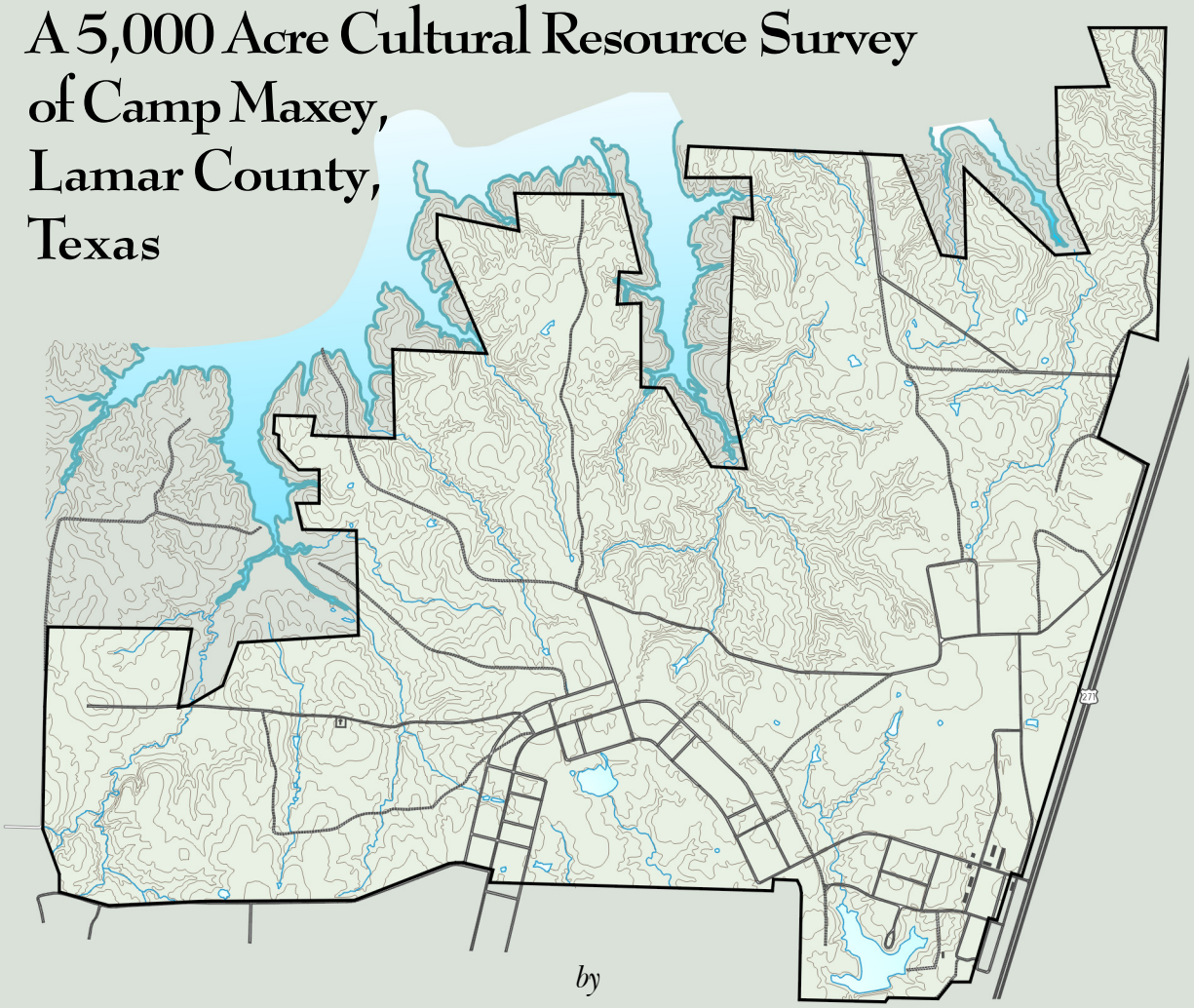
Camp Maxey II

A 5,000 Acre Cultural Resource Survey of Camp Maxey, Lamar County, Texas



by

Anthony S. Lyle, Steve A. Tomka, and Timothy K. Perttula

with contributions by

Corey A. Crawford, Anne A. Fox, John J. Leffler,
Lee C. Nordt, and Marybeth S. F. Tomka

Center for Archaeological Research
The University of Texas at San Antonio
Archaeological Survey Report, No. 312
2001

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Abstract

Between May 1999, and February 2000, the Center for Archaeological Research of The University of Texas at San Antonio (CAR-UTSA) conducted an archaeological survey of approximately 5,000 acres for the Texas Army National Guard (TXARNG) on Camp Maxey. This project was conducted in order to complete a 100 percent survey of Camp Maxey, a TXARNG training facility in north-central Lamar County, Texas, under Sections 106 and 110 of the National Historic Preservation Act and Antiquities Code of Texas. A total of 98 sites (41LR181–280) were discovered and recorded. In addition, five previously recorded sites (41LR137, 41LR148, 41LR170, 41LR172, and 41LR173) were revisited and minimal work was conducted at them for re-evaluation. In total, 136 archaeological sites have been identified and documented within the boundary of the Camp Maxey training facility, during the various archaeological projects conducted by CAR and other agencies.

Based on the results of the pedestrian survey and limited shovel testing, CAR recommends that 30 of the sites recorded at Camp Maxey may be eligible for nomination to the National Register of Historic Places and for listing as State Archaeological Landmarks. However, further work and additional information is needed on these sites before sufficient information exists to make this recommendation with any degree of confidence. Therefore, CAR recommends additional archaeological work, in the form of systematic subsurface test excavations, at the following sites: 41LR137, 41LR168, 41LR170, 41LR184, 41LR186, 41LR187, 41LR190, 41LR194, 41LR196, 41LR200, 41LR202, 41LR203, 41LR204, 41LR207, 41LR208, 41LR212, 41LR213, 41LR214, 41LR222, 41LR225, 41LR226, 41LR233, 41LR238, 41LR244, 41LR254, 41LR258, 41LR259, 41LR260, 41LR266, and 41LR268.

It is the opinion of CAR archaeologists that all other sites identified and recorded during the survey have minimal potential to contribute to regional and/or local prehistory and any significant research topics and issues. Therefore, it is recommended that no further archaeological work is necessary at any of the remaining sites recorded during the survey.

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We would like to thank the citizens of Paris, Texas, for their hospitality. In particular, the owner and staff at the *Victorian Inn* who were especially accommodating. Bob and Brian from *J.D. Mickel Construction* also deserve many thanks for their backhoe work on behalf of the geoarchaeological studies. Camp Maxey, with its loose sands and thick woodland vegetation truly tests the skills of any backhoe operator.

Thanks go to C. Britt Bousman, former Associate Director at CAR, who was instrumental in getting this project started. Thanks also are due to Dr. Robert J. Hard, former Director at CAR, who supported this project through most of the fieldwork stages. Most of all, many thanks are due to the other CAR staff, including Raymond Mauldin, Bruce Moses, Richard Young, Marybeth Tomka, Maryanne King, and Johanna Hunziker for the many hours of effort they have invested to bring the fieldwork to fruition in the form of this report. Of course, none of it could have been possible without the help of the large number of crew members and laboratory staff that participated in the survey of the facility and washed, cataloged, and prepared for curation the collection of artifacts from the project. The consultants that have contributed time, energy, and effort in the form of special analyses and studies to this report also deserve many thanks; in particular, Timothy Perttula, who analyzed the ceramics and lithic artifacts recovered and provided valuable advice, thoughts, and background on Caddoan archaeology. Similarly, Dr. Lee Nordt and Corey Crawford, have poured over a large quantity of geomorphological information to provide thoughtful commentary on the nature of the sandy mantle in the project area.

Chapter 1: Introduction

Steve A. Tomka

Introduction

In May and June of 1999, and between September of 1999 and January of 2000, the Center for Archaeological Research (CAR), The University of Texas at San Antonio (UTSA) under contract with the Texas Army National Guard (TXARNG), conducted a pedestrian survey of approximately 5,000 acres of mixed undisturbed and heavily disturbed land on Camp Maxey. Camp Maxey is a TXARNG training facility in north-central Lamar County, Texas (Figure 1-1). The project area is located approximately 11 km south of the Red River, in the Northeast Texas Archeological Study Region (Kenmotsu and Perttula 1993). The goal of the project was to identify, through a combination of surface survey, shovel testing, and backhoe trenching of selected areas, prehistoric and historic period cultural resources present on the facility. Information from this survey was used to assess each cultural resource for designation as a State Archeological Landmark (SAL), and for inclusion eligibility in the National Register of Historic Places (NRHP). Therefore, the following determinations were made for each cultural resource: **1)** warranted, or **2)** not warranted for SAL designation, and/or **1)** eligible, **2)** not eligible, or **3)** further archival or archaeological investigations are warranted to make a NRHP eligibility determination. This report provides the cultural resource inventory and eligibility recommendations necessary to support the TXARNG's cultural resource management plan for Camp Maxey.

Project Description

This report discusses the results of an archaeological survey performed at Camp Maxey by CAR in May and June of 1999 and between September of 1999 and January of 2000. In addition to the archaeological investigations, John Leffler, the project historian, compiled a comprehensive history of Camp Maxey and the surrounding communities, and Dr. Lee C. Nordt and Corey Crawford of Baylor University, conducted the geomorphological studies.

The Texas Army National Guard was the agency charged with oversight management of archaeological compliance-related activities during the duration of the project. Because the project involves federal funds, it falls under the purview of the National Historic Preservation Act (NHPA) of 1966 (as amended). The NRHP and the Advisory Council for Historic Preservation (ACHP) were created by the NHPA. Section 106 of the NHPA states that the ACHP must be given an opportunity to comment when any cultural resources eligible for inclusion in or listed on the NRHP are located in an area to be affected by the actions of a federal agency, or actions funded, permitted, or licensed by federal agencies.

Under Sections 106 and 110 of the NHPA, the protection of cultural resources is related to their eligibility for inclusion in the NRHP, which is in turn dependent on their NRHP significance as defined in 36 CFR 60. The National Historic Preservation Act Amendments of 1992 clarified Section 110 and directed federal agencies to establish preservation programs corresponding to their activities and effects on historic properties. Under Section 110, federal agencies may evaluate the significance of cultural resources not currently threatened to assist with the development of preservation planning. At the state level, the State Historic Preservation Officer (SHPO) at the Texas Historical Commission consults with and advises the lead agency (TXARNG in this case) about the implementation of the Section 106 and Section 110 processes. The federal regulatory process is described in detail in 36 CFR 800.

