - Present

B_TYPE1: Biface Type 1
0 - Absent
1 - Present

B_TYPE2: Biface Type 2
0 - Absent
1 - Present

B_TYPE3: Biface Type 3
0 - Absent
1 - Present

BORER: Borer
0 - Absent
1 - Present

B_SCRAPR: Biface Scraper
0 - Absent
1 - Present

MOD_BIF: Other Modified Biface
0 - Absent
1 - Present

DART: Dart Point
0 - Absent
1 - Present

ARROW: Arrow Point
0 - Absent
1 - Present

BLANK: Blank
0 - Absent
1 - Present

RE_FLAKE: Flake with Retouch
0 - Absent
1 - Present

R_BLADE: Blade with Retouch
0 - Absent
1 - Present

S_SCRAPR: Side Scraper
0 - Absent
1 - Present

E_SCRAPR: End Scraper
0 - Absent
1 - Present

GRAVER: Graver
0 - Absent
1 - Present

BURIN: Burin
0 - Absent
1 - Present

OTHER_UN: Other Uniface
0 - Absent
1 - Present

CORE: Core
0 - Absent
1 - Present

HAMMER: Hammer
0 - Absent
1 - Present

[redacted]: Chopper
0 - Absent
1 - Present

MANO: Mano
0 - Absent
1 - Present

METATE: Metate
0 - Absent
1 - Present

GRO_STON: Other Ground Stone
0 - Absent
1 - Present

INTERVAL: Number of 5 m Sampling Intervals

DEBITAGE: Debitage Count (total)

TOOLS: Tool Count (total)

ECOFACTS: Ecofact Count (total)

B_ROCK: Burned Rock
0 - Absent
1 - Present, light
2 - Present, heavy

NOTE: Code as light if burned rock present in any location. Code as heavy only if heavy is the modal value for the transect.

CHRONOLOGICAL COMPONENTS

For each possible component leave blank if the component is not represented at the site. If the component is present, code the number of diagnostics from the site which indicate this time period.

PALEO: Paleoindian

ARCHAIC: General Archaic

E_ARCH: Early Archaic

M_ARCH: Middle Archaic

L_ARCH: Late Archaic

T_ARCH: Terminal Archaic

L_PREHIS: Late Prehistoric

AUSTIN: Austin Phase

TOYAH: Toyah Phase

ML_ARCH: Middle to Late Archaic

SITE ATTRIBUTES

If a particular attribute or feature is not present on the site, leave the field blank. If it is present, code 1 for present/absent attributes (e.g., lithic scatter and lithic procurement) and the number of features for the others (e.g., the number of mounds or rockshelters).

LITHIC_S: Scatter of lithic debitage

BROCK_S: Scatter of burned rock

ROCKSH: Rockshelter or cave

LITHIC_P: Evidence of lithic procurement or lithic resources are available on or adjacent to the site

SPRING: Spring nearby

MIDDEN: Cultural midden (e.g., burned rock, charcoal, ash, bone)

APPENDIX IV

PREHISTORIC SITE ENVIRONMENTAL AND CULTURAL DATA

By

Ben W. Olive

Prehistoric Sites Recorded in Delivery Order 10 Survey (Cultural Information)

TARL No.	Field No.	Features Present	Charcoal	Bone	Shell	Density	Burned Rock	Flakes	Chips	Biface Type I	Biface Type II	Biface Type III
41BL0967	5077	None	Absent	Absent	Absent	Low	Medium	Present	Present	Absent	Absent	Absent
41CV0092	5056	None	Absent	Absent	Present	High		Present	Absent	Present	Present	Present
41CV0271	5054	None	Absent	Absent	Absent	Low	Low	Present	Present	Present	Present	Absent
41CV0579	5007	None	Absent	Absent	Present	Low	Low	Present	Present	Absent	Absent	Absent
41CV0580	5024	None	Present	Present	Present	High	Medium	Present	Present	Absent	Absent	Absent
41CV0601	5021	None	Absent	Absent	Present	High	Low	Present	Absent	Absent	Absent	Present
41CV1376	5052	None	Absent	Absent	Absent	Low	None	Present	Absent	Absent	Absent	Absent
41CV1469	5001	None	Absent	Absent	Absent	Low	None	Present	Present	Absent	Absent	Absent
41CV1471	5003	Burned rock hearth	Present	Absent	Present	Low	High	Present	Present	Absent	Absent	Absent
41CV1472	5004	None	Absent	Present	Present	High	Medium	Present	Present	Absent	Absent	Absent
41CV1473	5005	None	Absent	Absent	Present	Medium	Medium	Present	Present	Absent	Absent	Absent
41CV1477	5010	None	Absent	Absent	Present	Medium	Low	Present	Present	Present	Present	Absent
41CV1478	5011	None	Absent	Present	Present	Medium	Medium	Present	Present	Absent	Absent	Absent
41CV1479	5012	Slab hearth	Present	Absent	Present	Low	Low	Present	Absent	Absent	Absent	Absent
41CV1480	5013	None	Present	Absent	Present	None	Low	Absent	Absent	Absent	Absent	Absent
41CV1482	5015	None	Absent	Absent	Present	Low	Low	Present	Absent	Absent	Absent	Absent
41CV1483	5016	None	Absent	Absent	Absent	Low	None	Present	Absent	Present	Absent	Present
41CV1485	5018	None	Absent	Absent	Absent	Medium	None	Present	Absent	Absent	Present	Present
41CV1487	5020	None	Absent	Absent	Present	Low	Low	Present	Absent	Absent	Absent	Absent
41CV1489	5022	None	Absent	Absent	Absent	Medium	None	Present	Present	Absent	Present	Present
41CV1490	5023	None	Absent	Absent	Absent	Low	None	Present	Present	Absent	Present	Absent
41CV1492	5025	None	Absent	Present	Present	Low	Medium	Present	Absent	Absent	Present	Absent
41CV1493	5026	None	Absent	Absent	Absent	Medium	None	Present	Absent	Absent	Present	Absent
41CV1494	5027	None	Absent	Absent	Absent	Medium	None	Present	Absent	Absent	Absent	Absent
41CV1495	5028	None	Absent	Absent	Absent	Medium	None	Present	Present	Absent	Absent	Absent
41CV1496	5029	None	Absent	Absent	Absent	Medium	Low	Present	Absent	Absent	Present	Absent
41CV1499	5032	None	Absent	Absent	Absent	Low	Low	Present	Absent	Absent	Present	Absent
41CV1501	5034	None	Absent	Absent	Absent	Low	None	Present	Absent	Absent	Absent	Absent
41CV1504	5037	None	Absent	Absent	Absent	Low	Low	Present	Absent	Absent	Absent	Absent
41CV1505	5038	None	Absent	Absent	Absent	Medium	Medium	Present	Present	Absent	Absent	Present
41CV1506	5039	Burned rock hearth	Absent	Absent	Present	High	Medium	Present	Absent	Absent	Present	Present
41CV1507	5040	Burned rock midden	Absent	Absent	Present	Medium	High	Present	Absent	Absent	Present	Present
41CV1508	5041	None	Absent	Absent	Absent	Low		Present	Absent	Absent	Present	Present
41CV1509	5042	None	Absent	Absent	Present	Low	Low	Present	Absent	Absent	Absent	Absent
41CV1510	5043	None	Absent	Absent	Present	Low	Low	Present	Absent	Absent	Absent	Present
41CV1511	5044	Burned rock hearth	Present	Absent	Present	Low	Medium	Absent	Absent	Absent	Absent	Absent
41CV1512	5045	None	Absent	Absent	Present	Low	Medium	Present	Present	Absent	Absent	Absent
41CV1515	5048	None	Absent	Absent	Present	Low	Low	Present	Present	Absent	Absent	Absent
41CV1516	5049	Burned rock hearth	Absent	Absent	Present	Low	Low	Present	Absent	Absent	Absent	Absent
41CV1517	5050	None	Absent	Absent	Absent	Medium	Medium	Present	Absent	Absent	Absent	Absent
41CV1522	5055	Burned rock hearth	Absent	Absent	Present	Medium	Low	Present	Absent	Present	Present	Absent
41CV1524	5057	None	Absent	Absent	Absent	Medium	None	Present	Present	Present	Present	Present
41CV1526	5059	None	Absent	Absent	Present	Low	Low	Present	Absent	Absent	Absent	Absent
41CV1527	5060	None	Absent	Absent	Present	Low	Low	Present	Absent	Absent	Absent	Absent
41CV1528	5061	None	Absent	Absent	Absent	Low	None	Present	Absent	Absent	Present	Absent
41CV1530	5063	None	Absent	Absent	Absent	Low	None	Present	Absent	Absent	Absent	Present
41CV1531	5064	None	Absent	Absent	Absent	Low		Present	Absent	Absent	Absent	Absent
41CV1533	5066	None	Absent	Absent	Absent	Low	Low	Present	Absent	Absent	Absent	Present
41CV1536	5069	None	Absent	Absent	Absent	High	Low	Present	Absent	Absent	Present	Present
41CV1539	5072	None	Absent	Absent	Absent	Medium	None	Present	Absent	Absent	Present	Present
41CV1540	5073	None	Absent	Absent	Absent	High	Low	Present	Absent	Absent	Present	Present
41CV1541	5074	None	Absent	Absent	Absent	Medium	Low	Present	Absent	Absent	Present	Present
41CV1542	5075	None	Absent	Absent	Absent	Medium	Low	Present	Absent	Absent	Present	Present
41CV1543	5076	None	Absent	Absent	Absent	Medium	Low	Present	Absent	Present	Present	Absent

Prehistoric Sites Recorded in Delivery Order 10 (Cultural Information)

TARL No.	Field No.	Borer	Biface Scraper	Other Modified Bifaces	Dart Points	Arrow Points	Blanks	Flake w/ Retouch	Blade w/ Retouch	Side Scraper	End Scraper	Graver	Burin	Other Unifaces	Core
41BL0967	5077	Absent	Absent	Absent	Present	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV0092	5056	Absent	Absent	Present	Absent	Absent	Absent	Present	Absent	Present	Present	Absent	Absent	Absent	Present
41CV0271	5054	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent
41CV0579	5007	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV0580	5024	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV0601	5021	Absent	Absent	Absent	Present	Absent	Absent	Present	Absent	Present	Absent	Absent	Absent	Absent	Present
41CV1376	5052	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1469	5001	Absent	Absent	Absent	Present	Absent	Absent	Present	Absent	Absent	Absent	Present	Absent	Absent	Present
41CV1471	5003	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1472	5004	Absent	Present	Absent	Absent	Absent	Absent	Present	Absent	Present	Absent	Present	Absent	Absent	Absent
41CV1473	5005	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Present	Absent	Present	Absent	Absent	Absent
41CV1477	5010	Absent	Absent	Absent	Present	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1478	5011	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1479	5012	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1480	5013	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1482	5015	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1483	5016	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1485	5018	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent	Present	Absent	Absent	Absent	Present
41CV1487	5020	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1489	5022	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1490	5023	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1492	5025	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1493	5026	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Present
41CV1494	5027	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1495	5028	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1496	5029	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1499	5032	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Present
41CV1501	5034	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1504	5037	Absent	Absent	Absent	Present	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1505	5038	Absent	Absent	Absent	Present	Present	Absent	Present	Absent	Present	Present	Absent	Absent	Absent	Present
41CV1506	5039	Absent	Present	Absent	Present	Absent	Absent	Present	Absent	Present	Present	Absent	Absent	Present	Present
41CV1507	5040	Absent	Absent	Absent	Present	Absent	Absent	Present	Absent	Present	Absent	Absent	Present	Present	Present
41CV1508	5041	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent
41CV1509	5042	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1510	5043	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1511	5044	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1512	5045	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1515	5048	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1516	5049	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1517	5050	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1522	5055	Absent	Absent	Absent	Present	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1524	5057	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent	Present	Absent	Absent	Absent	Present
41CV1526	5059	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1527	5060	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1528	5061	Absent	Absent	Present	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1530	5063	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1531	5064	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1533	5066	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Present
41CV1536	5069	Absent	Absent	Present	Present	Present	Absent	Present	Absent	Present	Absent	Absent	Absent	Absent	Present
41CV1539	5072	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent
41CV1540	5073	Absent	Present	Absent	Present	Present	Absent	Present	Absent	Present	Absent	Absent	Absent	Absent	Present
41CV1541	5074	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1542	5075	Absent	Absent	Present	Present	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Present
41CV1543	5076	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

Prehistoric Sites Recorded in Delivery Order 10 (Cultural Information)

TARL No.	Field No.	Hammer	Chopper	Mano	Metate	Other Ground Stone	Interval	Debitage Count	Tool Count	Ecofact Count
41BL0967	5077	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV0092	5056	Present	Absent	Absent	Absent	Present	0	0	0	0
41CV0271	5054	Absent	Present	Absent	Absent	Absent	0	0	0	0
41CV0579	5007	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV0580	5024	Absent	Absent	Absent	Absent	Present	0	0	0	0
41CV0601	5021	Absent	Present	Absent	Absent	Present	0	0	0	0
41CV1376	5052	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1469	5001	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1471	5003	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1472	5004	Absent	Absent	Absent	Present	Absent	0	0	0	0
41CV1473	5005	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1477	5010	Absent	Present	Absent	Absent	Absent	0	0	0	0
41CV1478	5011	Absent	Present	Absent	Absent	Absent	0	0	0	0
41CV1479	5012	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1480	5013	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1482	5015	Absent	Absent	Absent	Absent	Present	0	0	0	0
41CV1483	5016	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1485	5018	Present	Absent	Absent	Absent	Absent	0	0	0	0
41CV1487	5020	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1489	5022	Present	Absent	Absent	Absent	Absent	0	0	0	0
41CV1490	5023	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1492	5025	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1493	5026	Absent	Present	Absent	Absent	Absent	0	0	0	0
41CV1494	5027	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1495	5028	Present	Absent	Absent	Absent	Absent	0	0	0	0
41CV1496	5029	Absent	Present	Absent	Absent	Absent	0	0	0	0
41CV1499	5032	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1501	5034	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1504	5037	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1505	5038	Present	Present	Absent	Absent	Present	0	0	0	0
41CV1506	5039	Absent	Present	Present	Absent	Absent	0	0	0	0
41CV1507	5040	Present	Present	Absent	Absent	Absent	0	0	0	0
41CV1508	5041	Absent	Present	Absent	Absent	Absent	0	0	0	0
41CV1509	5042	Present	Absent	Absent	Absent	Absent	0	0	0	0
41CV1510	5043	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1511	5044	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1512	5045	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1515	5048	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1516	5049	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1517	5050	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1522	5055	Present	Absent	Absent	Absent	Absent	0	0	0	0
41CV1524	5057	Absent	Present	Absent	Absent	Absent	0	0	0	0
41CV1526	5059	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1527	5060	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1528	5061	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1530	5063	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1531	5064	Absent	Absent	Absent	Absent	Absent	0	0	0	0
41CV1533	5066	Present	Absent	Absent	Absent	Absent	0	0	0	0
41CV1536	5069	Absent	Present	Present	Absent	Absent	0	0	0	0
41CV1539	5072	Present	Absent	Absent	Absent	Absent	0	0	0	0
41CV1540	5073	Present	Absent	Absent	Absent	Absent	0	0	0	0
41CV1541	5074	Present	Absent	Absent	Absent	Absent	0	0	0	0
41CV1542	5075	Present	Absent	Absent	Absent	Absent	0	0	0	0
41CV1543	5076	Absent	Absent	Absent	Absent	Absent	0	0	0	0

Prehistoric Sites Recorded in Delivery Order 10 (Environmental Information)

TARL No.	Field No.	Drainage	Environmental Zone	Creek/ Crest	Landform
41BL0967	5077	Lampasas River	Intermediate Upland	Creek	Outlier
41CV0092	5056	Leon River	Intermediate Upland	Creek	Outlier
41CV0271	5054	Leon River	Intermediate Upland	Creek	Outlier
41CV0579	5007	Leon River	Lowland	Creek	Primary Terrace
41CV0580	5024	Leon River	Intermediate Upland	Creek	Slope
41CV0601	5021	Leon River	Upland	Creek	Outlier
41CV1376	5052	Leon River	Intermediate Upland	Creek	Outlier
41CV1469	5001	Leon River	Lowland	Creek	Terrace
41CV1471	5003	Leon River	Lowland	Creek	Terrace
41CV1472	5004	Leon River	Lowland	Creek	Secondary Terrace
41CV1473	5005	Leon River	Lowland	Creek	Secondary Terrace
41CV1477	5010	Leon River	Intermediate Upland	Crest	Outlier
41CV1478	5011	Leon River	Lowland	Creek	Primary Terrace
41CV1479	5012	Leon River	Lowland	Creek	Primary Terrace
41CV1480	5013	Leon River	Lowland	Creek	Primary Terrace
41CV1482	5015	Leon River	Lowland	Creek	Primary Terrace
41CV1483	5016	Leon River	Upland	Creek	Outlier
41CV1485	5018	Leon River	Upland	Creek	Outlier
41CV1487	5020	Leon River	Lowland	Creek	Primary Terrace
41CV1489	5022	Leon River	Upland	Creek	Outlier
41CV1490	5023	Leon River	Intermediate Upland	Creek	Outlier
41CV1492	5025	Leon River	Lowland	Creek	Primary Terrace
41CV1493	5026	Leon River	Intermediate Upland	Creek	Outlier
41CV1494	5027	Leon River	Intermediate Upland	Creek	Outlier
41CV1495	5028	Leon River	Lowland	Creek	Secondary Terrace
41CV1496	5029	Leon River	Intermediate Upland	Creek	Outlier
41CV1499	5032	Leon River	Intermediate Upland	Creek	Outlier
41CV1501	5034	Leon River	Intermediate Upland	Creek	Outlier
41CV1504	5037	Leon River	Upland	Crest	Interfluvial
41CV1505	5038	Leon River	Intermediate Upland	Creek	Outlier
41CV1506	5039	Leon River	Intermediate Upland	Crest	Hillock
41CV1507	5040	Leon River	Intermediate Upland	Crest	Outlier
41CV1508	5041	Leon River	Intermediate Upland	Creek	Hillock
41CV1509	5042	Leon River	Lowland	Crest	Primary Terrace
41CV1510	5043	Leon River	Lowland	Creek	Primary Terrace
41CV1511	5044	Leon River	Lowland	Creek	Primary Terrace
41CV1512	5045	Leon River	Lowland	Creek	Primary Terrace
41CV1515	5048	Leon River	Lowland	Creek	Primary Terrace
41CV1516	5049	Leon River	Lowland	Creek	Primary Terrace
41CV1517	5050	Leon River	Lowland	Creek	Primary Terrace
41CV1522	5055	Leon River	Intermediate Upland	Creek	Outlier
41CV1524	5057	Leon River	Intermediate Upland	Creek	Outlier
41CV1526	5059	Leon River	Lowland	Creek	Primary Terrace
41CV1527	5060	Leon River	Lowland	Creek	Primary Terrace
41CV1528	5061	Leon River	Upland	Crest	Ridge/Plateau
41CV1530	5063	Leon River	Intermediate Upland	Creek	Outlier
41CV1531	5064	Leon River	Upland	Crest	Ridge/Plateau
41CV1533	5066	Owl Creek	Upland	Crest	Ridge/Plateau
41CV1536	5069	Owl Creek	Intermediate Upland	Creek	Outlier
41CV1539	5072	Owl Creek	Upland	Creek	Ridge/Plateau
41CV1540	5073	Owl Creek	Intermediate Upland	Crest	Ridge/Plateau
41CV1541	5074	Owl Creek	Intermediate Upland	Creek	Slope
41CV1542	5075	Owl Creek	Intermediate Upland	Creek	Slope
41CV1543	5076	Owl Creek	Upland	Crest	Ridge/Plateau

Prehistoric Sites Recorded in Delivery Order 10 (Environmental Information)

TARL No	Field No.	Position	Elevation	Vegetation Zone	Perennial Water	Distance to Perennial Water	Nearest Water	Distance to Nearest Water
41BL0967	5077	Slope	0	Wooded Area (25-50%)	Lampasas River	6600	Reese Creek	200
41CV0092	5056	Slope	720	Wooded Area (50-75%)	Leon River	200	Leon River	200
41CV0271	5054	Slope	760	Wooded Area (0-25%)	Leon River	1120	Intermittent Creek	240
41CV0579	5007	Slope	700	Grasslands with Scattered Trees	Leon River	0	Leon River	0
41CV0580	5024	Slope	710	Thick Brush	Leon River	25	Leon River	25
41CV0601	5021	Slope	745	Wooded Area (50-75%)	Leon River	260	Leon River	260
41CV1376	5052	Top	765	Grasslands with Scattered Trees	Leon River	1820	Intermittent Creek	40
41CV1469	5001	Top	745	Grasslands with Scattered Trees	Leon River	600	Leon River	600
41CV1471	5003	Base	735	Grasslands with Scattered Trees	Leon River	880	Intermittent Creek	2
41CV1472	5004	Base	735	Grasslands with Scattered Trees	Leon River	70	Leon River	70
41CV1473	5005	Base	740	Grasslands with Scattered Trees	Leon River	320	Leon River	320
41CV1477	5010	Top	735	Wooded Area (0-25%)	Leon River	200	Leon River	200
41CV1478	5011	Slope	705	Grasslands with Scattered Trees	Leon River	300	Intermittent Creek	0
41CV1479	5012	Slope	700	Grasslands with Scattered Trees	Leon River	120	Intermittent Creek	0
41CV1480	5013	Slope	700	Grasslands with Scattered Trees	Leon River	1	Leon River	1
41CV1482	5015	Slope	700	Grasslands with Scattered Trees	Leon River	25	Intermittent Creek	0
41CV1483	5016	Slope	740	Grasslands with Scattered Trees	Leon River	260	Leon River	260
41CV1485	5018	Slope	725	Grasslands with Scattered Trees	Leon River	200	Leon River	200
41CV1487	5020	Base	700	Wooded Area (50-75%)	Leon River	0	Leon River	0
41CV1489	5022	Slope	725	Wooded Area (0-25%)	Leon River	80	Leon River	80
41CV1490	5023	Slope	735	Grasslands with Scattered Trees	Leon River	60	Leon River	60
41CV1492	5025	Top	710	Wooded Area (0-25%)	Leon River	40	Leon River	40
41CV1493	5026	Slope	730	Grasslands with Scattered Trees	Leon River	140	Leon River	140
41CV1494	5027	Slope	730	Grasslands with Scattered Trees	Leon River	240	Leon River	240
41CV1495	5028	Base	720	Grasslands with Scattered Trees	Leon River	35	Leon River	35
41CV1496	5029	Top	720	Grasslands with Scattered Trees	Leon River	1550	Intermittent Creek	70
41CV1499	5032	Slope	720	Baregrounds	Leon River	840	Intermittent Creek	180
41CV1501	5034	Slope	700	Grasslands with Scattered Trees	Leon River	470	Intermittent Creek	100
41CV1504	5037	Slope	800	Wooded Area (0-25%)	Leon River	820	Intermittent Creek	140
41CV1505	5038	Top	740	Wooded Area (0-25%)	Leon River	400	Leon River	400
41CV1506	5039	Slope	700	Wooded Area (25-50%)	Leon River	300	Leon River	300
41CV1507	5040	Top	775	Wooded Area (0-25%)	Leon River	300	Leon River	300
41CV1508	5041	Top	750	Wooded Area (0-25%)	Leon River	450	Leon River	450
41CV1509	5042	Slope	693	Wooded Area (25-50%)	Leon River	35	Leon River	35
41CV1510	5043	Slope	695	Grasslands	Leon River	50	Leon River	50
41CV1511	5044	Slope	690	Wooded Area (0-25%)	Leon River	3	Leon River	3
41CV1512	5045	Top	0	Wooded Area (0-25%)	Leon River	0	Leon River	0
41CV1515	5048	Slope	690	Grasslands with Scattered Trees	Leon River	3	Leon River	3
41CV1516	5049	Slope	690	Wooded Area (0-25%)	Leon River	160	Intermittent Creek	0
41CV1517	5050	Slope	690	Grasslands with Scattered Trees	Leon River	22	Intermittent Creek	0
41CV1522	5055	Slope	725	Wooded Area (0-25%)	Leon River	160	Leon River	160
41CV1524	5057	Slope	720	Wooded Area (0-25%)	Leon River	560	Intermittent Creek	280
41CV1526	5059	Slope	690	Croplands	Leon River	250	Intermittent Creek	0
41CV1527	5060	Top	690	Wooded Area (0-25%)	Leon River	70	Leon River	70
41CV1528	5061	Top	880	Wooded Area (50-75%)	Leon River	2500	Intermittent Creek	500
41CV1530	5063	Top	900	Wooded Area (50-75%)	Leon River	3300	Intermittent Creek	300
41CV1531	5064	Slope	890	Wooded Area (0-25%)	Leon River	4070	Intermittent Creek	40
41CV1533	5066	Slope	910	Wooded Area (75-100%)	Preacher's Creek	1780	Owl Creek	1550
41CV1536	5069	Slope	880	Wooded Area (25-50%)	Leon River	5500	Owl Creek	260
41CV1539	5072	Slope	790	Wooded Area (50-75%)	Preacher's Creek	1140	Preacher's Creek	300
41CV1540	5073	Slope	735	Wooded Area (50-75%)	Owl Creek	1100	Preacher's Creek	240
41CV1541	5074	Slope	715	Grasslands with Scattered Trees	Preacher's Creek	390	Preacher's Creek	80
41CV1542	5075	Slope	715	Grasslands with Scattered Trees	Preacher's Creek	120	Preacher's Creek	120
41CV1543	5076	Slope	880	Wooded Area (25-50%)	Preacher's Creek	2600	Intermittent Creek	340