The purpose of this project was to locate prehistoric and historic archaeological sites and, using limited shovel testing, evaluate their eligibility given the likelihood of impact from planned military training activities. Texas Antiquities Committee permit number 2180 was issued for the project. Dr. Robert J. Hard (CAR) served as principal investigator, and Dr. Steve A. Tomka (CAR) acted as co-principal investigator and project director. Timothy K. Perttula served as

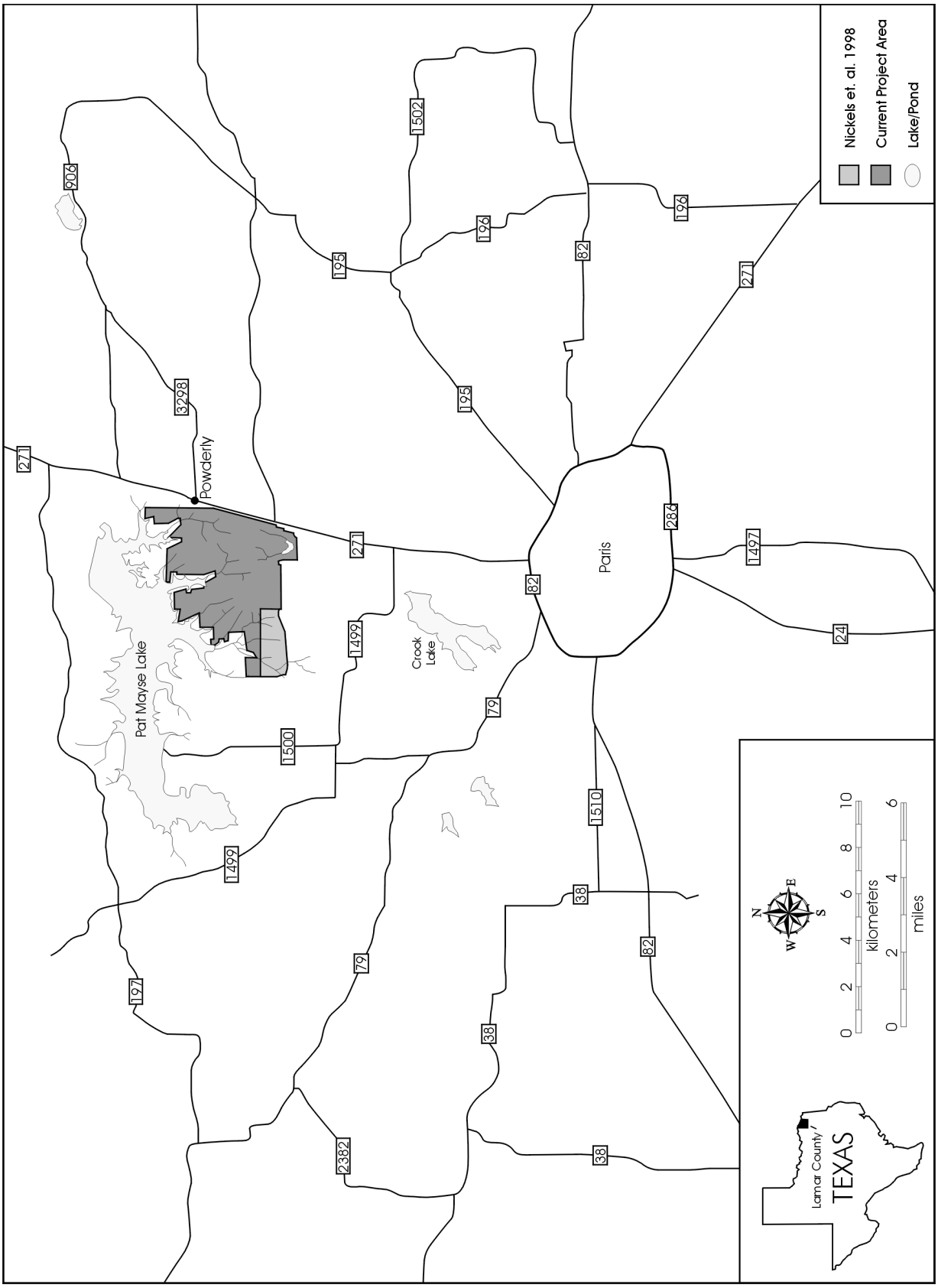


Figure 1-1. *Camp Maxey project area, north-central Lamar County, Texas.*

the regional consulting archaeologist, and daily field operations were directed by the project archaeologist, Anthony Lyle. CAR crew members who worked on the project included Chris Butler, Chris Horrel, Preston McWhorter, Owen Ford, Lauren Kaplan, Lisa Shaddox, Kaylee McRae, Don Broussard, John Vivona, and Bobby Gonzales. Rodney "Bo" Nelson also aided in the fieldwork on an intermittent basis. Field activities included pedestrian survey, shovel testing, backhoe trenching, and site recording.

Laboratory analysis of the prehistoric artifacts was performed by Timothy K. Perttula and Steve A. Tomka. The historic artifacts were analyzed by Anne A. Fox (CAR). The artifacts recovered during the fieldwork, and records and other materials generated during the subsequent laboratory analysis were prepared for curation by Marybeth S. F. Tomka and Connie Gibson at CAR and forwarded directly to the Texas Archeological Research Laboratory.

Report Organization

This report is divided into 12 chapters, five appendices, and a map supplement (separate bound volume). The project area description, mid- to late-nineteenth century vegetation conditions, and regional Holocene environmental changes are discussed in Chapter 2. The history of Camp Maxey and its environs between 1830 and 1970 are described in Chapter 3. Chapter 4 is an overview of the geomorphologic investigations conducted at Camp Maxey. Chapter 5 synthesizes previous archaeological research and the cultural historic contexts in the Camp Maxey region. The prehistoric research design is addressed in Chapter 6. Chapter 7 discusses the field and laboratory methodology employed during the survey project. Prehistoric sites and their artifacts are described in Chapter 8. The multicomponent sites (e.g., prehistoric and historic) and the artifacts recovered from them during the survey are described in Chapter 9. Chapter 10 contains the discussion of the historic sites and artifacts from Camp Maxey. Chapter 11 contains the synthesis of the prehistoric archaeological record from the Camp Maxey survey. A project summary and specific recommendations about the eligibility of the archaeological sites for inclusion in the NRHP and SAL eligibility are presented in Chapter 12.

Geoarchaeological backhoe trench profile descriptions are provided in Appendix A. The total depths and the depths to clay of all shovel tests from the Camp Maxey II survey are presented in Appendix B. The catalog of artifacts from isolated finds (IFs), which are non-site designations, is presented in Appendix C. The catalog of artifacts recovered by site from the 30 sites recommended for further work, due to unknown NRHP and SAL eligibility, is presented in Appendix D. The catalog of artifacts from the remaining sites that were not recommended for further work is included in Appendix E; and project area maps showing the distribution of all shovel tests excavated, the sites identified, and site maps for prehistoric sites recommended for further work at Camp Maxey are presented in the Map Supplement. Given the bulkiness of these maps, this section is not included in the report. To obtain a copy of the Map Supplement, please contact Shellie Prewitt at (512) 782-6194.

Chapter 2: The Project Area

Timothy K. Perttula and Steve A. Tomka

Introduction

Camp Maxey is located in Lamar County along the Red River border that separates Texas from Oklahoma. The northern portion of the county, covered with post oak and hickory woodlands includes Camp Maxey, and is in the Oak Woods and Prairies natural subregion of the state. A belt of native and introduced grasses which covers the central portion of the county offers prime ranching. The southern half of the county is within the Blackland Prairie subregion. Much of this subregion is extensively cultivated.

The Red River and the North Sulphur River form the northern and southern boundaries of the county. A subtle east-west ridge forms a divide crossing the central portion of the county and diverts stream flow into the Red River to the north, or to the North Sulphur River to the south. Pine Creek and Sanders Creek, two of the larger creeks in the northern half of the county, are immediately north and south of the project area. Pat Mayse Lake, north of Camp Maxey, was built on Sanders Creek. Numerous first, second, and third order unnamed tributaries of Sanders Creek drain through the facility itself.

In addition to these small creeks, the many springs found in the area would have provided fresh water for the prehistoric occupants of Lamar County, and may have served as desired camping locations. The larger of these springs include Garrett Springs near the Garrett's Bluff community, Ragtown Springs in Ragtown, Fulton Springs northwest of Arthur City, Pierson Springs northeast of Novice, Record Springs in northeast Paris, Moore Springs east of Paris, and Long Spring west of Roxton (Brune 1975:282–283).

Lamar County has a temperate climate with two peaks in precipitation. Fluctuations in average temperatures throughout the year range from around 94 degrees F during August to around 31 degrees F in January. The potential for agriculture is good because of a 228-day annual growing season (Ludeman 1996a:39) and the county receives approximately 34 inches of mean annual precipitation.

Soils

The oak-hickory woodlands that cover Camp Maxey and the surrounding region are divided into upland and floodplain components. The Lamar County soil survey shows that different soils are present in each of these components (Ressel 1979). Guyton and Lassiter soils occur on stratified and unstratified alluvial sediments in the westernmost area near the Visor Creek floodplain. Based on field observations, other smaller drainages appear to have similar soils on alluvial sediments, but these were too limited to be included in the soil survey map. In the uplands all soils consist of an A-Bt epipedon and the A horizons are all relatively thin (Ressel 1979). The A horizons can contain historic and prehistoric cultural materials, but the Bt horizons were formed in much older sediments and do not bear *in situ* cultural materials. Loamy upland soils consist of Annona (20–25 cm thick A horizon), Bernaldo (23–41 cm thick A horizon), Freestone-Hicota (35–40 cm thick A horizon), and Woodtell (10 cm thick A horizon) series. Fine sandy loam soils consist of Whakana (35–40 cm thick A horizon) and Whakana-Porum (15–40 cm thick A horizon) series.

With the exception of the Annona and Guyton soils, which are characterized by poor drainage, the other soils are moderately well to well drained and have medium to high available water capacity. The soils have low fertility but the mix of open grassy patches within forested areas provides high to medium wildlife habitat potential.

Lithic Resources

The geomorphic surfaces in the project area consist of floodplains, fluviatile terraces, slopes, and ridge crests (Barnes 1979). Nordt's previously conducted geomorphological investigations (Nickels et al. 1998:Chapter 3) determined that the fluviatile terraces are concomitant with the Qt4 and Qt5 Red River terraces. The Qt4 contains gravel deposits and the Qt5 has a residual gravel veneer (Barnes 1979). Surface raw materials noted during the survey consisted predominantly of Ogallala quartzite. Site 41LR158 documented during the 1997 field season (Nickels et al. 1998:58–59) contained a moderately dense outcropping of Ogallala quartzite gravels on eroded upland knolls. The gravels appear to form shallowly buried lenses. Locally available quartzites range from fine- to coarse-grained variants that can be as large as 10–12 cm in maximum dimension. Locally available cherts are, for the most part, fine-grained materials that rarely exceed 6–8 cm in maximum dimension. They range from tan to yellowish brown and reddish pink colors and occur as minor components in upland gravel veneers. An even less common component of these gravel veneers consists of petrified wood. This material ranges from poorly silicified materials characterized by poor flaking qualities to well silicified variants with exceptional flaking properties. Perhaps the most concentrated, best quality, and greatest variation of knappable materials is found in Red River gravels to the north of the project area. Here, a range of materials from Oklahoma, and to a lesser extent Arkansas, are brought together to form deposits of knappable materials that provide higher quality and more variety in color and texture than the local materials.

Mid- to Late-Nineteenth Century Vegetation Conditions

Texas General Land Office (GLO) survey notes from the various patented land grant surveys within the Camp Maxey project area (Figure 2-1) have been examined to acquire initial environmental data on the vegetation conditions in this part of Lamar County in the mid- to late-nineteenth century (i.e., the land survey field notes were compiled primarily during this time). This likely would have been before the area had been extensively cleared, lumbered, and farmed. Table 2-1 provides pertinent details on the land surveys, including two tracts surveyed prior to 1838 (the Sanchez and Gonzales grants; these were never patented) that had been issued by the Mexican government in Texas.

Corner and bearing trees recorded in the field notes of the different land surveys (see Figure 2-1) indicate at least three or four different vegetational associations may have been present in the Camp Maxey project area, although these are tentative because of the limited number of corner and bearing tree points. The extent and character of these vegetational associations can be further refined with detailed analyses of field notes for each of the 15 patented land surveys in the project area, particularly emphasizing tree diameters and the exact distribution of different identified tree species as they can be correlated with modern soils and topographic data. Nevertheless, it appears to be reasonable to state that the floodplain of Sanders Creek contained hardwood tree species adapted to standing water or occasional inundation, including ash, cottonwood, sweet gum, elm, mulberry, and a variety of more-mesic oaks (note the corner-bearing elm and mulberry trees along Sanders Creek in the northwestern corner of the Willard Stowell survey in Figure 2-1).

In the more poorly-drained uplands across the southern and southeastern part of Camp Maxey, especially in settings with loamy Annona loam and Freestone-Hicota complex soils, as well as the deeper Bernaldo fine sandy loam (see Ressel 1979), the overstory consisted of blackjack oak and post oak as primary constituents. The mid- to late-nineteenth century GLO field note data suggests that much of the relatively flat uplands dissected by small streams that drained to the south—or at the headwaters of small streams that drained north to Sanders Creek—had blackjack oak and post oak overstories, as did small and narrow patches of land in the northern and northeastern part of Camp Maxey (Figure 2-2). However, the northern and more gently sloping landforms and high alluvial terraces overlooking Sanders Creek appear to have been dominated by an overstory of red oaks and hickory (see Figure 2-2).