TARL No.	Field No.	Area in square meters	Exposure	Condition	Percent Disturbed	Slope	Site Type
41BL0967	5077	5000	Fair	Poor	80	?	Burned Rock Scatter with Lithics
41CV0092	5056	29200	Good	Good	50	10-30%	Lithic Scatter/Lithic Quarry
41CV0272	5054	90900	Fair	Poor	75	10-30%	Lithic Scatter
41CV0579	5007	162	Good	Poor	80	3-10%	Burned Rock Scatter with Lithics
41CV0580	5024	1375	Good	Poor	60	3-10%	Other
41CV1376	5052	16800	Fair	Poor	60	3-10%	Lithic Scatter
41CV1469	5001	4900	Fair	Poor	80	0-3%	Lithic Scatter
41CV1471	5003	75	Good	Poor	65	10-30%	Midden
41CV1472	5004	5800	Fair	Fair	35	3-10%	Midden
41CV1473	5005	28400	Fair	Good	75	3-10%	Burned Rock Scatter with Lithics
41CV1477	5010	28400	Fair	Fair	60	0-3%	Lithic Scatter
41CV1478	5011	1100	Good	Poor	60	45-100%	Burned Rock Scatter with Lithics
41CV1479	5012	500	Good	Fair	60	45-100%	Lithic Scatter
41CV1480	5013	300	Good	Poor	60	45-100%	Other
41CV1482	5015	550	Good	Good	40	45-100%	Burned Rock Scatter with Lithics/Other
41CV1483	5016	1400	Good	Poor	80	45-100%	Lithic Scatter
41CV1485	5018	13100	Good	Poor	60	?	Lithic Scatter
41CV1487	5020	200	Good	Fair	50	45-100%	Other
41CV0601	5021	16100	Fair	Good	40	3-10%	Lithic Scatter
41CV1489	5022	2100	Good	Poor	60	3-10%	Lithic Scatter
41CV1490	5023	2300	Fair	Poor	50	0-3%	Lithic Scatter
41CV1492	5025	800	Good	Poor	60	3-10%	Other
41CV1493	5026	3200	Good	Fair	55	3-10%	Lithic Scatter
41CV1494	5027	38000	Good	Fair	60	3-10%	Lithic Scatter
41CV1495	5028	1700	Fair	Fair	50	0-3%	Lithic Scatter
41CV1496	5029	6000	Good	Poor	60	3-10%	Lithic Scatter
41CV1499	5032	3100	Good	Poor	75	3-10%	Lithic Scatter
41CV1501	5034	6300	Fair	Fair	40	3-10%	Lithic Scatter
41CV1504	5037	380	Good	Poor	70	10-30%	Lithic Scatter
41CV1505	5038	52000	Good	Good	50	10-30%	Lithic Scatter/Other
41CV1506	5039	24000	Good	Fair	50	10-30%	Lithic Scatter
41CV1507	5040	88000	Good	Fair	60	3-10%	Burned Rock Scatter with Lithics
41CV1508	5041	8100	Good	Fair	60	3-10%	Lithic Scatter
41CV1509	5042	450	Good	Fair	50	0-3%	Other
41CV1510	5043	24400	Good	Good	30	3-10%	Lithic Scatter
41CV1511	5044	100	Fair	Fair	60	3-10%	Other
41CV1512	5045	250	Fair	Poor	50	3-10%	Midden
41CV1515	5048	124	Fair	Fair	50	3-10%	Midden
41CV1516	5049	1200	Good	Fair	50	3-10%	Midden
41CV1517	5050	1700	Good	Good	50	3-10%	Midden
41CV1522	5055	38800	Good	Poor	80	10-30%	Lithic Scatter/Lithic Quarry
41CV1524	5057	29600	Good	Poor	85	10-30%	Lithic Scatter/Lithic Quarry
41CV1526	5059	875	Good	Poor	60	45-100%	Burned Rock Scatter with Lithics
41CV1527	5060	625	Good	Poor	60	30-45%	Burned Rock Scatter with Lithics
41CV1528	5061	4100	Good	Fair	60	3-10%	Lithic Scatter
41CV1530	5063	5200	Good	Fair	60	3-10%	Lithic Scatter
41CV1531	5064	35	Good	Good	30	10-30%	Rockshelter
41CV1533	5066	10800	Good	Fair	50	3-10%	Lithic Scatter/Lithic Quarry
41CV1536	5069	120000	Good	Good	40	10-30%	Lithic Scatter/Lithic Quarry
41CV1539	5072	2600	Good	Fair	60	10-30%	Lithic Scatter/Lithic Quarry
41CV1540	5073	8800	Good	Good	40	30-45%	Lithic Scatter
41CV1541	5074	7400	Good	Poor	70	10-30%	Lithic Quarry
41CV1542	5075	9300	Good	Poor	80	10-30%	Lithic Quarry
41CV1543	5076	300	Fair	Fair	55	30-45%	Lithic Scatter

APPENDIX V

HISTORIC SITE DESCRIPTIONS

by

Ben W. Olive

[redacted] 41CV0574

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 750 feet

NEAREST WATER (DISTANCE): 4100 meters

AREA: 900 square meters

VEGETATION: Wooded area (0-25% canopy closure)

SITE TYPE: Isolated features

DESCRIPTIVE SUMMARY: This site consists of the remains of a cement stock tank, limestone circular stock tank, the well of a windmill, and burned historic trash. The cement on top of the wall of the tank bears the date "4/23/25" with the name "Carl" to the right of the date. Other letters are present but are not discernable. No domestic vegetation is recorded and artifact density is low. Observed artifacts include stonewares, lavender glass, and decorative molded milk glass. No artifacts were collected. The site is reported to be in fair condition with 50% of the surface area affected by modern military activities and the dismantling of the windmill.

ASSESSMENTS AND RECOMMENDATIONS: The site consists of some isolated ranching features. It is not eligible for the National Register of Historic Places.

SITE: 41CV0600

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 735 feet

NEAREST WATER (DISTANCE): 200 meters

AREA: 14,500 square meters

VEGETATION: Wooded area

SITE TYPE: Cemetery and Farm/Ranch

DESCRIPTIVE SUMMARY: This site is a multicomponent historic site. Features include the Brown cemetery, 2 cut flagstone piles, a cistern, and 1 recent burial with limestone headstone (possible a joke burial from an army encampment). No domestic vegetation is recorded, and artifact density is high. Observed artifacts include coarse earthenwares, decorated whitewares, bottle glass, lavender glass, buckles, snaps, farm machinery, gun cartridges, a muleshoe, flat glass, foundation materials (cut limestone), fence staples, concrete house steps, cut nails, barbed wire, wooden posts, and a chain link fence surrounding the cemetery. Burial information on 1 grave marker (marble) includes the name of Nimrod Brown, born March 29, 1796 and died in 1873. The other marker (also marble) includes the name Gracy Brown, born October 19, 1796 and died on July 8, 1868. Collected artifacts include 1 flow blue ceramic, 3 edged feathers, 1 glass marble, and 2 transfer-ware fragments. The cemetery is reported to be in good condition.

The farm/ranch area is reported to be in fair condition with 70% of the surface area affected by road construction, army maneuvers, and erosion.

ASSESSMENTS AND RECOMMENDATIONS: Since the site contains the Brown cemetery and artifacts from the latter part of the nineteenth century, the site may be eligible for the National Register. Although the surface of the site has been disturbed the cistern may contain sealed deposits from the earlier part of the site occupation.

SITE: 41CV0617

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 800 feet

NEAREST WATER (DISTANCE): 2040 meters

AREA: 11800 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: This site consists of two separate scatters of historic glass and ceramics on lower eastern and western slopes of a hill. In addition, a possible concrete cistern is present on the west end of the site mainly filled with military trash. No domestic vegetation is recorded and artifact density is medium. Artifacts observed include undecorated whitewares, decorated whitewares, stonewares, porcelain, bottle glass (neck), lavender glass, medicine bottles, milk glass lid liners, shell buttons, cast iron stove parts, and flat glass. No artifacts were collected. The site is reported to be in poor condition with 95% of the surface area affected by modern military activities, land clearance and erosion.

ASSESSMENTS AND RECOMMENDATIONS: Military impacts to the surface of the site and military dumping in the concrete cistern greatly reduce the research potential of this site. It does not appear to be eligible for the National Register of Historic Places.

SITE: 41CV0953

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 905 feet

NEAREST WATER (DISTANCE): 5700 meters

AREA: 6500 square meters

VEGETATION: Wooded area (25-50% canopy closure)

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: This site consists of a concrete circular stock tank, a possible bulldozed house foundation, trash dump, and a thin historic artifact scatter. No domestic vegetation is recorded and artifact density is low. Observed artifacts include decorated whitewares, decorated whitewares (blue transfer - pint and handpainted), bottle glass (bases), lavender glass, milk glass lid liners, blue, dark and clear glass, barrel hoops buckets, tin cans, miscellaneous large pipes, brick, flat glass, fence staples, cut and wire nails, and wooden posts. No artifacts were collected. The site is reported to be in poor condition with 85% of the surface area affected by land clearance (bulldozing).

ASSESSMENTS AND RECOMMENDATIONS: The absence of subsurface features and the heavily disturbed surface suggest that the site is not eligible for the National Register of Historic Places.

SITE: 41CV1470

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: General slope

ELEVATION: 775 feet

NEAREST WATER (DISTANCE): 620 meters

AREA: 475 square meters

VEGETATION: Grassland with scattered trees

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: This site includes the remains of a stone house foundation, a hand-dug well, and a more recent windmill well. No domestic vegetation is recorded and artifact density is low. Observed artifacts include stonewares, undecorated and decorated whitewares with makers marks, bottle glass, cold-cream jars, condiment jars/bottles, lavender glass, tableware, gun cartridges, tin cans with soldered hole in top, brick, flat glass, cut sandstone, natural stone, hinges, and barbed wire. Collected artifacts include pieces of 2 purple glass, 2 stoneware, 1 decorated whiteware, 1 cold cream jar, 1 condiment glass jar, undecorated whiteware, bottle glass, 1 aqua glass, and 1 buffalo china plate. The site is reported to be in fair condition with 85% of the surface area affected by erosion and stone borrowing.

ASSESSMENTS AND RECOMMENDATIONS: The artifacts place the age of the site between 1875 and 1930. The only portion of the site which may be eligible for the National Register is the hand-dug well. This feature may contain materials from the earlier portion of the site occupation. Testing will be required to evaluate the condition of the deposits.

SITE: 41CV1474

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Secondary Terrace

ELEVATION: 740 feet

NEAREST WATER (DISTANCE): 95 meters

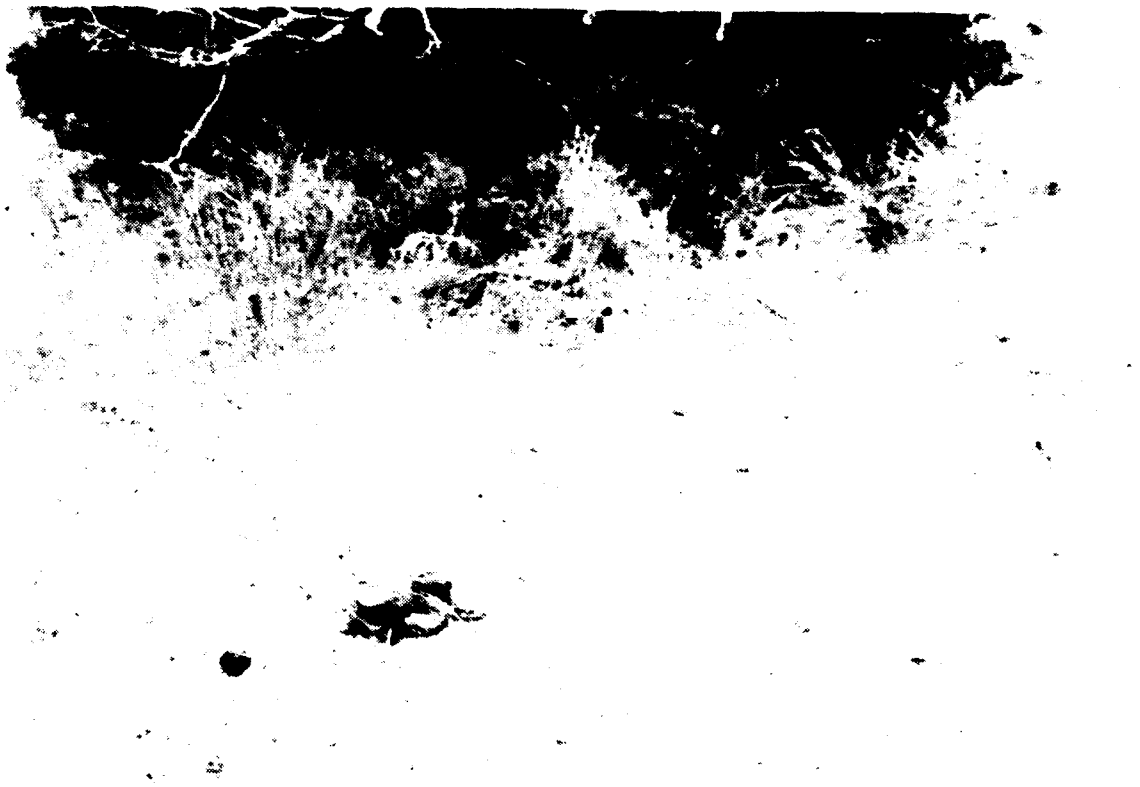

Figure 24. Brick Scatter with Foundation Stones at 41CV1470.