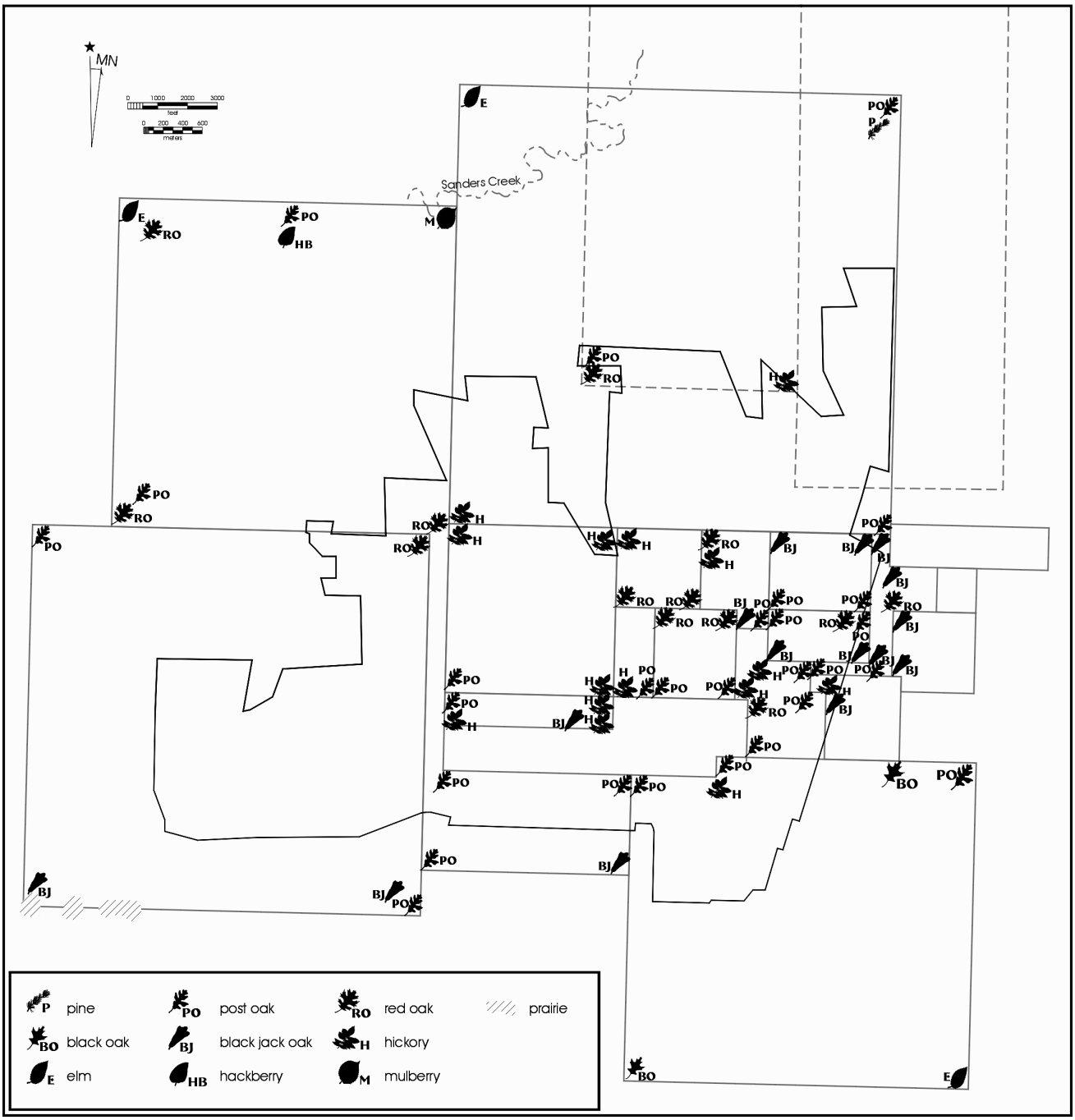


Figure 2-1. *Corner and bearing trees recorded by different land surveys within the Camp Maxey project area.*

In more mesic upland (valley slopes and toeslopes draining north towards Sanders Creek) and high alluvial terrace settings with moderately well-drained deeper sandy sediments—such as the Whakana fine sandy loam, the Whakana-Porum complex, and the Woodtell loam fine sandy loam (see Ressel 1979)—the overstory primarily consisted of red oak (other oaks were also present, including post oak, blackjack oak, and black oak) and hickory; this association is slightly more diverse in species composition than the blackjack oak-post oak association. This suggested vegetational association apparently occurred from southwest to northeast across Camp Maxey—with a few exceptions as noted above (see Figure 2-2)—and would have

Table 2-1. Land Grant Survey Details within the Camp Maxey Project Area

Name of Grantee	Abstract #	Date Surveyed	No. & Names of Tree Species	Notes
Samuel Worthington	1-79	July 3, 1850	3 Post Oak, 2 Black Oak, 3 Elm, 1 Hickory	
William Ragsdale	1-15, 1-16	March 17, 1842	3 Red Oak, 1 Elm, 1 Mulberry, 8 Post Oak, 1 Hackberry, 1 Blackjack	
Willard Stowell	1-316 (Red River)	August 13, 1838	1 Pine, 2 Post Oak, 1 Elm, 1 Hackberry	
Alfred Moore	1-30 (Red River)	February, 1859	1 Post Oak, 2 Red Oak, 1 Hickory, 2 Blackjack	SW corner is in "edge of small prairie" and cross through 800 varas of "patches of small prairie"
Joshua T. Lane	S-67	January 16, 1861	4 Hickory, 2 Post Oak	
J.F. Francis	S-148	Dec. 25, 1860	1 Blackjack, 3 Post Oak, 3 Hickory	"The road leading to Boggy passes through it"
A.W. Birmingham	B-107	July 30, 1869	1 Hickory, 2 Red Oak	
Carroll Mullins	P-50	Oct. 8, 1870	2 Post Oak, 1 Blackjack	
Martha Nixon	P-160	July 15, 1872	2 Post Oak, 1 Red Oak, 3 Blackjack	
J.C. Turner	21924	Sept. 19, 1907	7 Hickory, 3 Post Oak, 1 Red Oak	Surveyed for T&NO RR
Wm. Turner	22179	1905	7 Blackjack, 1 Hickory, 2 Red Oak, 4 Post Oak	Sold to W.T. Richie
Texarkana & New Orleans Railroad	S-391	February, 1903		No map of grant available
J.J. Knight	S-158	January 4, 1861	2 Red Oak, 4 Post Oak	
R.H. Frederick	P-231	July 11, 1874	1 Hickory, 1 Post Oak, 1 Red Oak, 1 Blackjack	
C. Foster	P-66	March 1, 1871	2 Post Oak, 1 Hickory	"Lived on and cultivated continuously from 1871 until 1876"
Marcos Sanchez	F 33 #26	1834	5 Cottonwood, 1 Pecan, 1 Hickory, 1 Alder or Elder, 3 Red Oak, 2 Pin Oak or Burr Oak	
Antonio Gonzales	F 22 #15	1835	1 Hickory, 1 Oak, 2 Cottonwood	Woods containing Cottonwood, Elm, Ash, Hickory, Oak, and Gum

dominated this part of the Sanders Creek basin. An abundant nut mast would have been available in these upland habitats on an annual basis. The GLO records on corner-bearing trees note only a single pine (probably a shortleaf pine) corner-bearing tree in the northeastern corner of the Willard Stowell survey, in the uplands near the confluence of Sanders Creek with the Red River (see Figure 2-1).

Small patches of tall grass prairie were noted along the southern extent of the Alfred Moore survey, a short distance southwest of the southwestern corner of Camp Maxey (see Figure 2-1). Although no specific types of vegetation were identified by the GLO surveyors, other studies in Northeast Texas suggest that the prairie areas would have been dominated by big bluestem,

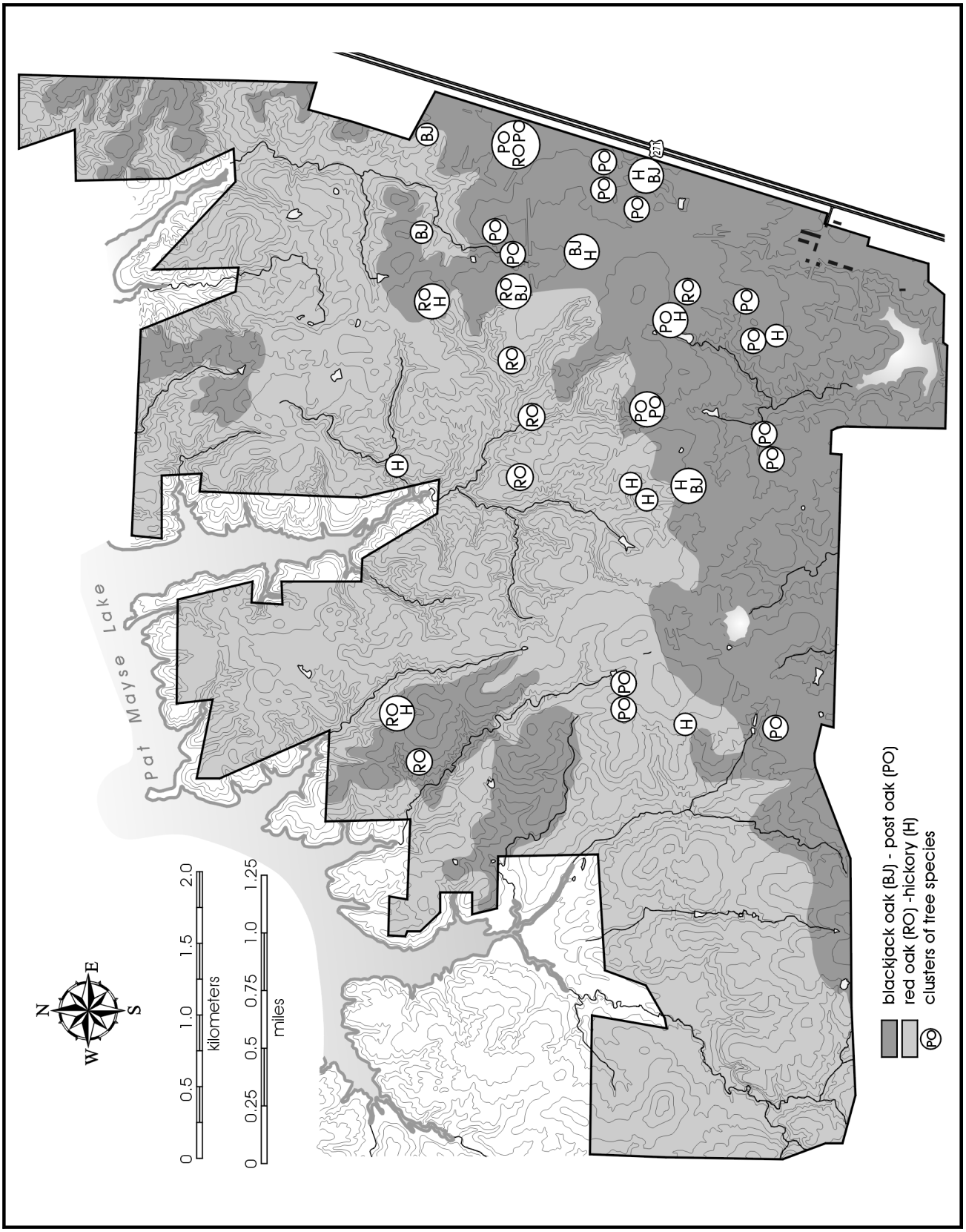


Figure 2-2. *Reconstruction of mid- to late-nineteenth century vegetation associations at Camp Maxey.*

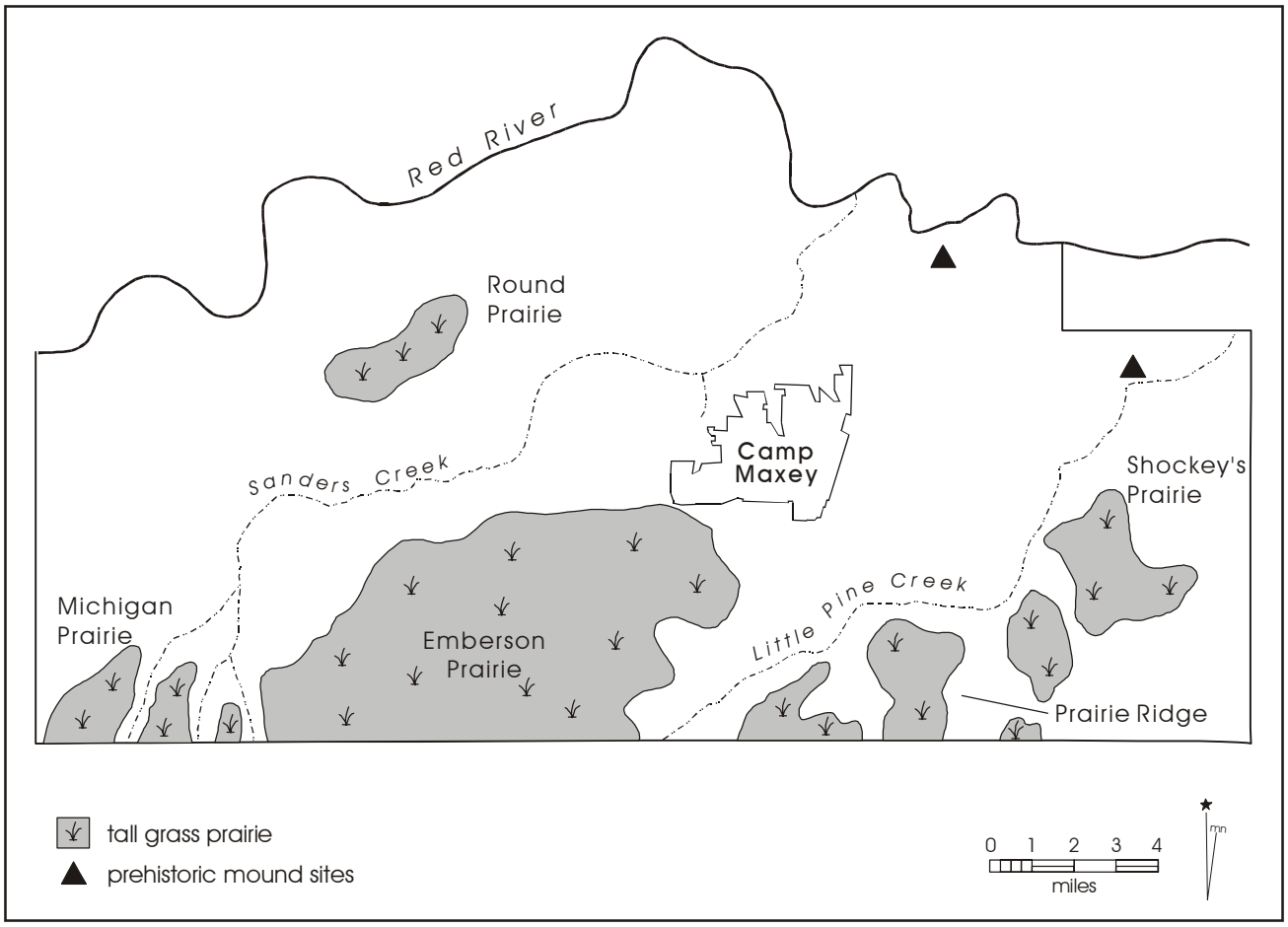


Figure 2-3. *Distribution of tall grass prairie habitats in the vicinity of Camp Maxey.*

little bluestem, switchgrass, and Indian grass (e.g., Marietta and Nixon 1984). These prairie areas in the immediate vicinity of Camp Maxey occur on poorly drained clayey and silty soils that have provided a favorable edaphic habitat for prairie grasses. Large expanses of tall grass prairie occur to the southwest and southeast of Camp Maxey (Figure 2-3), and the small patches mentioned in the GLO field notes near Camp Maxey apparently mark the northernmost extent of Emberson Prairie (see Figure 2-3 and Jordan [1981:Figure 4.1]). According to Jordan (1981:84), Emberson Prairie is part of the much larger "interfluvial prairies on the high ground between the Red and Sulphur rivers…collectively referred to as the Sulphur Fork Prairies."

Regional Holocene Environmental Change

The Holocene paleoenvironmental record for Northeast Texas is not particularly well known, although paleoenvironmental data from Prairie-Savannah Texas pollen cores and stable carbon isotopes have proved useful to Fields and Tomka (1993) in modeling Paleoindian and Archaic mobility strategies in the Northeast Texas archeological region. Recent paleoenvironmental research has substantially refined our understanding of paleoenvironmental changes in this part of Northeast Texas, however, and extended the record of climatic change back to ca. 14,000 years ago or more.

In particular, pollen data from Ferndale Bog (Holloway 1994; see also Ferring 1995) in the Ouachita Mountains of southeastern Oklahoma, and from several bogs in Central Texas (Bousman 1998), indicate that the Late Pleistocene climate (ca. 11,000–14,000 years ago) was cool and dry, and probably supported a grassland steppe. By 11,000 years ago, as the climate became warmer and wetter, oak woodlands or oak savanna habitats would likely have been present throughout much of eastern Texas (and north into Oklahoma). These woodlands were maintained for several thousand years—perhaps until 7,500 years ago, although Bousman (1998:Figure 4) notes a period of open, grassland vegetation in Central Texas between 9500–8750 B.P. The Ferndale Bog pollen diagram (see Ferring 1994:Figure 4.5) also points to a more open and grassy setting, based on decreasing oak pollen and lower pollen influx values between ca. 8,000–9,200 years ago. Whether such a setting characterized the middle and upper reaches of the Red and Sulphur River basins in Northeast Texas is not known.

Between ca. 7,500–5,000/4,500 years ago, the Middle Holocene climate was quite warm and dry, and Ferring (1995:24) suggests this was a period of significant reduction in available biomass for Native American hunter-gatherers in the region. In the Ferndale Bog area of southeastern Oklahoma, the vegetation was an oak-hickory-pine woodland, while farther to the south and west in Central Texas, grasslands were dominant. Bousman's (1998:210) palynological analyses led him to conclude that the grass cover was greatest—and the climate the driest—between 5500–4500 B.P., while Ferring (1995:24) places the very dry and warm episode between ca. 6500–5000 B.P.

The Late Holocene period after ca. 4,500 years ago appears to have been that of fluctuating climates—moist or dry cycles—that were generally wetter than the preceding Middle Holocene period. Ferring and Yates (1996:Figure 7.5) propose that there were wetter years between ca. 5000–2000 B.P. and after 1000 B.P., with a drier cycle between 1,000–2,000 years ago. With these climatic and rainfall conditions, oak and hickory woodlands were probably the principal vegetation in upland habitats in the Sanders Creek basin (as they are today), with a well-developed riverine forest in the floodplain settings, and tall grass prairies just to the south and west on flat, clayey interfluves.

Supporting the drier and warmer cycle in the middle portion of the Late Holocene, the Ferndale Bog pollen record indicates that the peak in pine pollen was between ca. 800–1800 B.P. (Holloway 1994:Table I.2), while Bousman (1998:207) notes one grass spike or peak in the Weakly Bog in Central Texas that dates about 1,500–1,600 years ago, with another between 400–500 B.P. Stable carbon and oxygen isotopes from mussel shells along Denton Creek in North Texas, however, point to a warm/dry peak at ca. 2850 B.P., and then again after 1500 B.P. (Brown 1998:164). Stable carbon isotope values from humate samples in the Cooper Lake area of the upper Sulphur River basin in Northeast Texas have C4-enriched peaks (i.e., higher C4 grasses in the biomass) around 2000 B.P. and 4000 B.P. (see Perttula 1999:Figure 2-4).

For the last 1,000 years or more, dendrochronological records of paleoenvironmental change are the most accurate and temporally sensitive data available on Late Holocene environmental change (e.g., Stahle 1996). Fortunately, recent dendrochronological research in Texas, Arkansas, and Louisiana, as well as the Southeast U.S., by Stahle and Cleaveland (1988, 1992, 1993, 1994, 1995) has compiled significant new information on subtle but changing climatic and rainfall conditions and trends for the general Trans-Mississippi South region.

Droughts are not uncommon in the region in modern times, and dendrochronological analysis suggests there were numerous wet and dry spells between ca. A.D. 1000–1700, just as there were between 5,000–1,000 years ago (see Stahle and Cleaveland 1988, 1994). Some of the worst droughts may have occurred around A.D. 1555, 1570, 1595, and 1670, and the period between A.D. 1549–1577 has been suggested to have had the worst droughts in the past 450 years (Stahle et al. 1985).

More detailed dendrochronological analyses from bald cypress tree-ring chronologies on spring rainfall between A.D. 1002–1988 from Big Cypress State Park in northwestern Louisiana indicate the eleven sets of wettest years were between A.D. 1053–1057, 1168–1176, 1178–1180, 1265–1268, 1323–1328, 1553–1555, 1584–1586 (see Perttula 1999:Figure 2-5), 1718–1719, 1797–1800, 1810–1812, and 1866–1873; the very wettest years in prehistoric times were from 1168–1176 and 1178–1180. These sets of wet years

would likely have been optimal growing years for Caddoan horticultural groups, assuming a correlation between crop production and optimal spring precipitation values (cf. Anderson et al. 1995:265). The wetter rainfall conditions would also likely have led to an increase in the extent of upland and riverine mesic woodlands in the middle and upper reaches of the Red and Sulphur river basins, and a concomitant expansion in the carrying capacity of woodland plants and animals in the area. In historic times—after ca. 1650—the wettest intervals occurred between 1797–1815 (just prior to the initial Anglo-American settlement of the Red River basin) and 1866–1876.

Conversely, the driest years in prehistoric and early historic times—between A.D. 1014–1016, 1215–1217, 1444–1447, 1455–1460, 1529–1533, 1653–1655, 1697–1699, 1841–1846, and 1855–1860—may well have stressed food supplies, the ability of Caddoan groups to produce sufficient food reserves from the cultivation of tropical cultigens, and the success of any maize harvests during these extended periods. The very dry years between A.D. 1444 and 1460 detected by the dendrochronological record correlate well with the grass spike/drier episode noted by Bousman (1998) from the Weakly Bog pollen record. These droughts probably also affected the constancy of flow of the upland springs in the area, as well as the volume of flow in the Sulphur and Red River basins, which would have influenced the relative quantity of animal and plant foods in floodplain and upland forested habitats. Tall grass prairies would have expanded onto more xeric lands (i.e., the post oak and blackjack association) along the southern margins of Camp Maxey on the interfluve between the Sanders and Little Pine creeks. The very droughty years between 1841–1846 correlate closely with the final abandonment of East Texas by the Caddo. Stahle and Cleaveland's (1988) drought reconstruction for North Texas indicates that three of the driest years between 1698–1980 occurred in 1855, 1857, 1859, and that 1855 was the driest year during that 282 year record.

Looking at the period of wet and dry spells from ca. A.D. 1000–1650, the wetter years (>1400 standard ring width indices [sri]) were more than two times as frequent as the driest and droughty (<560 sri) years (see Perttula 1999:Figure 2-5). After ca. A.D. 1430, the wetter years occurred less often, some 55 percent less often between A.D. 1600–1700 than in the ca. A.D. 1200–1400 period. In historic times, the two wettest but also equitable intervals were between 1792–1826 and 1861–1890, with the wetter years eight times more common than the very dry and droughty years. Conversely, in the period between 1827–1861, the very dry and droughty years outnumbered the very wet years by a ratio of 9:1.