AREA: 675 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Unknown

DESCRIPTIVE SUMMARY: This site includes a 3 x 3 meter enclosed (fenced) area, on top of a small 15 x 15 meter hillock. Several unusually large oak trees are within 10 meters. Also crepe myrtles are located on a nearby hillock. Several (15) cut limestone blocks are scattered in a circular pattern around the fence. Domestic vegetation recorded include possible crepe myrtle trees and unusually large oaks approximately 2.5 feet in diameter. Artifact density is low. Observed artifacts include undecorated whitewares, brick with maker's mark (Ferris), foundation materials, cut limestone, barbed wire, and hog wire. No artifacts were collected. The site is reported to be in good condition with 35% of the surface area affected by erosion and nearby gravel pits.

ASSESSMENTS AND RECOMMENDATIONS: The site may be associated with ranching activities. The absence of clearly nineteenth century artifacts and the abundance of better-preserved 20th century sites suggests that the site is not eligible for the National Register.

SITE: 41CV1476

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Secondary Terrace

ELEVATION: 725 feet

Figure 25. General View of Fenced Area with Cut Limestone at 41CV1474.

NEAREST WATER (DISTANCE): 640 meters

AREA: 1.625 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Domestic dwelling

DESCRIPTIVE SUMMARY: This site includes a possible house foundation (flat cut limestone rocks), a rock-lined well, and a possible cistern or second well. No domestic vegetation is recorded and artifact density is low. Observed artifacts include a muleshoe and muleshoe nail, cut limestone, and an unknown metal fragment. No artifacts were collected. The site is reported to be in fair condition with 60% of the surface area affected by erosion, road construction, and flooding.

ASSESSMENTS AND RECOMMENDATIONS: The presence of a well and a cistern on the site suggest the potential for a sealed artifact assemblage from a restricted time period. The site is potentially eligible for the National Register depending on the results of testing or documentary research.

SITE: 41CV1481

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 710 feet

NEAREST WATER (DISTANCE): 0 meters

AREA: 275 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Special purpose site

DESCRIPTIVE SUMMARY: This site consists of the foundation of an historic bridge spanning the Leon River. The foundation consists of 4 steel and concrete support pillars, 2 on each bank with a concrete wall behind (south) of the pillars. No domestic vegetation is recorded, and artifact density is low. The only observed artifacts were some steel cylinders. No artifacts were collected. The site is in fair condition with 75% of the surface area affected by flooding.

ASSESSMENTS AND RECOMMENDATIONS: This site does not appear to be eligible for the National Register. The bridge has been destroyed except for its support pillars.

SITE: 41CV1484

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 730 feet

NEAREST WATER (DISTANCE): 360 meters

AREA: 1950 square meters

VEGETATION: Grassland with scattered trees

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: This site consists of a rock-lined cistern, a sparse artifact scatter, and a burned rock scatter. No domestic vegetation is recorded and artifact density is low. Observed artifacts include decorated whitewares, stonewares, bottle glass (lips), a glass marble, and a horseshoe. No artifacts were collected. The site is reported to be in poor condition with 75% of the surface area affected by erosion, ranching activities, and road construction.

ASSESSMENTS AND RECOMMENDATIONS: This site is potentially eligible for the National Register depending on the contents of the rock-lined cistern. The surface of the site has been extensively disturbed and does not have much research potential.

SITE: 41CV1486

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 720 feet

NEAREST WATER (DISTANCE): 790 meters

AREA: 3775 square meters

VEGETATION: Grassland with scattered trees

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: The site consists of a house foundation of cut and natural limestone slabs. A prepared entryway is composed of 2 parallel lines of limestone slabs approximately 1 meter apart. A collapsed wood frame outbuilding is approximately 25 meters to the east. A diffuse scatter of burned limestone is also present. No domestic vegetation is recorded and artifact density is low. Artifacts observed include undecorated whitewares, decorated whitewares, stoneware, bottle glass (lips, bases), lavender glass, milk glass lid liners, buckets, a tin can, brick with maker's mark (cors..?), foundation materials of cut limestone and natural stone, a bolt, cut and wire nails, a screw, and other farm hardware. Artifacts collected include 1 decorated stoneware fragment, 2 bottle bases, and 2 molded whiteware fragments. The site is reported to be in fair condition with 50% of the surface area affected by erosion and road construction.

ASSESSMENTS AND RECOMMENDATIONS: The artifacts collected from the site suggest a date of about 1920. The absence of subsurface features such as wells or cisterns limit the research potential of the site to its sheet refuse deposit. Given the age of the site and its disturbance, it does not appear to be eligible for the National Register of Historic Places.

SITE: 41CV1497

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary terrace

ELEVATION: 700 feet

NEAREST WATER (DISTANCE): 0 meters

AREA: 2600 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Special purpose site

DESCRIPTIVE SUMMARY: This site contains the remains of an elevated bridge that spanned the Leon River. Military maps show that the site was probably a bridge for the St. Louis and Southwestern Railroad. Remains on the south side of the river consists of a series of 24 parallel rows of utility-size poles, cut off just above the ground surface, that extend from the south bank of the river, to the southwest, to higher ground above the floodplain. A possible sunken road leads from the higher ground to the former location of the bridge. The 2 rows nearest the bank are approximately 1 meter apart and each contains 8 poles. The remaining 22 rows are approximately 4 to 5 meters apart and consist of 5 poles each. A raised earthen road is preserved on the north side. No domestic vegetation is recorded and artifact density is low. The only artifacts observed were the posts. No artifacts were collected. The site is reported to be in poor condition with 90% of the surface area affected by the removal of the bridge.

ASSESSMENTS AND RECOMMENDATIONS: This site is not eligible for the National Register of Historic Places. The bridge has been destroyed except for the remains of its pilings.

SITE: 41CV1498

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 734 feet

NEAREST WATER (DISTANCE): 1300 meters

AREA: 1200 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: The site consists of a concentration of historic ceramics and other historic materials in a 20 x 20 square meter area. No domestic vegetation is recorded and artifact density is high. Observed artifacts include undecorated whitewares, stonewares, bottle glass, lavender glass, milk glass lid liners, tableware, beer glass, harness gear, flat glass, fence staples, cut nails and wire nails, window glass, 4 sunken concrete fence posts, blue annular stoneware, a blue glass button, and plain wire. No artifacts were collected. The site is reported to be in poor condition with 90% of the surface area affected by landing strip construction and a baseball field.

ASSESSMENTS AND RECOMMENDATIONS: The site is not considered eligible for the National Register. No subsurface features were observed on the site and the surface is extensively disturbed.

SITE: 41CV1500

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 720 feet

NEAREST WATER (DISTANCE): 860 meters

AREA: 2600 square meters

VEGETATION: Grassland with scattered trees

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: The site consists of a limestone-lined cistern and the remains of a limestone foundation. A possible old road or pipeline is approximately 8 meters north of the cistern. An extremely sparse ceramic scatter is in the vicinity of the foundation. No domestic vegetation is recorded and artifact density is low. Observed artifacts include undecorated whitewares, stonewares, cold cream jars, brick, foundation materials of cut limestone and natural limestone. No artifacts were collected. The site is reported to be in poor condition with 85% of the surface area affected from levelling by the military and erosion.

[illegible] AND RECOMMENDATIONS: This site is potentially eligible for the National [illegible] depending on the contents of the limestone-lined cistern. The surface of the site has been extensively disturbed and does not have much research potential.

SITE: 41CV1502

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 760 feet

NEAREST WATER (DISTANCE): 1380 meters

AREA: 16 square meters

VEGETATION: Wooded Area (0-20% canopy closure)

SITE TYPE: Special purpose site

DESCRIPTIVE SUMMARY: This site consists of the cement remains of a sheep dip measuring 1 x 13 meters. The bottom of the trough is filled with historic trash. The outside of the cement walls have graffiti carved into it. No domestic vegetation is reported and artifact density is unknown. Artifacts observed include modern bottle glass, blue glass, modern tin cans, flat glass, and other miscellaneous trash. No artifacts were collected. The site is reported to be in fair condition with 60% of the surface area affected by the removal of the superstructure, erosion, and a military trail.

ASSESSMENTS AND RECOMMENDATIONS: This site is not considered to be eligible for the National Register of Historic Places.

SITE: 41CV1503

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 790 feet

NEAREST WATER (DISTANCE): 1060 meters

AREA: 52 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Special function (WPA roadside park)

DESCRIPTIVE SUMMARY: This site consists of four raised foundations made of cemented layers of cut and uncut tabular limestone. The foundations are not arranged in any type of pattern. A limestone and cement barbecue is also associated with the foundations, built on a prepared tabular limestone floor. No domestic vegetation is reported and no artifacts were observed. The site is reported to be in fair condition with 60% of the surface area affected by modern military activities and erosion.

ASSESSMENTS AND RECOMMENDATIONS: The site is an old WPA roadside park. The site is not eligible for the National Register of Historic Places on archaeological, historic, or architectural grounds.

SITE: 41CV1513

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 780 feet

NEAREST WATER (DISTANCE): 350 meters

AREA: 1900 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: This site consists of a pile of burned limestone that appears to have been bulldozed from its original location for land clearance. The limestone probably was originally part of a foundation, the disturbed remains of which are located approximately 10 meters to the northwest. No domestic vegetation is reported and artifact density is medium. Artifacts observed include undecorated whitewares, decorated whitewares, stonewares, bottle glass (bases), canning jars (base), lavender glass, foundation material of limestone, and slate. Artifacts collected include 2 flow blue and 1 possible blue sponged sherds. The site is reported to be in poor condition with 95% of the surface area affected by land clearance and erosion.

ASSESSMENTS AND RECOMMENDATIONS: The artifacts suggest a mid-nineteenth century age for the site, but it is extensively disturbed and does not have any subsurface features. The site is not eligible for the National Register of Historic Places.

SITE: 41CV1514

ENVIRONMENTAL ZONE: Lowland

LANDFORM: Primary and secondary terrace

ELEVATION: 700 feet

NEAREST WATER (DISTANCE): 550 meters

AREA: 4700 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Special purpose site

DESCRIPTIVE SUMMARY: The site consists of several features, some of which are probably not associated. The concrete foundations of an old road bridge are located in the bed of Henson Creek. They have been eroded from the creek banks and are partially collapsed. A limestone well is located next to the present creek bank, downstream from the bridge foundations. The well is

about 1 meter in diameter and 1 meter deep. It is well made of cemented tabular limestone. A cement tower (2 story), a semi-subterranean square foundation with a window and doorway which leads down to a cement floor and a second foundation are also reported. No domestic vegetation is reported and artifact density is low. Observed artifacts include undecorated whitewares, decorated whitewares, modern bottle glass, a hand file, modern military and aluminum tin cans, and brick with maker's mark. No artifacts were collected. The site is reported to be in fair condition with 85% of the surface area affected by modern military activities and erosion.

ASSESSMENTS AND RECOMMENDATIONS: The site is potentially eligible for the National Register of Historic Places. Historic documentary investigations and testing of the structures and well may help to identify of the function of this complex.

SITE: 41CV1520

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 780 feet

NEAREST WATER (DISTANCE): 300 meters

AREA: 3600 square meters

VEGETATION: Wooded area

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: This site consists of a scatter of historic trash on the top and slopes of a hill (most on the southern slopes). No domestic vegetation is recorded and artifact density is medium. Artifacts observed include undecorated whitewares, decorated whitewares, stonewares, porcelain, bottle glass, cold cream jars, lavender glass, medicine bottles, milk glass lid liners, decorative cut/pressed glass, shell buttons, and military tin cans. No artifacts were collected. The site is reported to be in poor condition with 95% of the surface area affected by modern military activities and erosion.

ASSESSMENTS AND RECOMMENDATIONS: The site appears to be a twentieth century artifact scatter in poor condition. It does not appear to be eligible for the National Register of Historic Places.

SITE: 41CV1525

ENVIRONMENTAL ZONE: Intermediate upland

LANDFORM: Outlier

ELEVATION: 720 feet

NEAREST WATER (DISTANCE): 300 meters

AREA: 2000 square meters

VEGETATION: Wooded area

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: This site consists of several possible foundations made from cut limestone and cement for unknown types of structures. A rock wall remnant and a possible cistern or cesspool are also present. Domestic vegetation recorded includes a single peach tree and artifact density is low. Observed artifacts include coarse earthenwares, undecorated whitewares, bottle glass (bases), cold cream jars, milk glass lid liners, milk glass, cast iron stove parts, asphalt shingles, brick with maker's mark (Whitebell Cherry Reds Corsicana), flat glass, foundation materials (cut limestone), lock plates, and barbed wire. No artifacts were collected. The site is reported to be in poor condition with 90% of the surface area affected by erosion, tree clearing and miscellaneous military activities.