The frequency of very dry years remained rather constant after ca. A.D. 1430 (and then remained relatively constant until the 1790s), but were conversely quite rare between A.D. 1000–1400. Clearly, then, if the dendrochronological data from Big Cypress State Park in northwestern Louisiana are relevant to understanding local climatic conditions in the middle and upper reaches of the Red and Sulphur River basins, the Early and Middle Caddoan settlement of the region took place during an equitable climatic episode when floodplain and mesic upland forests were expanding at the expense of xeric habitats. There were comparable spring rainfall amounts during most of a 400-year period.

After the mid-fifteenth century, however, the upper Sulphur and Red River basins were only intermittently used by Caddoan groups (see Fields et al. 1997; Perttula 1999), and the middle reaches (downstream from Camp Maxey at the confluence of the Red and Kiamichi rivers) of the Red River were occupied by Late Caddoan agricultural groups having cultural affiliations with Caddoan groups living farther downstream in the Great Bend area along the Red River. There were major droughts between A.D. 1444–1447 and 1455–1460, again in the early sixteenth century, then again in the mid-seventeenth century, and then with regularity until the latter part of the eighteenth century. More xeric conditions probably existed in the Sanders Creek basin during those times, and the tall grass prairie habitats expanded at the expense of the mesic hardwoods. Small populations of bison would have been present across the region during these drier climatic episodes.

Chapter 3: The History of Camp Maxey and Its Environs, 1830–1970

John J. Leffler

Introduction

A traveler driving through northwestern Lamar County, Texas would be most impressed by the area's serenity and clean feel. In the rolling countryside cattle can be seen grazing here and there, but for the most part people and farm animals are few and far between. Some small communities—Powderly, Caviness, Emberson, Forest Chapel, Chicota—still exist in the region, but most are tiny villages. The area's most striking physical feature, Pat Mayse Lake, sits placid, surrounded by trees and dense undergrowth. Much of the time a stillness hangs over Camp Maxey, the Texas National Guard training facility that covers about 6,424 wooded acres south of the lake. Most visitors would never guess that only sixty years ago the area was covered with cotton, corn and vegetables grown by hundreds of farm families, or that almost 200,000 American soldiers once trained there to serve in bloody battles overseas.

Camp Maxey was originally established in 1942 as a training center for the U.S. Army during World War II. By 1945, when the war ended, Camp Maxey Infantry Advanced Replacement Training Center (IARTC) encompassed about 70,000 acres, and its command and service area had grown into a small city, capable of housing, feeding and caring for almost 45,000 troops at a time. One of the largest prisoner-of-war camps in Texas was also located there. After the war the IARTC was decommissioned and began to disappear; almost all of its thousands of buildings were either torn down or moved. Though some of the land was deeded to the Texas National Guard in 1949, by the late 1990s only overgrown foundations, three buildings and a few isolated chimneys remained of the original sprawling complex.

Despite its short life, Camp Maxey profoundly affected the fortunes of thousands of people who lived in the region. The creation of the camp displaced hundreds of farm families in northwestern Lamar County. At least four communities were entirely uprooted and never reestablished; and by the end of the war, shellfire and other training activities had rendered much of the land occupied by the camp unfit for crops. Camp Maxey helped to pull Lamar County out of the depths of the Great Depression, however, and significantly shaped the wartime and postwar economic development of the nearby city of Paris. During the war, the arrival of thousands of men and women from all over the nation introduced people in the area to new ideas, habits, and possibilities. Lamar County would never be the same again.

Early Settlement in Northwestern Lamar County

In the 1600s, when European explorers entered the middle reaches of the Red River Valley, the region was the home of the Caddo, a sendentary agricultural people who had been in the area for perhaps eight hundred years. By the early 1700s French traders, moving up and down the Red River, had established good relations with the Indians there, and set up a series of trading posts on the upper reaches of the river by the mid-1750s. For many years the Caddo actively traded furs and other goods with the French and then the Spanish (who acquired the area in 1763), but by about 1800 they had been forced out of the Red River region by the Osage tribe (Ludeman 1996a:40; Nickels et al. 1998:17–18; Perttula 1996a:887–888).

American interest in the Red River Valley began to grow after 1803, when the United States purchased the neighboring Louisiana Territory from the French. By 1815 Americans were already traveling into the Red River region—including the area that later became Lamar County—to hunt and trap. What they saw encouraged many of them to return later. South of the river, on both sides of what came to be known as Sander's Creek (see Figure 3-1), an enormous prairie

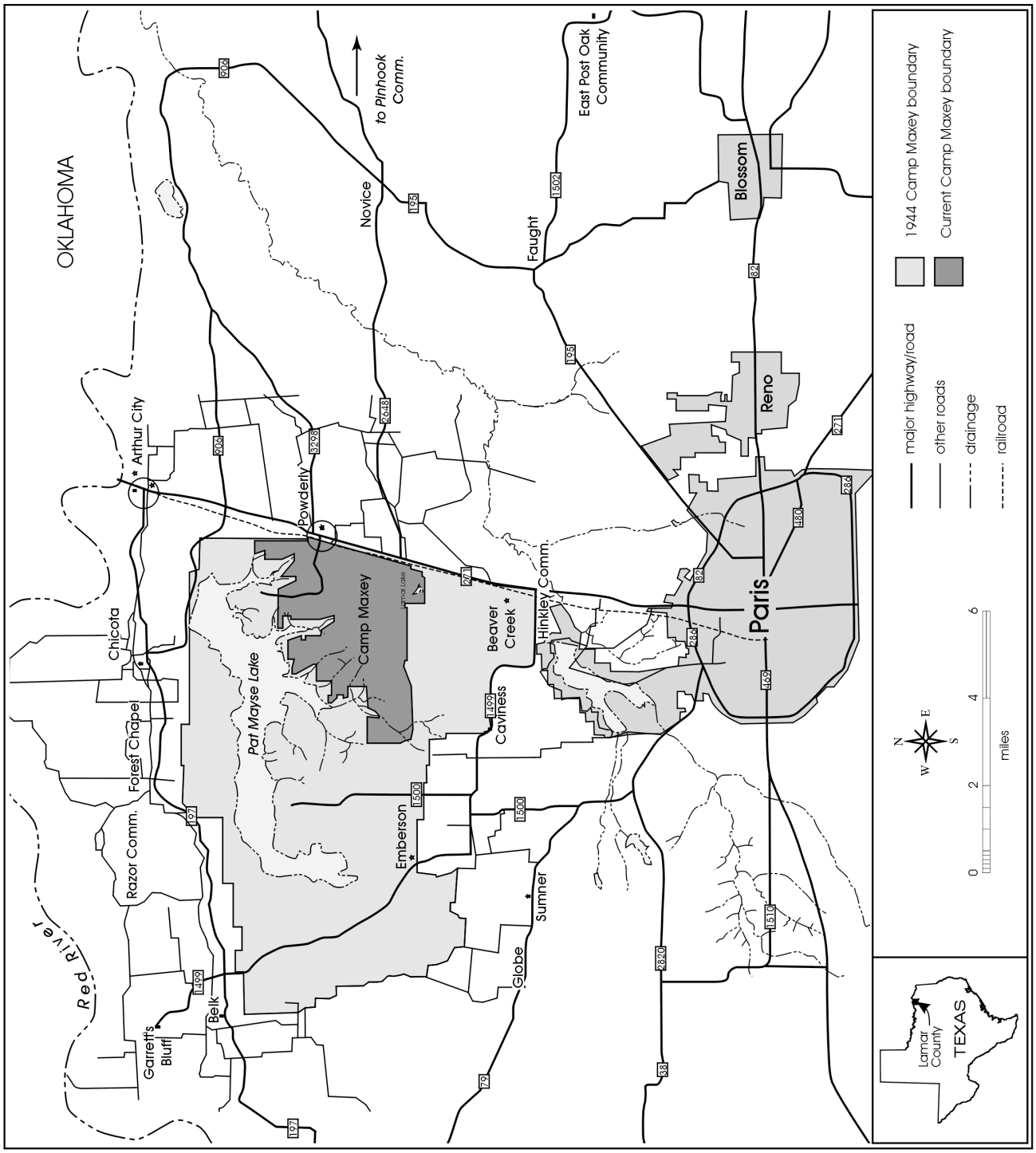


Figure 3-1. *Map of Camp Maxey and its immediate vicinity in north-central Lamar County.*

stretched west and north of where Paris is today. Years later, one of the area's earliest settlers fondly recalled what northwestern Lamar County looked like in the 1820s:

> beautiful, waving, luxuriant, nutritious grass, up to a horse's side, interspersed with beautiful, fragrant flowers of every hue and color, around which the ever-industrious honeybees swarmed, gathering the sweetest and best of nature's dainties, a great deal of which was found in sheets hanging on to the tall grass.

"[I]nnumerable" buffalo, deer, wild Spanish horses, wolves, bears, turkeys and prairie chickens wandered through the area, which was still almost entirely unsettled. The only person living on Sanders Creek at that time was a character named Wildman—probably a hunter or a trapper—who kept warm in a primitive hut constructed of "a few poles tied together at the top, covered with bear, buffalo, and panther skins" (Allen 1918:55–56).

The first settlers began to trickle into what is now Lamar County during the early 1820s. According to one account, in 1820 Indians attacked and massacred settlers at New Settlement, on Pine Creek about five miles northeast of present-day Camp Maxey. It is thought that John Emberson was the first Anglo-American to settle permanently in the county. Emberson, born in Virginia in 1798, had visited the Red River Valley on a hunting trip in 1815. About 1824 he returned with his wife and three children to the site of his old hunting camp and built a log cabin on the shores of Lake Emberson, about five miles northwest of present-day Camp Maxey. (Like Emberson, most of the earliest immigrants tended to settle near the river, where lumber and river transportation were readily at hand.) By 1836, the year Texas gained its independence from Mexico, at least four families—the Embersons, the Clifts, the Kennedys, and the Rutherfords—had established themselves in what is now northwestern Lamar County (Hicks et al. 1993:60, 243, 246–247; Ludeman 1996a:40, 1996b:859; Strickland 1930:262–263). (The Rutherford family included a young orphan boy, William McEwin, who in about 1850 married and set up his own farm in the southeastern corner of what later became Camp Maxey.)[1]

William Monford ("Buckskin") Williams also moved into the region in the late 1830s. Williams, born in Virginia in 1809, had practiced law before heading west. He arrived in Texas in May 1835 and by 1839 was living at Emberson's place—that same year, he married Emberson's daughter Eliza. His legal talents, and perhaps his connections with Emberson, enabled Williams to quickly become one of the most prominent men in northeastern Texas. In 1839 he was elected to the Texas House of Representatives (representing Red River County), and in 1840 he became the District Attorney for Texas's 7th Judicial District.[2]

Meanwhile, generous land grants offered by the new Republic of Texas were inviting more settlers into the area. So did the removal of the enormous "Great Raft"—a dense log jam dozens of miles long that had been blocking the Red River past present-day Shreveport. Demolition of the raft by the U.S. Corps of Engineers in the mid-1830s opened the upper river to navigation, facilitating trade and encouraging immigration into the Red River Valley. By 1840 enough people had moved into the middle reaches of the valley that the Texas legislature agreed to carve a new county—Lamar—out of the original Red River County (Hicks et al. 1993:244; Ludeman 1996a:40).