ASSESSMENTS AND RECOMMENDATIONS: The site appear to be a poorly-preserved twentieth century occupation. It does not appear to be eligible for the National Register of Historic Places.

SITE: 41CV1532

ENVIRONMENTAL ZONE: Upland

LANDFORM: Plateau

ELEVATION: 925 feet

NEAREST WATER (DISTANCE): 3750 meters

AREA: 3400 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: This site consists of a cement and limestone well and associated scatter of historic material. Some letters were etched into the cement when still wet. No domestic vegetation is recorded and artifact density is medium. Artifacts observed include undecorated whitewares, stonewares, bottle glass (neck), lavender glass, milk glass container, metal hair comb, brick with maker's mark ("...beck ...s", cut nails, barbed wire, and a double strand wire. No artifacts were collected. The site is reported to be in poor condition with 75% of the surface area affected by land clearance and modern military activities.

ASSESSMENTS AND RECOMMENDATIONS: This site is potentially eligible for the National Register depending on the contents of the well. The surface of the site has been extensively disturbed and does not have much research potential.

SITE: 41CV1534

ENVIRONMENTAL ZONE: Upland

LANDFORM: Ridge

ELEVATION: 850 feet

NEAREST WATER (DISTANCE): 2000 meters

AREA: 2800 square meters

VEGETATION: Wood area (75-100% canopy closure)

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: This site consists of a house foundation, cistern, and associated historic artifact scatter. Domestic vegetation recorded include cow's tongue prickly pear. Artifact density is medium and artifacts observed include undecorated and decorated whitewares, stonewares (jug handle and lip), bottle glass, cold cream jars, lavender glass (includes 1 applied neck), medicine bottles, a milk glass button, a shell button, buckets, shoe eyelets, a screwdriver bit, washtubs, cut limestone foundation materials fence staples, cut and wire nails, barbed wire, wooden posts, and leather shoe fragments. No artifacts were collected. The site is reported to be in poor condition with 80% of the surface area affected by land clearance.

ASSESSMENTS AND RECOMMENDATIONS: This site is potentially eligible for the National Register depending on the contents of the cistern. The surface of the site has been extensively disturbed and does not have much research potential.

SITE: 41CV1535

ENVIRONMENTAL ZONE: Upland

LANDFORM: Contact zone

ELEVATION: 900 feet

NEAREST WATER (DISTANCE): 6040 meters

AREA: 8800 square meters

VEGETATION: Grasslands

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: This site consists of two concentrations of historic artifacts separated by a thin scatter of historic artifacts. A well or cistern is located at the northwest concentration. A thin prehistoric lithic scatter is also present. No domestic vegetation is recorded and artifact density is medium. Observed artifacts include undecorated and decorated whitewares, stonewares, porcelain, bottle glass, lavender glass, milk glass lid liners, brick, cut nails, and barbed wire. No artifacts were collected. The site is reported to be in poor condition with 85% of the surface area affected by land clearance (bulldozing), and modern military activities (including a road).

ASSESSMENTS AND RECOMMENDATIONS: This site is potentially eligible for the National Register depending on the contents of the well or cistern. The surface of the site has been extensively disturbed and does not have much research potential.

SITE: 41CV1538

ENVIRONMENTAL ZONE: Upland

LANDFORM: Ridge

ELEVATION: 855 feet

NEAREST WATER (DISTANCE): 1040 meters

AREA: 800 square meters

VEGETATION: Grasslands with scattered trees

SITE TYPE: Farm/Ranch

DESCRIPTIVE SUMMARY: This site consists of a house foundation, a rectangular alignment of tabular limestone set on edge in the ground, and associated thin historic artifact scatter on the crest of a ridge overlooking Owl and Preachers creeks. No domestic vegetation is recorded and artifact density is low. Observed artifacts include undecorated whitewares, lavender glass, milk glass lid liners, various colors of glass, flat glass, and foundation materials (concrete, limestone, and chert). No artifacts were collected. The site is reported to be in poor condition with 90% of the surface area affected by land clearance.

ASSESSMENTS AND RECOMMENDATIONS: The absence of subsurface features and the heavily disturbed surface suggest that the site is not eligible for the National Register of Historic Places.

APPENDIX VI

HISTORIC MATERIAL CULTURE DISCUSSION

by

Shawn Bonath Carlson

HISTORIC MATERIAL CULTURE DISCUSSION

ISOLATING HISTORIC SITES

Historic Sites Definition

Historic sites represent the tail-end of an archaeological continuum and, as such, should be perceived no differently than prehistoric or protohistoric sites. Despite the disputes and controversy over an acceptable definition of historic sites archaeology and its relationship to history (Schuyler 1978:1-32), Robert Schuyler has proposed that it simply be defined as "the study of the material remains from any historic period" (1978:27). The historic period is that in which a documentary record is available and enables the researcher to understand the historic archaeological site more fully. With the aid of documentation and the use of the direct historical approach, the potential for understanding protohistoric and prehistoric sites increases. Consequently, the same methods may be used on prehistoric, protohistoric, and historic sites. Within a field context and for the purposes of recording at Fort Hood, historic sites may be identified by the presence of (1) a structural feature (i.e., building foundations, wells, cisterns, root cellars, fences, etc.) or (2) three artifact classes within a 5 m radius (i.e., ceramics, glass, metal, etc.).

Historic Site Recording

All techniques described for prehistoric site recording at Fort Hood may be applied to historic sites as well, the only difference being in the artifact classes observed or collected.

Historic Site Features

The following cultural features have been previously observed on historic sites at Fort Hood.

A. Bridges: generally wooden or iron pilings and associated hardware.

B. Carvings: usually dates or names engraved in the limestone caprock.

C. Chimney falls: either brick or stone with mortar attached and possible evidence of burning. Bricks that have been subjected to intense heat will exhibit a greenish-colored glaze that results from silicas in the clay being drawn to the surface.

D. Cisterns: subsurface water storage facilities that are usually bell-shaped but may be square or cylindrical as well. They are generally constructed of brick or stone with the neck extending above the ground's surface and are plastered with mortar on the interior to hold the water. Cisterns are generally fitted with a cover (though the covers are not found with the cisterns) so that a pipe can drain rain water from the gutters of a nearby structure.

E. Concrete piers: these are generally trapezoidal or rectangular in shape and used to support a structure. They may be used in combination with stone or wooden stumps.

F. Concrete slabs: these usually represent sidewalks or slab structures on late dating sites.

G. Concrete and stone water tanks: above ground water storage facilities associated with windmills. These are usually quite tall (3 m or more) and wide (3 m in diameter or more).

H. Corrals: small fenced or stone enclosures for livestock.

I. Dams: low concrete and stone walls crossing a waterway.

J. Depressions: these low sunken features may represent former privy, root cellar or storm cellar locations.

K. Dip tanks: commonly used in the 1920s and 1930s for tick infestation in cattle, these concrete features may have a concrete loading platform with an abrupt drop-off into the subsurface dip tank. The tank is a narrow passage just wide enough for a single cow to walk through with a sloping exit up to another concrete platform. Fenced corrals would be common at either end of this feature.

L. Domestic plants: some plants have been identified as markers for historic sites and generally include (1) large live oak trees, (2) invading mesquite trees, (3) border grass along pathways, (4) perennial flowers such as daffodils or irises, and (5) rose bushes.

M. Drainage Ditch: a depressed linear feature for drainage of water.

N. Extant structures: few standing or partially standing structures remain at Fort Hood and should be carefully recorded if found.

O. Fencelines/fenceposts: barbed wire fencelines and wooden fenceposts, designating property boundaries, field boundaries or corrals.

P. Foundations: for domestic dwellings and outbuildings are common and generally represented by brick, stone or wooden piers in some type of linear arrangement that can be recognized as a building foundation. More common, however, are loose foundation stones and bricks bulldozed into piles.

Q. Graves: community cemeteries or isolated family grave sites.

R. Paving stones: flat flagstones either *in situ* or loose.

S. Roads: historic roads are probably more apparent on aerial photographs than in the field and will appear as a linear sunken feature that is heavily overgrown with vegetation. Portions of it may be disturbed.

T. Root cellars: rectangular subsurface features for storing vegetables and measuring approximately 1 x 2 m with a depth of about 1.5 m. These may be unlined or lined with wood, brick or stone. During use, these would probably have had some type of wooden plank covering.

U. Rubble: rubble piles often represent structures that have been bulldozed by the Army and should be examined for structural remains (foundation stones, bricks from chimney falls, nails, window glass, etc.).

V. Stock tanks: large circular water impoundments with a man-made berm along one edge. These are commonly called "stock tanks" in Texas but known as "stock ponds" elsewhere.

W. Stone walls: dry laid stone walls are common in some areas of Fort Hood and probably represent early property lines or field boundaries during initial clearing of the land.

X. Troughs: above ground water or feeding containers. They include small concrete cylindrical basins, approximately 60 cm in depth and 60 cm in diameter, and large rectangular stone or concrete features, both of which rest on the ground; and covered wooden or metal bins elevated on wooden legs.

Y. Wells: deep and narrow circular shafts lined with brick or stone. These should not be confused with cisterns or concrete water/feeding troughs.

Z. Windmills: blade parts or iron leg remains may be found, possibly in association with concrete footings, and will probably be found near large concrete tanks that store the water pumped by windmills.

AA. Other: any cultural feature that does not fall into the above categories should also be described.

Historic Site Chronological Indicators

Ceramics are usually the best chronological indicator on historic sites, but for late nineteenth and early twentieth century sites, such as those at Fort Hood, glassware is believed to be a better indicator. For metal artifacts, patent numbers and trademarks generally give the best chronological information. The following paragraphs address the chronological significance of artifacts that are most likely to be found at Fort Hood. A complete listing of historic artifacts found in Delivery Order 10 survey is given in Appendix IX.

A. Ceramics

1. Coarse earthenwares: these low-fired soft-paste ceramics are found infrequently on historic sites at Fort Hood. They are usually red paste utilitarian wares such as crocks, jugs, jars, platters, and mugs prior to 1850 (Ketchum 1983:10). After 1850, these "redwares" are usually confined to flowerpots and drain tiles. "Yellowware" bowls with pink and blue slip banding, on the other hand, occur frequently at Fort Hood.

2. Whitewares: Creamware (1760-1820), a refined white paste earthenware with a yellowish-tinged clear lead glaze and pearlware (1780-1830), a refined white paste earthenware with a bluish-tinged clear lead glaze, were the precursors of the nineteenth century whitewares produced from about 1830 on into the early twentieth century (Ketchum 1983:21; Price 1979). From 1830-1860, whitewares are nearly indistinguishable from the pearlwares because many of the decorations were the same. The primary difference is that the glaze is clear so they appear whiter plus the paste has been improved upon and is harder. The term "ironstone" is sometimes used to refer to these wares but is generally not used. The decorations that occur most frequently

are: annular (or banded), edge-decorated, sponged, cut sponged, stamped, stenciled, and transferprinted.

Annular ware is easily recognized by the multiple bands that occur below the rim of each vessel, usually a bowl or mug form. Below the bands, on the body of the vessel, other decorations may occur. These are generally one of the following: (1) mocha——a dendritic brown design on rust and less frequently on blue or green, (2) marbled——a cloudy mixture of colors swirled together, (3) swirled——a mixture of colors trailed across the vessel in a manner resembling fingerpainting, (4) cat's eye——a mixture of colors applied by finger resembling a cat's eye, and (5) engine-turned——an impressed geometric design.

Edge decorated wares are mostly limited to "shell-edge" which is a feather-like impression along the rim, mostly of plates, and is generally painted blue over the impressions. Tableware that has a single band along the rim is also referred to as edge decorated for this period.

Sponged wares (sometimes called spatterware) have had the decoration applied by a sponge, usually in bright red, green, blue, or lavender, that may cover the entire vessel.

Cut sponged wares are the same except that a design has been cut from the sponge and stamped on the vessel——usually a crude flower form.

True stamped wares have a much finer and delicate design than the cut sponged wares that generally occurs as a border design.

And finally, transferprinted decorations are applied with an inked waxed paper onto which the design was transferred from a copper plate engraving. Blue is the most common color, but black, brown, green, lavender, red, etc., also occur. "Flown" blue, which is a variation of transferprinting, also occurs during this period and reappears in the 1890s.

By 1855, a trend towards undecorated whitewares began and continued up until about 1930 (Wetherbee 1980). Prior to 1900, these wares are characterized by a molded rim design but later are completely devoid of decoration. Around 1900, decal decorated wares were available in the United States but did not become popular until the 1930s (Lehner 1980). The decals are generally polychrome floral designs that can be scratched off with use. The edge of the decal can be felt and should not be confused with transferprinted wares which are always monochrome and rarely have two colors applied one on top of the other. These decorations occur on whiteware, semiporcelain, and porcelain.