The Mexican government had issued only a handful of land grants in the Lamar County area, and none at all in what became Camp Maxey. But soon after the Texas Revolution, land in the Lamar County area was already rapidly being surveyed. Though some of the land in northwestern Lamar County remained unclaimed until the 1870s, by the late 1840s land grants had already been issued for most of the property in what would later become Camp Maxey (see Figure 3-2). A good portion of the eastern half of the future Camp area was encompassed in large first-class grants—the William Ragsdale tract (3,314 acres, surveyed in 1838), the Willard Stowell tract (4,605 acres, surveyed in 1838), and the Alfred Moore tract (4,605 acres, surveyed 1838). A few years later, several other smaller tracts were surveyed for second-class and third-class grants in the western half of the future Camp, including the Robert Price tract (640 acres, surveyed 1838), the William Ingram tract (640 acres, surveyed in 1840), the Richard Graham tract (640 acres, surveyed 1841), and the Samuel Dalton tract (320 acres, surveyed in 1842).[3]

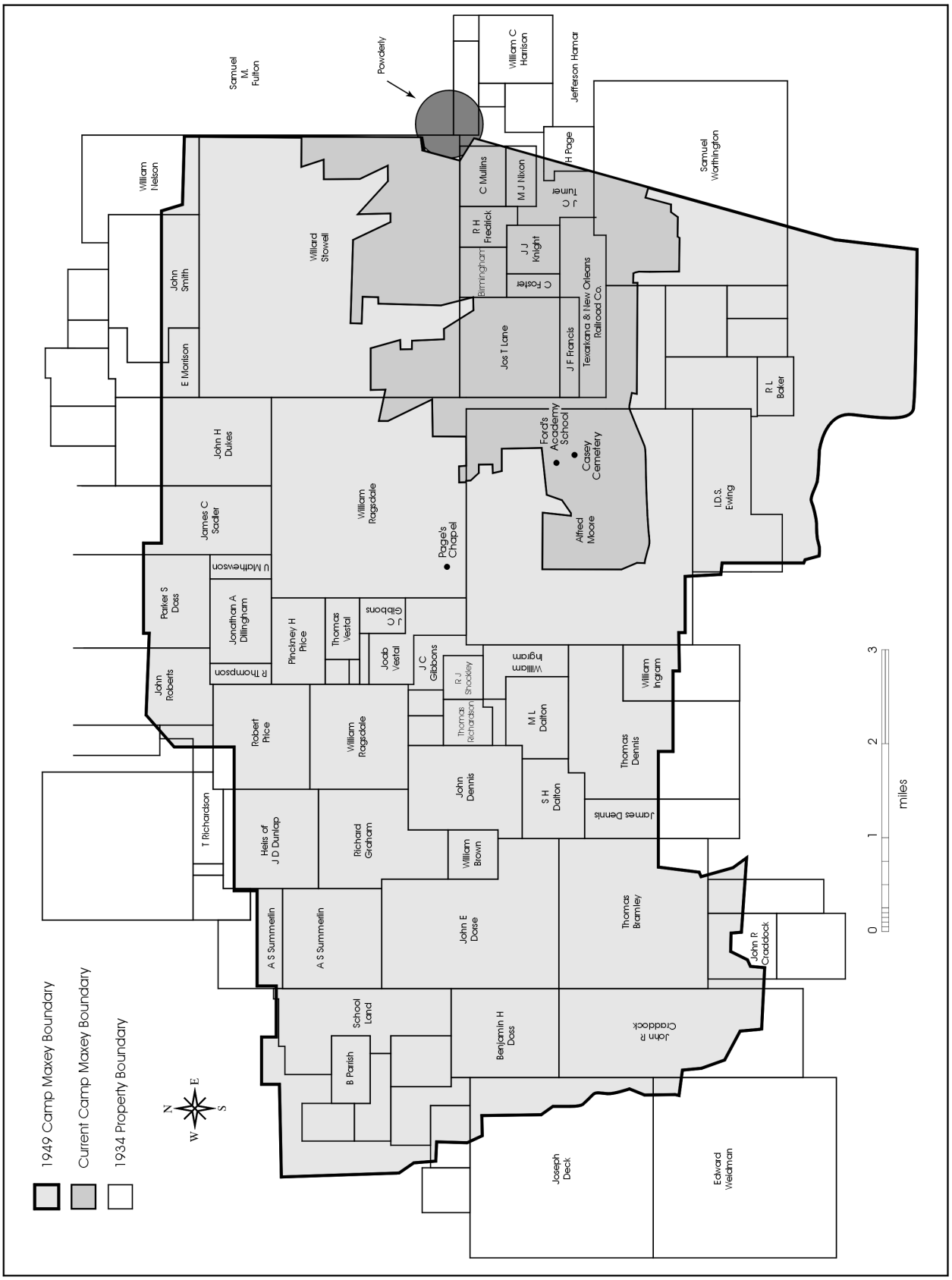


Figure 3-2. *Land grants within the original and present-day boundaries of Camp Maxey.*

While land grants involving all of these tracts (and several others in the area) were patented between 1842 and 1850, it is not clear how many of the original grantees actually settled on their lands. At that time it was not at all uncommon for speculators to acquire land grants by purchasing headright certificates; and some of the tracts in the Camp Maxey area were clearly in the hands of land speculators for several years after they were surveyed. Seven years after the Willard Stowell tract was surveyed, for example, the property was in the hands of one Clifford Alexander, who lived in Fannin County; in 1855, he sold all 4,605 acres to John Robertson and John McDougal, both of whom lived in New Orleans, for $100.[4]

Several families who received land grants in the area that later became Camp Maxey did settle on their properties, however, and put down roots. Alfred Moore's family, for example, moved into the area sometime in the 1850s and remained there for many years. According to one source, several members of the Moore family are buried in unmarked graves in the McEwin cemetery, which borders on their old property in the southeastern section of the original Camp Maxey (Figure 3-3, Brothers 1999).

The area's population began to grow more rapidly during the mid-1840s. In contrast to the 1830s, when only ten families had settled in Lamar County between 1835 and 1837; between 1844 and 1846, forty-two new families had arrived. Annexation by the United States and the creation of Texas's Central National Road, which ran southwesterly through Lamar County, encouraged yet more immigration in the late 1840s and the 1850s. The vast majority of newcomers were originally from southern states like Tennessee, Kentucky, Alabama, and South Carolina, and some of them brought their slaves with them. There were almost 4,000 people living in Lamar County by 1850, and more than 10,000—including over 2,800 slaves—by 1860 (Hicks et al. 1993:244, 252; Lathrop 1949:25–31; Strickland 1930:262; Ludeman 1996a:40).

Meanwhile, the northwestern part of the county continued to develop and fill in. By the mid-1840s a trading post, plantation and distillery had been established near the river at Boggy Bend (about six miles north of present-day Camp Maxey; see Figure 3-3); in 1852, the county licensed a ferry to run across the Red River there. At some point during this period, a road was built between Boggy and Paris, which became the county seat in 1844. By 1850 "the Boggy Road," as it was called, was one of the more important roads in the county, and the Lamar County police court appointed overseers to each of its three sections to make sure it was properly maintained. (The road ran through modern Camp Maxey; see Figure 3-3.) By 1858, a bridge had been built where the road crossed Sanders Creek (Neville 1983:1:117–118, 2:766).[5]

During the late 1840s and the 1850s a number of families moved onto properties in the future Camp Maxey area and in the immediate vicinity. In 1848, William M. ("Buckskin") Williams purchased one-third of a league of land out of the John E. Dorsey survey (in the western part of what would later become Camp Maxey) and built a home there. At about the same time, Williams' father-in-law, John Emberson, moved with his wife Matilda and their children to a nearby tract on what became known as "Emberson's Prairie" (Ludeman 1996b:859).[6]

A few years later, in 1853, several members of the Sumner family also moved into that general vicinity. Moses Sumner, born in North Carolina in 1804, had first moved to Tennessee, where he was married; in the early 1850s, he, his wife and at least two children set off for Texas accompanied by Marcus Sumner, who may have been Moses' brother or nephew. In 1853 they arrived in Lamar County and settled near the Embersons, forming the nucleus of the village later known as Sumner. (William M. Williams, his wife Eliza, Emberson's son, John Emberson, Jr., and most of the original members of the Sumner family are all buried in the old Sumner Cemetery, which is within the borders of the original Camp Maxey.)[7]

Another family closely associated with the future Camp Maxey area for many years were the Cavinesses. The first member of the family to arrive seems to have been Jesse B. Caviness, who was born in North Carolina in 1827. According to his obituary, Jesse arrived in Texas in 1847; he soon settled on land in or near the southeastern sections of the original Camp area. Sometime between 1851 and 1854 he was joined there by Robert Caviness and his wife Elizabeth. Robert had been born in Tennessee in 1815. By the 1870s several Caviness families were farming in the area;

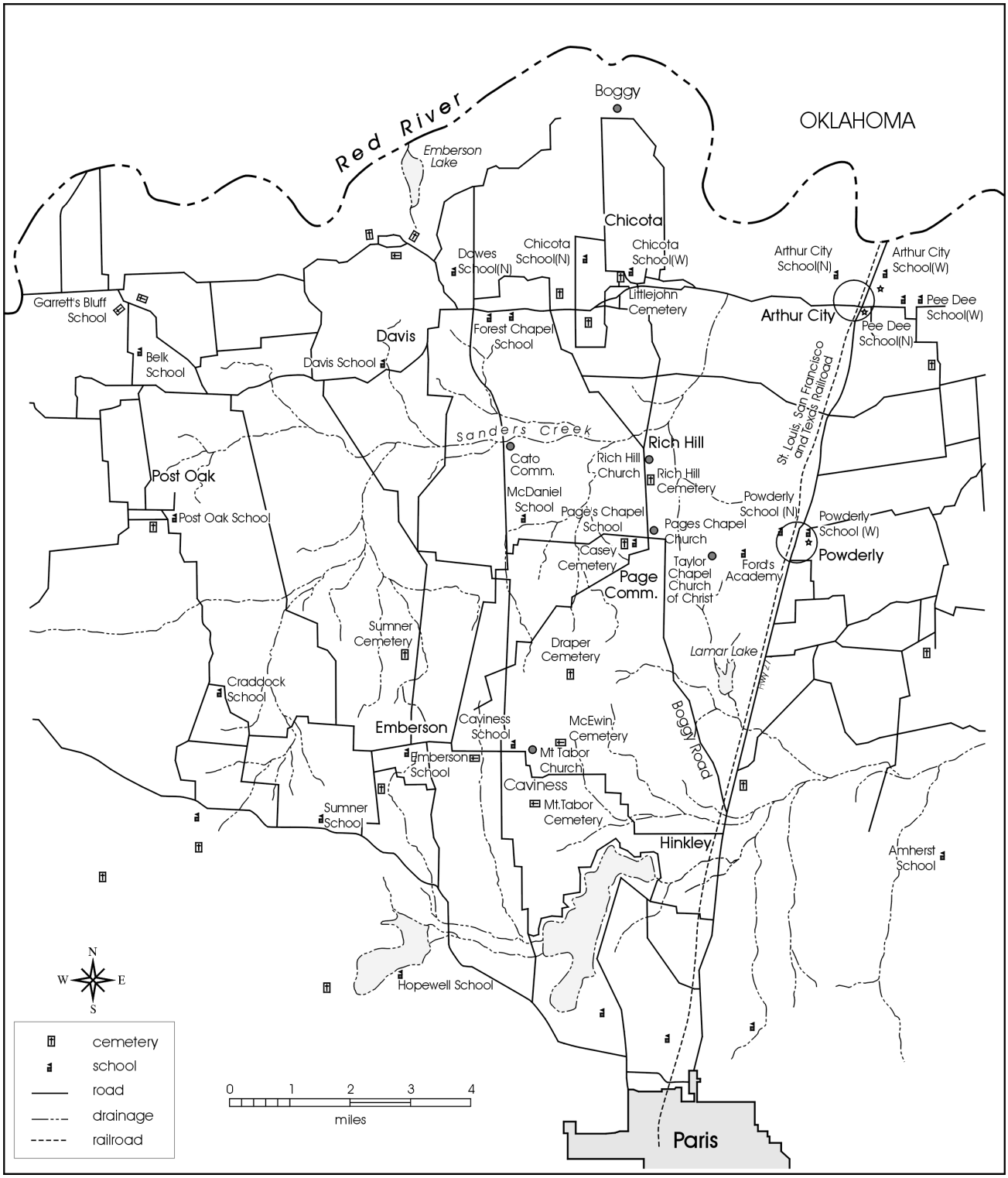


Figure 3-3. *Communities, schools, and cemeteries in the area of Camp Maxey and its immediate vicinity during the 1930s.*

and the village of Caviness, of course, later took its name from the family (Calcote 1996:1049; Hicks et al. 1993:36). (Many descendents of Jesse and Robert are buried in the McEwin, Caviness, and Mt. Tabor cemeteries.)[8]

Meanwhile, the Littlejohns were settling in the area just north of the future Camp. William Littlejohn, born in 1878, moved from South Carolina to Lamar County about 1850 with his wife Elizabeth, their two children, and perhaps as many as fifty slaves. By 1860, Littlejohn had bought hundreds of acres of land in the vicinity of present-day Chicota. At that time Littlejohn's son-in-law, Robert W. Draper, may have been living with his wife Susan in the area, as well (Hicks et al. 1993:60, 129.)[9]

Though the beginning of the Civil War retarded Lamar County's economic development, people continued to move into the area, some of them settling on apparently marginal lands yet unclaimed. Among these were William and Martha Jane Nixon, who moved to the county in 1861 (probably from Tennessee) and began farming a tract east of the Boggy Road in present-day Camp Maxey (see M. J. Nixon land grant, Figure 3-2). Though William died in 1864, Martha Jane apparently lived there with their three children for many years thereafter.[10]

Many Lamar County men served in the Confederate army during the Civil War. Not long after Texas seceded from the Union, Samuel Bell Maxey formed a unit called the Lamar Rifles; a few months later, he organized an entire regiment, the Ninth Texas Infantry, which by early 1862 was attached to General Albert Sidney Johnston's army in Kentucky (Horton 1996:581). Men from northwestern Lamar County who joined the Confederate cause included Charles P. Littlejohn, William James Littlejohn and Jesse Caviness, who all enlisted in the 29th Texas Cavalry, and John M. Sumner, who served in the 9th Texas Cavalry. John Emberson, Jr., also enlisted, as did Robert Wilkins Draper, whose wife lived in Alabama for the duration of the war. All of these men eventually returned to northwestern Lamar County and are buried in the area (Brothers 1999; Hicks et al. 1993:247).

By 1865 northwestern Lamar County was a very different place than it had been only thirty years earlier; though land along the Red River was still heavily timbered (Spaight 1882:179), the area was quickly evolving from an isolated wilderness to a settled landscape of farms and pastures. Over the next thirty years or so, its few remaining open acres would be claimed, and new towns and communities would emerge as another, larger wave of immigrants moved into the region.

Farm Communities in the Camp Maxey Area, 1865-1942

During the late-nineteenth century, after the Civil War, life in Lamar County was fundamentally transformed. The area's slaves, who counted for more than a quarter of the county's population in 1860, were freed; and a new wave of white immigrants, mostly from the Old South, settled in the region. Meanwhile, railroad construction tied the area to the national economy and encouraged more local farmers to grow cash crops, especially cotton. Even in soil-poor northwestern Lamar County, emancipation, immigration and the cotton culture helped to create several small communities in the area that would later become Camp Maxey.

Of the many changes that helped shape Lamar County after the Civil War, the emancipation of the area's slaves was the first and most dramatic. Before the war, for example, William Littlejohn had been one of the largest slaveholders in the region. By the time he died in December 1865, his slaves—his greatest source of economic and social distinction—were out of his grasp, and both he and his former bondsmen were forced to come to terms with entirely new cultural and economic realities.

Without money or education, very few freedmen in the area had many alternatives, and the choices made by most of Littlejohn's ex-slaves seem to have been typical of the time and place. A few continued to live in the households of their former masters; some moved to Paris. Most moved into the surrounding countryside and became sharecroppers or farm laborers. By 1870 there were sixteen households headed by freedmen in the area south of Sanders Creek and east of the Boggy Road—most of them probably living within the present borders of Camp Maxey.[11] Seven of these

freed families—thirty people in all—were black Littlejohns (the ex-slaves had adopted the surname of their former master). The heads of these households (all listed in the 1870 census as farm workers) were Della Littlejohn, 33 years of age, born in South Carolina; Lewis Littlejohn, 66, S.C.; Ellison Littlejohn, 24, S.C.; Grandville Littlejohn, 62, S.C.; Walton Littlejohn, 28, S.C.; and Jacob Littlejohn, 26, S.C.

Though a number of white farmers such as Ed Caviness, Carrol Mullins, C. Z. Littlejohn, William Wilkins, and Joseph Moore lived nearby, the blacks were closely clustered together. A number of freedmen acquired land of their own; and a black community called Rich Hill emerged from this nucleus of freed families by the 1880s, when Spencer Littlejohn transferred an acre in the Willard Stowell survey to the Methodist Episcopal Church, North, for the purpose of building a church there. At its peak in the 1910s, Rich Hill included at least one church, a school, a "Colored Masonic Lodge" and a cemetery (see Figure 3-3).[12]

Even as these black families were establishing themselves in the area, many new white settlers were moving in, too. After the Civil War tens of thousands of people from the Old South migrated west, fleeing the economic and political dislocations of the Reconstruction era and looking for new opportunities in Texas. Lamar County's population nearly quintupled during the late nineteenth century; by 1900 almost 49,000 people were living there. And though some of the newcomers moved to the growing city of Paris, the vast majority of them bought or rented farmsteads in the surrounding countryside. By 1900 there were more than 6,500 farms in the county (Ludeman 1996a:40–41).

Meanwhile, ambitious railroad executives were laying thousands of miles of new track in the state. Three railroads built into Lamar County between 1875 and 1888; the last of these, the Paris and Great Northern line, ran north to the Red River along the eastern border of what would later become Camp Maxey. (By the 1930s these tracks had been incorporated into the St. Louis, San Francisco and Texas Railroad; see Figure 3-3.) The railroads integrated the region into the national economy and encouraged the production of commercial crops, especially cotton. Before the Civil War, Lamar County had been one of the state's principal grain producers, but during the late nineteenth century and early twentieth century cotton farms spread across the area; in 1920 over 69,000 bales were produced in Lamar, and cotton was the area's most important crop (Ludeman 1996a:40–41).[13]

Hundreds of small farms were established in northwestern Lamar County during this period, most of them by immigrant white southerners from Tennessee, Kentucky, Arkansas, Mississippi, and northern Louisiana. And although the poor, sandy soils that cover most of northwestern Lamar County were better suited for fruits and vegetables, many of the newcomers grew cotton, which became an integral component of the local economy.[14]

During the 1870s and 1880s the last parcels of unclaimed land in the Camp Maxey area were awarded by the state, a few through pre-emption grants to settlers who patented the properties under the Texas homestead law. East of the Boggy Road, in the area that is now Camp Maxey, the homesteaders included Martha Jane Nixon, Carrol Mullins, and Hezekiah Page (see Figure 3-2). Nixon, Mullins, and Page seem to have been like many of the southerners who moved into Texas during the 1860s and 1870s—poor, white, and illiterate. [15]

Mary Jane Nixon, as discussed earlier, had settled on her 160 acres in 1861 with her husband William, who "died on the land" in 1864. In 1870, when she was 34 years old, she was still living there with her three children, Jason (aged 13) William (9), and Mary (6). In 1872 she married a man named J. H. England, but he too had died by 1877, when Mary Jane swore out her homestead affidavit. The Nixons may have been related to Carrol Mullins, who had also arrived in the vicinity from Tennessee in 1861, when he was about 13 years old. By 1870, when he swore out his homestead affidavit, Mullins had established a farm on property adjacent to Mary Jane Nixon's, and had married his wife Julia; they had one son, a one-year-old named William. Hezekiah Page settled on his 160 acres about 1867, and in 1870, when he applied for his homestead grant, he was living there with his wife and children. In 1877 he sold the property to one E. W. Rush for $100. Page was probably related to Arthur May Page, Sr., who moved into the Caviness area during the late 1800s.[16]

As northwestern Lamar County began to fill up, many small towns sprouted there, both around and in the area that would later become Camp Maxey. The first community to emerge may have been Center Springs, about a mile south of the present location of Chicota, and within the original borders of Camp Maxey. It was founded by Robert Wilkins Draper, William Littlejohn's son-in-law, who moved (or returned; accounts differ) to the area with his family in 1865 after the end of the Civil War. "Captain" Draper opened a store there and donated land for the first church in the vicinity; and in 1879, when the community's first post office was established, he helped to change the name of the little town to "Chicota." By the early 1880s Chicota had moved north to near its present location, and in 1884 it included four churches, the post office, probably at least one store, and a school with about 100 students. By 1914, the town had grown to have seven businesses (probably including a cotton gin) (Hicks et al. 1993:60, 262; Patman 1968; Brothers 1999; Nunnelly 1996:76; James Hicks interview).

Emberson, which straddled the southwestern border of the original Camp, emerged at about the same time. After its post office opened in 1878, the town quickly grew to become an important shipping point for cotton growers in the area. By 1884 it included three churches, a general store, a two-teacher school, a cotton gin, a blacksmith shop and a gristmill; by 1890, the town had three cotton gins, an icehouse, four general stores, and a "drug emporium" (McCrosky 1996a:859).

Forest Chapel, a community located about two miles west of Chicota, began to emerge about 1883, when its first schoolhouse was built; by 1896 the school had two teachers and 56 students. Though Forest Chapel never had a post office, it continued to grow into the early twentieth century; as late as 1936 it included the school, two churches, and a cotton gin (Hicks et al. 1993:260; McCrosky 1996b:1080). Arthur City, on the Red River northeast of the present-day camp, was founded in the mid-1880s as a stop on the St. Louis-San Francisco Railroad. It was awarded a post office in 1886, and by the early 1890s it had three general stores, a blacksmith, a sawmill, a doctor's office, a furniture-making business, and about 300 residents. The town began to shrink around 1904, when the area's lumber supply was depleted, but as late as the 1930s it still had five businesses and about 200 residents (McCrosky 1996c:260).

Lenoir was founded on the eastern boundary of the present Camp Maxey site sometime between the 1860s and 1888. The town was probably named after early settler Thomas Lenoir. Born in South Carolina in 1812, Lenoir had lived with his family in Mississippi for several years before moving to Texas sometime after 1858. By 1870, he, his wife and their three children were living on a farm in the same general vicinity as Carrol Mullins, Martha Nixon, and the black Littlejohns. The town had a post office by 1888—when the railroad built through the area—and by 1890 included two cotton gins, a blacksmith shop and a sawmill; about thirty people lived there. Though most sources insist the town's name was changed to Powderly (its present name) in 1888, as late as 1903 it was shown on a U.S. Department of Agriculture map as "Lenoir." By 1914, the town had grown to a population of about 100. In the 1930s, the Powderly school district—which supported a "Negro" school just west of the railroad tracks—included much of the northeastern section of the original Camp Maxey, and some of the present Camp area (Brothers 1999; Justiss 1937; Lane 1993; Long 1996a:304; Texas State Board of Education 1937; U.S. Department of Agriculture 1903).

In the early 1880s another community, called Cox, emerged, quite possibly within the present Camp Maxey area. Named for Richard Cox, who was the first postmaster when a post office was established in 1884, the community was located about six miles south of Chicota, probably on or near the Boggy Road. The creation of the post office suggests that a store probably was there at that time, and possibly also a church or a schoolhouse. It is possible that a community of some sort existed in this vicinity through the rest of the nineteenth century. Cox lost its post office in 1886, however, and the community may have faded away shortly thereafter (Patmann 1968).