3. Stoneware: this ware is a nonporous hard-paste ware that has been fired at a higher temperature than the whitewares. The early white paste earthenwares, creamware and pearlware, are fired at a temperature so low that the paste can be scratched with a fingernail. The later whitewares have been improved and are harder, hence the term "ironstone." Stoneware, however, actually has ground flint in the paste, causing it to be harder. The paste colors usually fall within the ranges of gray and tan, and vessel form is utilitarian (i.e., crocks, jugs, butter churns and milk pans). Stonewares pre-dating 1900 generally have a salt glaze which is clear with an "orange peel" finish (Noel Hume 1969). Interiors are often slipped with a matte brown Albany slip, a clay source from New York. After 1900, a Bristol glaze is more common. This glaze is a thick creamy white glaze that sometimes appears to be pitted. It is used for the interior and exterior, however, all combinations of the Albany slip and Bristol glaze occur. The most common is a Bristol glazed exterior and an Albany slipped interior. Blue Bristol glazes also occur frequently on chamber pots with molded decoration.

4. Semiporcelain: this ware is a fine thin tableware with a high fired white paste and a clear alkaline glaze. The paste has somewhat of a grainy texture and decal decorations or oriental

decorations are common (Ketchum 1983:21; Lehner 1980). It occurs infrequently during the late nineteenth and early twentieth century at Fort Hood.

5. Porcelain: this is the highest fired ware and is very thin with a smooth glass-like texture (Ketchum 1983:21). Decal decorations are, again, popular on this ware. Overglaze oriental designs are also common. Porcelain has generally been an expensive ware and occurs infrequently at Fort Hood during the late nineteenth and early twentieth centuries.

B. Glassware

1. Fire polished (?-1855), flanged or folded finishes (?-1870): these are the earliest types of glass bottle finishes (Deiss 1981; Lorraine 1968) and are rarely found on Fort Hood sites. Fire polished finishes result from breaking the bottle neck from a blow-pipe and then smoothing the roughened edges in a fire. Flanged and folded finishes are done similarly except that while the glass is still warm the lip is flared (flanged) outward for easier pouring, or completely folded over.

2. Applied string finishes (?-1845): these bottle finishes are made the same way as a fire polished finish except that an extra band of glass has been applied around the lip and exhibits the impression from a string used in holding the bottle cork in place. This is also rarely found at Fort Hood.

3. Applied tooled finishes (1825-1875): these bottle finishes are found infrequently at Fort Hood and can be identified by the obvious piece of glass that has been applied to the bottle neck. It has been "tooled" with lipping shears so that its shape is regular. Lipping usually occurs on the exterior below the tooled portion of the lip where it attaches to the bottle. A ridge can also be felt inside the bottle neck as further evidence that the finish has been applied.

4. Improved tooled finish (1870-1915): these bottle finishes occur frequently on Fort Hood sites and are characterized by their regular shaping. The lipping shears have been used directly on the unfinished bottle neck without the application of more glass as in the applied tooled finish. The easiest identifying characteristic is the absence of mold lines on either side of the bottle immediately below the tooled finish. The mold lines may stop on the shoulder of the bottle but usually extend up the lip almost to the finish.

5. Three-piece dip bottom mold (1830-1905): bottles exhibiting this type of mold method have seams encircling the shoulder and one on either side extending upwards from the shoulder. They are not common on Fort Hood sites.

6. Snap case (1860-1915): this type of mold method leaves no seams but indentations on the body of the bottle may be apparent where the snap case grips it.

7. Three-piece post bottom mold (1858+): a circular seam appears on the base of bottles made by this method with one seam extending out and up either side of the bottle all the way to the finish.

8. Three-piece cup bottom mold (date unknown but seems to coincide with the three-piece post bottom): a seam encircles the bottle just above the base and has one seam extending up either side of the bottle to the finish.

9. Owens scar (1904-1969): an irregular feathery circular suction cut-off scar on the base of machine-made bottles, sometimes extending up onto the sides of the bottle (Miller and Pacey 1985). Note that machine-made bottle finishes have mold seams extending up and over the bottle lip.

10. Valve mark (1935-1955): a small (circa 1 cm diameter) regularly shaped circular scar on machine-made bottle bases (Miller and Pacey 1985).

11. "Federal Law Prohibits" (1933-1964): usually inscribed on bottle sides just beneath shoulder or just above base (Toulouse 1971).

12. "Duraglas" in script (1940-1963) (Toulouse 1971:170).

13. "Duraglas" printed (1964-present) (Toulouse 1971:170).

14. Lavender glass (1880-circa 1918): this glass is a result of attempts to decolorize glass because of the many impurities that can cause it to be various colors (greens, browns, yellows, etc.) (Toulouse 1969:145-146). Manganese dioxide was imported from Germany until 1918 and used as a decolorant in glassware. Exposure to the sun caused it to turn lavender or purple as did the heat from machine manufacture. This is an important chronological marker for historic sites at Fort Hood.

15. Carnival glass (1905-1935): an iridescent pressed tableware given away at carnivals during the early part of the century (Florence 1977).

16. Depression glass (1930-1940): a pressed glass tableware usually occurring in pale pink and pale green colors and to a lesser extent in pale blue and amber (Florence 1983, 1984).

C. Trademarks

Trademarks are the most accurate method of dating historic artifacts since their use has usually been documented. Ceramic trademarks are usually stamped in ink on the base of vessels but may be found on other parts of the vessel as well. Glass trademarks usually consist of an emblem on the base of bottles. In their absence, manufacturer's names or product names are also helpful. Glass tableware generally does not have trademarks present, although some does. Metal is less easily identified and dated because of corrosion; however, manufacturer's names occur with some frequency on various metal items.

D. Building Materials

Few building materials can be precisely dated. However, some items can provide limited information.

1. Nails: the preponderance for cut nails over wire nails, or vice versa, can be of significance. The pennyweight of whole nails can also aid in structural identification (Fontana and Greenleaf 1962; Nelson 1968).

2. Window glass: measurements on window glass thickness have been used for dating historic sites although there are many limitations with this method (Moir 1983; Roenke 1978).

3. Bricks: some bricks have been stamped by their manufacturer. Also, crudely made bricks may be evidence of either early manufacture or local manufacture (Garlick n.d.).

4. Barbed wire: barbed wire types can be identified, but their use as a chronological indicator is limited since most were patented during a small period of time and were used over a long period of time (Glover 1980).

5. Log notching: while log structural remains are not expected, the method of notching in structures that are found may be useful in determining a date of construction (Jordan 1978).

8. Miscellaneous

Many "modern" artifacts, such as plastic, rubber, or military debris, etc., occur on historic sites at Fort Hood. While these may seem unimportant, their presence is useful in determining the length of occupation of a site or its disturbance. Floral and faunal materials are generally not considered useful since their date of deposit cannot be determined.

HISTORIC ARTIFACTS RECOVERED DURING THE SURVEY

SITE NO.	CATALOG NO.	AMOUNT	DESCRIPTION
41CV0600	054-0210	1	Cobalt blue glass bottle body
41CV0600	054-0211	1	White whiteware with clear (alkaline) glaze flatware - body with multi-colored decal decoration (1900--)
41CV0600	054-0212	1	White whiteware with clear (alkaline) glaze flatware - rim/shoulder/base with green decal decoration with same as body rim (1900--)
41CV0600	054-0213	1	White whiteware with clear (alkaline) glaze saucer - footed base with blue flow blue decoration (1835--1870)
41CV0600	054-0214	3	White whiteware with clear (alkaline) glaze flatware - rim with blue decoration with shell-edged rim (1830--1860)
41CV1470	054-0182	1	White milk glass cold cream jar footed base post-bottom mold (1858--1915)
41CV1470	054-0183	1	Glass kerosene lamp parts (1854--)
41CV1470	054-0184	1	Clear glass bottle flat base
41CV1470	054-0185	1	Lavender glass tumbler whole pressed ribbed pattern (1880--1918)
41CV1470	054-0186	1	Lavender glass bottle flat base (1880--1918)
41CV1470	054-0187	1	Cobalt blue glass bottle body
41CV1470	054-0188	1	Glass miniature
41CV1470	054-0189	1	Tan stoneware with Bristol glaze crock - body with black stamped decoration (1920--)
41CV1470	054-0191	1	White whiteware with clear (alkaline) glaze bottle - rim
41CV1470	054-0190	1	Tan stoneware with Albany interior/Bristol exterior glaze crock - body with undecorated decoration (1880--1920)
41CV1470	054-0192	1	White whiteware with clear (alkaline) glaze flatware - body with green transferprinted decoration (1825--1875)
41CV1470	054-0193	1	White whiteware with clear (alkaline) glaze flatware - body with green transferprinted decoration (1825--1875)
41CV1470	054-0194	1	Blue, Depression glass pressed pattern (1930--1940)
41CV1470	054-0195	1	White semi-porcelain with clear (alkaline) glaze platter - footed base (1901--) "Buffalo Pottery Co., Buffalo, NY, 1901+"
41CV1486	054-0223	1	White milk glass juicer lid pressed
41CV1486	054-0224	1	Tan stoneware with Bristol glaze crock - body with blue stamped decoration (1920--)
41CV1486	054-0225	1	White whiteware with clear (alkaline) glaze flatware - rim with molded rim
41CV1486	054-0226	1	White whiteware with clear (alkaline) glaze flatware - rim with molded rim

SITE NO.	CATALOG NO.	AMOUNT	DESCRIPTION
41CV1486	054-0227	1	Brown glass snuff bottle footed base cup-bottom mold (1870--) 4 dots
41CV1513	054-0060	1	White whiteware with clear (alkaline) glaze flatware - rim with blue decoration with stamped rim
41CV1513	054-0061	1	White whiteware with clear (alkaline) glaze flatware - footed base with flow blue decoration (1835--1870)
41CV1513	054-0062	1	White whiteware with clear (alkaline) glaze flatware - rim with blue decoration with molded/flow blue rim (1845-1870)
41CV1525	054-0103	1	Clear glass canning jar flat base (1912--1946) "Kerr Glass Mfg. Co."

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APPENDIX VII

HISTORIC SITE CODING FORMAT

by

Shawn Bonath Carlson

FORT HOOD HISTORIC SITE CODING FORMAT

ENVIRONMENTAL VARIABLES

TARL: TARL trinomial site number (if available).

FIELD: SITE field number (if available).

EASTQUAD: Quad Easting (southeastern corner of square kilometers, to be read X 1000 m).

NORTHQUAD: Quad Northing (same as above).

PROJECT: Project (most recent). There are nine choices: "FY78," fiscal year 1978; "BS78," "brave shield" sample of 1978; "FY79," fiscal year 1979; "F80S," spring of fiscal year 1980; "F80F," fall of fiscal year 1980; "FY81," fiscal year 1981; "FY82," fiscal year 1982; "FY83," fiscal year 1983; and "FY84," fiscal year 1984.

EASTING: UTM Easting (The most precise location of the site's center, rounded to the nearest 10 m).

NORTHING: UTM Northing (same as above).

DRAINAGE: Drainage. This is the major drainage whose basin contains the site. There are five choices:

1 - Leon River
2 - Owl Creek
3 - Cowhouse Creek
4 - Nolan Creek
5 - Lampasas River

ENV_ZONE: Environmental Zone. This is a broad classification divided into three choices:

1 - Lowland (a zone devised by Fort Hood archaeologists to portray the bottomland associated with perennial and intermittent streams)
2 - Intermediate upland (land higher than the lowland zone, but not including the bedded, massive limestone found in certain portions of Fort Hood).
3 - Upland (the bedded, massive limestone coded "1" on the Engineering Geology maps of Fort Hood).

CRK_CRST: Creek/Crest Classification. This locates a site in nearest relation to a major drainage or a topographic divide separating drainages.

1 - Creek
2 - Crest

LANDFORM: Landform. These are physiographic headings defined by the Fort Hood archaeologists. As refinement of the Environmental Zone, the initial coding here has been based on map interpretations supplemented by site notes. Certain categories occasionally overlap to present problems for coders. Also, identification of various terrace types (codes 8-10) was difficult and the general terrace code (7) was used more often. Many sites appear in rather nondescript physiographic settings, and the slope designation (Intermediate Upland, code 15) was common. Because the codes below may be formed into new variables by the computer, divisions such as that between "hillock" and "knoll" can be easily adjusted.

1 - Outlier (may include eroded buttes)
2 - Buttes (cf. Reed Mountain near Quad E24/N52)
3 - Ridge/Plateau (these may be large areas and correspond to bedded massive limestone)
4 - Bench (upland associated)
5 - Spur (upland associated)
6 - Draw (upland associated)
7 - Terrace (see discussion above)
8 - Primary Terrace
9 - Secondary Terrace
10 - Tertiary Terrace
11 - Rudimentary Terrace (usually not visible on maps)
12 - Escarpment Edge (bedded massive limestone escarpments)
13 - Hillock (considered slightly larger than a knoll)
14 - Knoll
15 - Slope (Intermediate Upland, see discussion above)
16 - Interfluvial (type of slope)
17 - Bank (type of slope - on edge of intermittent stream)
18 - Drainage Divide (area between two major watersheds)

POSITION: Position. This locates the site relative to the landform. For example, a site may be at the base of a butte.

1 - Top
2 - Slope
3 - Base

ELEVATION: Elevation (feet).

VEG_ZONE: Vegetation Zone. These categories were interpreted directly from the Environmental Ground Tactical Data Maps of Fort Hood. The numerical titles used here are those of the maps.

1 - Baregrounds
2 - Croplands
3 - Grasslands
4 - Grasslands with scattered trees
5 - Wooded area (0- 25%)
6 - Wooded area (25- 50%)
7 - Wooded area (50- 75%)
8 - Wooded area (75-100%)
9 - Thick brush

P_WATER: Perennial Water. The first (decimal place) number of the codes is equivalent to the major Drainage coding of columns 29-30. Numbers have been added to form series of less perennial drainages which connect to the major drainage. Minor perennial drainages are defined by any occurrence of the solid or long-dashed blue lines indicated on the basic terrain maps of Fort Hood. Intermittent streams and water courses shown by dotted lines are not included.

- 10 - Leon River
- 12 - Shoal Creek
- 20 - Owl Creek (below Preacher's Creek)
- 21 - Preacher's Creek (below southern edge of quad E29/N57)
- 22 - Flint Creek (below southern edge of quad E39/N57)
- 30 - Cowhouse Creek
- 31 - Brown's Creek (below eastern center of quad E19/N55)
- 32 - House Creek (below eastern center of quad E19/N55)
- 33 - Table Rock Creek (western edge of quad E2/N56)
- 34 - Settlement Branch (tributary of Table Rock, below center of quad E0/N53)
- 35 - Bee House Creek (west of Fort Hood near quad E6/N61)
- 36 - Stampede Creek
- 37 - Tributary to Stampede Creek
- 38 - Two Year Old Creek
- 39 - Waddle Hollow
- 40 - Nolan Creek
- 41 - North Nolan Creek (below stock tank in quad E31/N47)
- 42 - South Nolan Creek (below quad E19/N43)
- 43 - Tributary of South Nolan Creek (below quad E19/N43)
- 50 - Lampasas River
- 51 - Clear Creek (below northeastern corner of quad E5/N31)
- 52 - Reese Creek (below southern edge of quad E16/N32)
- 60 - Cottonwood Creek
- 61 - Unnamed tributary to Cottonwood Creek

DIST_P_W: Distance to Perennial Water (m). This is a straight measurement in meters from the site to the nearest perennial water, using the same drainages offered above. Note that the nearest perennial water is not always the drainage basin that contains the site.

N_WATER: Nearest Water (m). Drainages as above (perennial water), or:

- 1 - Intermittent Creek (shown by orange dotted lines on the basic terrain maps of Fort Hood)
- 2 - Stock Tank
- 3 - Spring

Many sites are near intermittent creeks (1) which are very minor watercourses, normally dry.

DIST_N_W: Distance to Nearest Water (m). This is a measurement to the drainage identified as nearest water.

AREA: Area (square meters, obtained from site records).

EXPOSURE: Exposure. Coded or commented on in site records, this is an assessment of the site's ground cover and visibility.

1 - Poor
2 - Fair
3 - Good

CONDITN: Condition. An Assessment of the site's condition was coded from the most recent field notes.

1 - Destroyed
2 - Poor
3 - Fair
4 - Good
5 - Excellent

PCT_DIST: % Disturbed. This is a judgmental assessment made by the field recorders.

SLOPE: Slope. The basic terrain maps of Fort Hood provide a ground slope classification of six choices:

1 - 0- 3% (basically flat)
2 - 3- 10%
3 - 10- 30%
4 - 30- 45%
5 - 45-100%
6 - 100+%

TYPE: Site Type. The most appropriate qualitative label is coded here for prehistoric or historic sites. The coding here is presently incomplete but will have great importance for the study of site functions. To allow for future categories, the prehistoric series begins at zero, and historic sites begins with 50.

50 - Unknown Historic
51 - Cemetery
52 - Farm/Ranch
53 - Town
54 - Cattle Dip Tank
55 - Cistern
56 - Cattle Water Tank
57 - Well
58 - Bridge
59 - Dump
60 - Domestic Dwelling
61 - Windmill
62 - Carvings in Rock
63 - Dam
64 - School
65 - Springhouse
66 - Mill
67 - Cattle Water Trough

CULTURAL VARIABLES

TARL: TARL trinomial site number

FIELD: Site field number

DENSITY: Density. Quantity of cultural material present.
- 0 - None
- 1 - Low
- 2 - Medium
- 3 - High

Chronological Period based on the site form and the evaluation of the survey team.

UNKNOWN: Unknown
- 0 - Absent
- 1 - Present

MIDDLE: Middle-nineteenth Century
- 0 - Absent
- 1 - Present

LATE: Late-nineteenth Century
- 0 - Absent
- 1 - Present

L_EARLY: Late-nineteenth/Early-twentieth Century
- 0 - Absent
- 1 - Present

EARLY: Early-twentieth Century
- 0 - Absent
- 1 - Present

DEP_P: Depression Period
- 0 - Absent
- 1 - Present

MILITARY: Military Period
- 0 - Absent
- 1 - Present

Ceramics observed on the site

C_EWARE: Coarse Earthenware
- 0 - Absent
- 1 - Present

UND_WW: Undecorated Whiteware
- 0 - Absent
- 1 - Present

DEC_WW: Decorated Whiteware
0 - Absent
1 - Present

STWARE: Stoneware
0 - Absent
1 - Present

PORCELN: Porcelain
0 - Absent
1 - Present

M_MARK: Maker's Mark
0 - Absent
1 - Present

PIPES: Tobacco Pipes
0 - Absent
1 - Present

C_TOYS: Ceramic Toys
0 - Absent
1 - Present

OTHER_C: Other Ceramics
0 - Absent
1 - Present

Glass observed on the site

BOT_GL: Bottle Glass
0 - Absent
1 - Present

BR_W_BOT: Brandy/Whiskey Bottles
0 - Absent
1 - Present

CANJAR: Canning Jars
0 - Absent
1 - Present

C_CREM: Cold Cream Jars
0 - Absent
1 - Present

CON_JAR: Condiment Jars/Bottles
0 - Absent
1 - Present

DEP_GL: Depression Glass
0 - Absent
1 - Present

KER_LAM: Kerosene Lamp Parts
0 - Absent
1 - Present

MED_BOT: Medicine Bottles
0 - Absent
1 - Present

LAV_GL: Lavender Glass
0 - Absent
1 - Present

SNUFF: Snuff Bottles
0 - Absent
1 - Present

TAB_WAR: Tableware
0 - Absent
1 - Present

OTHER_GL: Other Glass
0 - Absent
1 - Present

Metal observed on the site

BAR_HOOP: Barrel Hoops
0 - Absent
1 - Present

BUCKET: Buckets
0 - Absent
1 - Present

CAR: Car Parts
0 - Absent
1 - Present

CHAINS: Chains
0 - Absent
1 - Present

CLOTHING: Clothing Items
0 - Absent
1 - Present

FARM_MAC: Farm Machinery
0 - Absent
1 - Present

GUNS: Guns/Gun Parts
0 - Absent
1 - Present

H-TOOLS: Hand Tools
0 - Absent
1 - Present

HORSE: Horse Hardware
0 - Absent
1 - Present

HOUSEHLD: Household Goods
0 - Absent
1 - Present

PLOW: Plow Parts
0 - Absent
1 - Present

TINCAN: Tin Cans
0 - Absent
1 - Present

M_TOYS: Metal Toys
0 - Absent
1 - Present

TRACTOR: Tractor Parts
0 - Absent
1 - Present

WASHTUB: Washtubs
0 - Absent
1 - Present

OTHER_M: Other Metal
0 - Absent
1 - Present

Building material observed on the site

BRICKS: Bricks
0 - Absent
1 - Present

BRICK_MM: Brick with Maker's Mark
0 - Absent
1 - Present

FLAT_GL: Flat Glass
0 - Absent
1 - Present

FOUND_M: Foundation Material
0 - Absent
1 - Present

STR_HRDW: Structural Hardware
0 - Absent
1 - Present

TILES: Tiles
0 - Absent
1 - Present

ROOFING: Roofing Materials
0 - Absent
1 - Present

OTHER_B: Other Building Material
0 - Absent
1 - Present

Miscellaneous materials observed on the site

LEATHER: Leather
0 - Absent
1 - Present

PLAST: Plastic
0 - Absent
1 - Present

RUBBER: Rubber
0 - Absent
1 - Present

MORTAR: Mortar
0 - Absent
1 - Present

WINDMILL: Windmill Parts
0 - Absent
1 - Present

ea[illegible]res observed on the site

BRIDGE: Bridge
0 - Absent
1 - Present

CHIMNEY: Chimney Fall/Hearth
0 - Absent
1 - Present

CISTERN: Cistern
0 - Absent
1 - Present

PIER: Concrete Piers
0 - Absent
1 - Present

SLAB: Concrete Slab
0 - Absent
1 - Present

CTANK: Concrete Water Tank
0 - Absent
1 - Present

CORRAL: Corral
0 - Absent
1 - Present

DEPRESS: Depression
0 - Absent
1 - Present

DIPTANK: Dip Tank
0 - Absent
1 - Present

TREES: Domestic Vegetation
0 - Absent
1 - Present

STRUC: Extant Structure
0 - Absent
1 - Present

FENCE: Fence
0 - Absent
1 - Present

FOUND: Foundations
0 - Absent
1 - Present

STONES: Paving Stones
0 - Absent
1 - Present

CELLAR: Root Cellar
0 - Absent
1 - Present

RUBBLE: Rubble
0 - Absent
1 - Present

STANK: Earthen Stock Tank
0 - Absent
1 - Present

WALL: Stone Wall
0 - Absent
1 - Present

TROUGH: Trough
0 - Absent
1 - Present

WELL: Well
0 - Absent
1 - Present

F_WINDML: Windmill
0 - Absent
1 - Present

F_OTHER: Other Features
0 - Absent
1 - Present

APPENDIX VIII

HISTORIC SITE ENVIRONMENTAL AND CULTURAL DATA

By

Ben W. Olive

Historic Sites Recorded in Delivery Order 10 Survey (Cultural Information)

TARL No.	Field No.	Coarse Earthenware	Undecorated Whiteware	Decorated Whiteware	Stoneware	Porcelan	Maker's Mark	Pipes	Ceramic Toys	Other Ceramics	Bottle Glass
41CV0574	5062	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent
41CV0600	5009	Present	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV0617	5051	Absent	Present	Present	Present	Present	Absent	Absent	Absent	Absent	Present
41CV0953	5070	Absent	Present	Present	Present	Present	Absent	Absent	Absent	Absent	Present
41CV1470	5002	Absent	Present	Present	Present	Absent	Present	Absent	Absent	Absent	Present
41CV1474	5006	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1476	5008	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1481	5014	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1484	5017	Absent	Absent	Present	Present	Absent	Absent	Absent	Absent	Absent	Present
41CV1486	5019	Absent	Present	Present	Present	Absent	Absent	Absent	Absent	Absent	Present
41CV1497	5030	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1498	5031	Absent	Present	Absent	Present	Present	Absent	Absent	Absent	Absent	Present
41CV1500	5033	Absent	Present	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent
41CV1502	5035	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1503	5036	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1513	5046	Absent	Present	Present	Present	Absent	Absent	Absent	Absent	Absent	Present
41CV1514	5047	Absent	Present	Present	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1520	5053	Absent	Present	Present	Present	Present	Absent	Absent	Absent	Absent	Present
41CV1525	5058	Present	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1532	5065	Absent	Present	Absent	Present	Absent	Absent	Absent	Absent	Absent	Present
41CV1534	5067	Absent	Present	Present	Present	Absent	Absent	Absent	Absent	Absent	Present
41CV1535	5068	Absent	Present	Present	Present	Present	Absent	Absent	Absent	Absent	Present
41CV1538	5071	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

Historic Sites Recorded in Delivery Order 10 Survey (Cultural Information)

TARL No.	Field No.	Occupation Period	Canning	Cold Cream	Condiment Jars/bottles	Depression Glass	Kerosene Lamp Parts	Medicine Bottles	Lavender Bottles	Brandy/Whiskey Bottles
41CV0574	5062	20th	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent
41CV0600	5009	1870-1900	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent
41CV0617	5051	19th/20th	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent
41CV0953	5070	19th/20th	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent
41CV1470	5002	1875-1930	Absent	Present	Present	Absent	Absent	Absent	Present	Absent
41CV1474	5006	19th/20th	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1476	5008	19th/20th	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1481	5014	19th/20th	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1484	5017	19th/20th	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1486	5019	1920s	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent
41CV1497	5030	19th/20th	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1498	5031	19th/20th	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent
41CV1500	5033	19th/20th	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent
41CV1502	5035	20th	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1503	5036	20th	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1513	5046	mid-19th	Present	Absent	Absent	Absent	Absent	Absent	Present	Absent
41CV1514	5047	19th/20th	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1520	5053	19th/20th	Absent	Present	Absent	Absent	Absent	Present	Present	Absent
41CV1525	5058	1920s	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent
41CV1532	5065	19th/20th	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent
41CV1534	5067	19th/20th	Absent	Present	Absent	Absent	Absent	Present	Present	Absent
41CV1535	5068	19th/20th	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent
41CV1538	5071	19th/20th	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent

Historic Sites Recorded in Delivery Order 10 Survey (Cultural Information)

TARL No.	Field No.	Snuff Bottles	Tableware	Other Glass	Barrel Hoop	Buckets	Car Parts	Chains	Clothing Items	Farm Machinery	Gun or Gun Parts
41CV0574	5062	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV0600	5009	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Present	Present
41CV0617	5051	Absent	Absent	Present	Absent	Absent	Absent	Absent	Present	Absent	Absent
41CV0953	5070	Absent	Absent	Present	Present	Present	Absent	Absent	Absent	Absent	Absent
41CV1470	5002	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1474	5006	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1476	5008	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1481	5014	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1484	5017	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1486	5019	Absent	Absent	Present	Absent	Present	Absent	Absent	Absent	Absent	Absent
41CV1497	5030	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1498	5031	Absent	Present	Present	Absent	Absent	Absent	Absent	Present	Absent	Absent
41CV1500	5033	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1502	5035	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1503	5036	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1513	5046	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1514	5047	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1520	5053	Absent	Absent	Present	Absent	Absent	Absent	Absent	Present	Absent	Absent
41CV1525	5058	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1532	5065	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1534	5067	Absent	Absent	Present	Absent	Absent	Absent	Absent	Present	Absent	Absent
41CV1535	5068	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1538	5071	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent

Historic Sites Recorded in Delivery Order 10 Survey (Cultural Information)

TARL No.	Field No.	Hand Tools	Horse Hardware	Household Goods	Plow Parts	Tin Cans	Metal Toys	Tractor Parts	Washtub	Other Metal	Bricks	Brick with Maker's Mark	Flat Glass
41CV0574	5062	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent
41CV0600	5009	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV0617	5051	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV0953	5070	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Present	Present	Absent	Present
41CV1470	5002	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Present	Absent	Present
41CV1474	5006	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent
41CV1476	5008	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1481	5014	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1484	5017	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1486	5019	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Present	Present	Present	Absent
41CV1497	5030	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1498	5031	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1500	5033	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Present	Absent	Absent
41CV1502	5035	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Present	Absent	Absent	Present
41CV1503	5036	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1513	5046	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1514	5047	Present	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Present	Present	Absent
41CV1520	5053	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Present	Absent	Absent	Absent
41CV1525	5058	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Present
41CV1532	5065	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Present	Absent
41CV1534	5067	Present	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent
41CV1535	5068	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Present	Absent	Absent
41CV1538	5071	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present

Historic Sites Recorded in Delivery Order 10 Survey (Cultural Information)

TARL No.	Field No.	Foundation Material	Structural Hardware	Tiles	Tin Roofing Materials	Other Building Materials	Leather	Plastic
41CV0574	5062	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV0600	5009	Present	Present	Absent	Absent	Present	Absent	Absent
41CV0617	5051	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV0953	5070	Present	Present	Absent	Absent	Present	Absent	Absent
41CV1470	5002	Present	Present	Absent	Absent	Absent	Absent	Absent
41CV1474	5006	Present	Present	Absent	Absent	Absent	Absent	Absent
41CV1476	5008	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1481	5014	Present	Absent	Absent	Absent	Absent	Absent	Absent
41CV1484	5017	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1486	5019	Present	Present	Absent	Absent	Absent	Absent	Absent
41CV1497	5030	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1498	5031	Absent	Present	Absent	Absent	Present	Absent	Absent
41CV1500	5033	Present	Absent	Absent	Absent	Absent	Absent	Absent
41CV1502	5035	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1503	5036	Present	Absent	Absent	Absent	Absent	Absent	Absent
41CV1513	5046	Present	Absent	Absent	Absent	Absent	Absent	Absent
41CV1514	5047	Present	Absent	Absent	Absent	Present	Absent	Absent
41CV1520	5053	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1525	5058	Present	Present	Absent	Absent	Absent	Absent	Absent
41CV1532	5065	Absent	Present	Absent	Absent	Absent	Absent	Absent
41CV1534	5067	Present	Present	Absent	Absent	Present	Absent	Absent
41CV1535	5068	Absent	Present	Absent	Absent	Absent	Absent	Absent
41CV1538	5071	Present	Absent	Absent	Absent	Absent	Absent	Absent

Historic Sites Recorded in Delivery Order 10 Survey (Cultural Information)

TARL No.	Field No.	Plaster	Windmill Parts	Bridge	Chimney Fall/ Hearth	Cistern	Concrete Foundation Pier	Concrete Foundation Slab	Concrete Water Tank	Corral	Depression
41CV0574	5062	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent
41CV0600	5009	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV0617	5051	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent
41CV0953	5070	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent
41CV1470	5002	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1474	5006	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1476	5008	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1481	5014	Absent	Absent	Present	Absent	Absent	Present	Absent	Absent	Absent	Absent
41CV1484	5017	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent
41CV1486	5019	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1497	5030	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1498	5031	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1500	5033	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent
41CV1502	5035	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1503	5036	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1513	5046	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1514	5047	Absent	Absent	Present	Absent	Absent	Absent	Present	Absent	Absent	Absent
41CV1520	5053	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1525	5058	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1532	5065	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1534	5067	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent
41CV1535	5068	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1538	5071	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

Historic Sites Recorded in Delivery Order 10 Survey (Cultural Information)

TARL No.	Field No.	Dip Tank	Domestic Vegetation	Extant Structure	Fence	Foundation Stone	Paving Celler	Root	Rubble Tank	Stock Wall	Stone Trough	Water	Well	Windmill	Other Features
41CV0574	5062	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Present	Absent
41CV0600	5009	Absent	Absent	Absent	Present	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV0617	5051	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV0953	5070	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1470	5002	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent
41CV1474	5006	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1476	5008	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1481	5014	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1484	5017	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1486	5019	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1497	5030	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1498	5031	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1500	5033	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1502	5035	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1503	5036	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present
41CV1513	5046	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1514	5047	Absent	Absent	Present	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1520	5053	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1525	5058	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent
41CV1532	5065	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent
41CV1534	5067	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
41CV1535	5068	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent
41CV1538	5071	Absent	Absent	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

Historic Sites Recorded in Delivery Order 10 (Environmental Information)

TARL No.	Field No.	Environmental Zone	Drainage	Creek/ Crest	Landform
41CV0574	5062	Intermediate Upland	Leon River	Creek	Outlier
41CV0600	5009	Intermediate Upland	Leon River	Crest	Outlier
41CV0617	5051	Intermediate Upland	Leon River	Crest	Outlier
41CV0953	5068	Upland	Owl Creek	Creek	Contact Zone
41CV1470	5002	Intermediate Upland	Leon River	Creek	Slope
41CV1474	5006	Lowland	Leon River	Creek	Secondary Terrace
41CV1476	5008	Lowland	Leon River	Creek	Secondary Terrace
41CV1481	5014	Lowland	Leon River	Creek	Primary Terrace
41CV1484	5017	Intermediate Upland	Leon River	Creek	Outlier
41CV1486	5019	Intermediate Upland	Leon River	Creek	Outlier
41CV1497	5030	Lowland	Leon River	Creek	Primary Terrace
41CV1498	5031	Intermediate Upland	Leon River	Creek	Outlier
41CV1500	5033	Intermediate Upland	Leon River	Creek	Outlier
41CV1502	5035	Intermediate Upland	Leon River	Creek	Outlier
41CV1503	5036	Intermediate Upland	Leon River	Creek	Outlier
41CV1513	5046	Intermediate Upland	Leon River	Creek	Outlier
41CV1514	5047	Lowland	Leon River	Creek	Terrace
41CV1520	5053	Intermediate Upland	Leon River	Creek	Outlier
41CV1525	5058	Intermediate Upland	Leon River	Creek	Outlier
41CV1532	5065	Intermediate Upland	Owl Creek	Crest	Ridge/Plateau
41CV1534	5067	Intermediate Upland	Owl Creek	Crest	Ridge/Plateau
41CV1535	5070	Intermediate Upland	Owl Creek	Creek	Outlier
41CV1538	5071	Upland	Owl Creek	Crest	Ridge/Plateau

Historic Sites Recorded in Delivery Order 10 (Environmental Information)

TARL No.	Field No.	Position	Elevation	Vegetation Zone	Perennial Water	Distance to Perennial Water	Nearest Water	Distance to Nearest Water
41CV0574	5062	Top	750	Wooded Area (0-25%)	Leon River	4100	Intermittent Creek	100
41CV0600	5009	Top	735	Wooded Area (0-25%)	Leon River	200	Leon River	200
41CV0617	5051	Slope	800	Grasslands with Scattered Trees	Leon River	2040	Intermittent Creek	40
41CV0953	5068	Slope	900	Grasslands	Leon River	6040	Intermittent Creek	220
41CV1470	5002	Slope	775	Grasslands with Scattered Trees	Leon River	620	Intermittent Creek	220
41CV1474	5006	Base	740	Grasslands with Scattered Trees	Leon River	95	Leon River	95
41CV1476	5008	Base	725	Grasslands with Scattered Trees	Leon River	640	Intermittent Creek	40
41CV1481	5014	Top	710	Grasslands with Scattered Trees	Leon River	3	Leon River	3
41CV1484	5017	Slope	730	Grasslands with Scattered Trees	Leon River	360	Leon River	360
41CV1486	5019	Slope	720	Grasslands with Scattered Trees	Leon River	820	Leon River	820
41CV1497	5030	Top	700	Grasslands with Scattered Trees	Leon River	0	Leon River	0
41CV1498	5031	Slope	734	Grasslands with Scattered Trees	Leon River	1300	Leon River	1300
41CV1500	5033	Slope	720	Grasslands with Scattered Trees	Leon River	860	Leon River	860
41CV1502	5035	Slope	760	Wooded Area (0-25%)	Leon River	1380	Leon River	1380
41CV1503	5036	Slope	790	Grasslands with Scattered Trees	Leon River	1060	Leon River	1060
41CV1513	5046	Top	780	Grasslands with Scattered Trees	Leon River	350	Leon River	350
41CV1514	5047	Slope	700	Grasslands with Scattered Trees	Leon River	550	Intermittent Creek	20
41CV1520	5053	Slope	780	Wooded Area (0-25%)	Leon River	1020	Intermittent Creek	300
41CV1525	5058	Slope	720	Wooded Area (0-25%)	Leon River	500	Intermittent Creek	300
41CV1532	5065	Slope	925	Grasslands with Scattered Trees	Preacher's Creek	3750	Intermittent Creek	1100
41CV1534	5067	Slope	850	Wooded Area (75-100%)	Preacher's Creek	2000	Intermittent Creek	1010
41CV1535	5070	Slope	905	Wooded Area (25-50-%)	Leon River	6500	Intermittent Creek	100
41CV1538	5071	Top	855	Grasslands with Scattered Trees	Preacher's Creek	1040	Preacher's Creek	800

Historic Sites Recorded in Delivery Order 10 (Environmental Information)

TARL No.	Field No.	Area in Square Meters	Exposure	Condition	Percent Disturbed	Slope	Site Type
41CV0574	5062	900	Good	Fair	50	10-30%	Cattle Water Tank
41CV0600	5009	14500	Good	Good	70	0-3%	Cemetery, Farm/Ranch
41CV0617	5051	11800	Good	Poor	95	10-30%	Farm/Ranch
41CV0953	5068	8800	Good	Poor	85	3-10%	Farm/Ranch
41CV1470	5002	475	Good	Fair	85	30-45%	Farm/Ranch
41CV1474	5006	675	Poor	Good	35	3-10%	Unknown
41CV1476	5008	1625	Fair	Fair	60	0-3%	Domestic Dwelling
41CV1481	5014	275	Good	Fair	75	3-10%	Bridge
41CV1484	5017	1950	Fair	Poor	75	0-3%	Farm/Ranch
41CV1486	5019	3775	Good	Fair	50	0-3%	Farm/Ranch
41CV1497	5030	2600	Good	Poor	90	0-3%	Bridge
41CV1498	5031	1200	Good	Poor	85	3-10%	Farm/Ranch
41CV1500	5033	2600	Fair	Poor	85	3-10%	Farm/Ranch
41CV1502	5035	16	Good	Fair	60	?	Sheep Dip
41CV1503	5036	52	Good	Fair	60	10-30%	Special Function
41CV1513	5046	1900	Fair	Poor	95	3-10%	Farm/Ranch
41CV1514	5047	4700	Good	Fair	85	3-10%	Farm/Ranch
41CV1520	5053	3600	Good	Poor	95	10-30%	Farm/Ranch
41CV1525	5058	2000	Fair	Poor	90	10-30%	Farm/Ranch
41CV1532	5065	3400	Good	Poor	75	0-3%	Farm/Ranch
41CV1534	5067	2800	Good	Poor	80	10-30%	Farm/Ranch
41CV1535	5070	6500	Good	Poor	85	3-10%	Farm/Ranch
41CV1538	5071	800	Good	Poor	90	3-10%	Farm/Ranch