Page's Chapel was another small community that grew in the future Camp area. It was founded at least as early as 1912, when A. J. Rose and his wife deeded an acre there to the "Page's Chapel Church," which was about three and a half miles directly west of Powderly. Quite possibly there was also a school at that time. According to one informant, during the 1920s and

1930s the community may have included a cotton gin. As late as 1935, when the area had already experienced years of economic decline, the "Page's Chapel School" still existed and served 39 students from the farms that surrounded it. The precise location of the school and the Methodist Episcopal church can be seen on a Camp Maxey real estate map (Figure 3-4) drawn in 1943 (Texas State Board of Education 1937:904, 907, 916; U.S. Department of War 1943/44:Sheet 2).

About two and a half miles southwest of Powderly, near the Boggy Road and within the boundaries of present-day Camp Maxey, was a two-room schoolhouse known as Ford's Academy. The school took its name from the Ford family, who lived in the area for many years and owned the land surrounding the school. The Ford's Academy school district (east of the Page's Chapel District and south and west of the Powderly district) encompassed the central and southern sections of present-day camp Maxey, and as late as 1942 the area was known to people in Lamar County as the "Ford's Academy community." In 1935 the school had two teachers and 42 students. Almost all of the farmers living in the community were white; the six black children who lived there probably took their lessons at the Powderly "Negro" school a couple of miles away. The precise location of the Ford's Academy school is shown on a 1947 map of Camp Maxey. The nearby Casey Cemetery was associated with this community. (Brothers 1999; Justiss 1937; *Paris News* [PN], Feb. 13, 1942:3; U.S. Department of the Army 1947:Sheet 1; Texas State Board of Education 1937:904).

Other, smaller communities may also have been centered at one time within the boundaries of present-day Camp Maxey. A Disciples of Christ church known as Taylor's Chapel once stood about three-quarters of a mile directly west of the Ford's Academy schoolhouse. It is not known when this church was founded, how long it was in operation, or whether it was actually considered part of the Ford's Academy community. Its precise location is also shown on a 1947 map of Camp Maxey (U.S. Department of the Army 1947:Sheet 1).

By the early twentieth century other communities also extended into the area of the original Camp Maxey. The village of Caviness, which straddled the boundary of the original Camp, existed at least as early as 1895, when the community was awarded a post office. By 1914 about 40 people were living there, and Caviness included a cotton gin and two general stores. In the 1930s, Cavinesses' school district, which was just south of the Page's Chapel district, extended deep into the original Camp Maxey area (Calcote 1996:1049; Justiss 1937).

Mount Tabor, on the southeastern border of the original Camp, was founded sometime in the late nineteenth century. By the mid-1930s it included a church and a cemetery—both within the original Camp—and two stores (Long 1996b; U.S. Department of War 1943/44:Sheet 2).

Cato was located a few miles south of Forest Chapel, and within the boundaries of the original Camp Maxey; a road leading south into the community from Forest Chapel was bridged at Sanders Creek. Like Page's Chapel, Cato probably emerged during the 1900s or 1910s, though it quite possibly existed earlier. Not much is known about Cato, though it may have included a store and a cotton gin; its schoolhouse (called the McDaniel School on a 1935 map), took its name from the McDaniel family, who were prominent in the vicinity for many years. In 1935 the school had two teachers and 54 students who lived in the surrounding area (Texas State Board of Education 1937:904, 907, 916; James Hicks interview).

Even in the 1920s and 1930s, life for most of the farm families living in northwestern Lamar County was not much different than it had been for people living there in the late nineteenth century. Electricity would not be introduced until the 1940s, and most farmers still used mules to pull their plows and carry their crops to market. Transportation on the area's dirt roads was slow and uncertain: it took a wagon team half a day to make the fifteen-mile trip from Forest Chapel to Paris, and only a few families could afford trucks or cars (James Hicks interview; Rev. C. H. Littlejohn interview).

In the 1920s and 30s most white farmers in the area—and many of the black farmers, too—owned their own land. Farms were small, though, with rarely more than 30 or 40 acres actually tilled on a given farm. Those who didn't own land worked "on the shares," paying

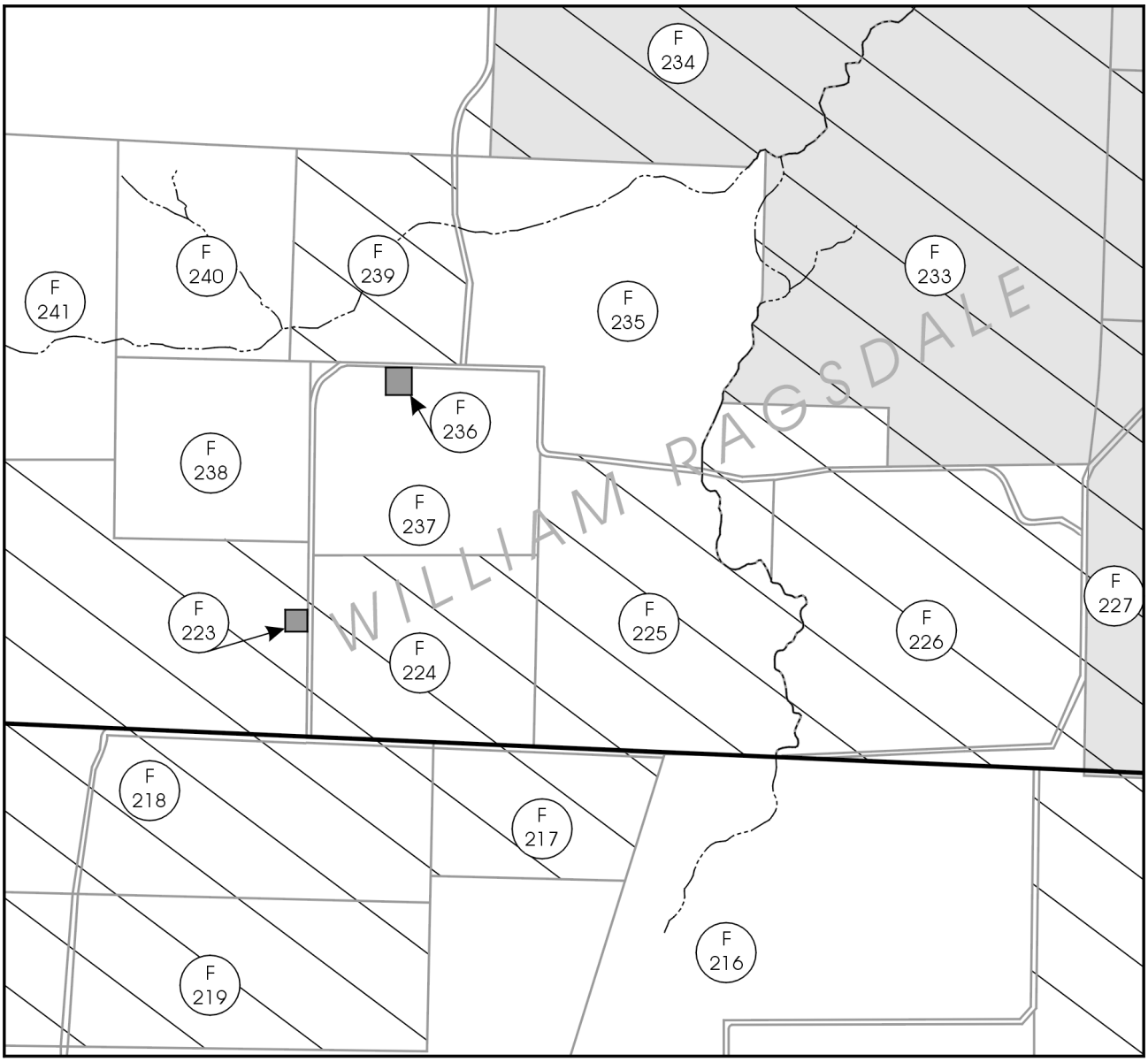


Figure 3-4. *Map showing exact locations of Page's Chapel Methodist Episcopal Church (parcel 223) and Page's Chapel School (parcel 236).* From 1943 real estate map of Camp Maxey, Sheet 2.

one-fourth of the cotton and half of the corn they grew in return for a place to live and work, scraping by in the kind of primitive poverty eloquently described by William Owens in *This Stubborn Soil* (1986). Many of those who did own land didn't fare much better.[17]

Cotton and corn were the main crops grown in the area, though some grew cucumbers, tomatoes and other truck-farm crops. Sorghum was grown for making molasses. Most families also raised hogs and had a cow or two for milk. The area's sandy soils, worn down by generations of unfertilized use, were not very productive. J. R. Lane, who grew up near Arthur City, remembered his father joking about the soil: "All it's good for is holding the earth together," he'd say. During the winters, many people in the area hunted or trapped for food; some also sold possum, raccoon and mink pelts to a furrier in Paris to raise a little extra cash. (James Hicks interview; J. R. Lane interview; Rev. C. H. Littlejohn interview).

To recapitulate: between the 1860s and the early twentieth century, hundreds of new farms were established in northwestern Lamar County, and a number of new towns and communities had grown there. At least five of these—Rich Hill, Cox, Page's Chapel, Ford's Academy and Cato were centered within the boundaries of the original Camp Maxey. At least one of these—the Ford's Academy community—was centered within the boundaries of the present Camp Maxey, and Rich Hill may have been, too. Some of the children who lived on properties within the present Camp attended school in Powderly. Moreover, many farm families who were members of several other communities on the peripheries of the original Camp—including Powderly, Caviness, Emberson, Mount Tabor, Forest Chapel and Chicota—were living on properties that eventually became part of the Camp.

The Decline of Farming in Lamar County and the Creation of Camp Maxey

It had never been easy to make a living farming in northeastern Lamar County, but life got considerably tougher after about 1920, when the area's cotton economy peaked out. Bad weather, dwindling yields and dropping prices hammered farmers in the county as a whole, especially after the onset of the Great Depression in 1929. Cotton production, once the mainstay of the area's agricultural economy, dropped dramatically during the 1920s and especially the 1930s. About a third of the county's farmers were forced to leave their lands during this period; by 1940 there were only 4,176 farms left there (Ludeman 1996a:41).

The same trends unfolded in the northwestern corner of the county, and in the 1930s many of the area's farmers moved away—"starved out," as J. R. Lane later put it. Virtually every town and community in the area languished during this period. Many people living in the black community of Rich Hill left, and by the mid-1930s its school had already closed down for lack of students. By 1936, Powderly had lost more than a third of its population. Forest Chapel's school was shut down; several of Emberson's businesses, including two of its three cotton gins, had closed; and Chicota had lost five of its seven businesses. The early 1940s reduced Arthur City, once a fairly thriving town with its own telephone exchange, to a tiny village. The school at Ford's Academy closed about 1940 because the school "did not have enough students." (Brothers 1999; Long 1996a:304; McCrosky 1996a:859, 1996b:1080, 1996c:260; Nunnelly 1996:76; J. R. Lane interview; Rev. C. H. Littlejohn interview).

Entering the 1940s Lamar County, like the rest of the United States, was still mired in the Great Depression. More than 2,000 people in the county worked for public-relief projects in 1940. The area's cotton production dropped by half between 1940 and 1941; building permits declined from 327 to 247 during the same period. For some reason the *Paris News* was still running its "Help Wanted" section in December 1941, even though virtually all the ads that appeared were paid for by people looking for work. (Ludeman 1996a:43; PN, Jan. 4, 1942:1, Jan. 29, 1942:5).

The Paris and Lamar County Chamber of Commerce had been trying for some time to encourage farmers in the northern part of the county to give up on cotton and switch to growing cucumbers, tomatoes, and other truck crops. Louis B. Williams, the Chamber's manager after 1940, worked with the county's agricultural extension agent to organize meetings with farmers there, and tried to attract canneries and other industries

to the county; he also helped to set up a produce market in Paris. But, Williams later remembered, "It was most difficult." Though some farmers did make the switch, old habits and hard times were working against him. "[D]uring the thirties," he recalled many years later, "no one was attracted to Paris. No one was attracted to even stay here, much less come into Paris, because the depression affected this area so sharply. Many of the banks [had] failed, and we lost a lot of good people" (Crow 1973:30, 32).

Undaunted, Williams and other city officials also devoted a great deal of time and energy to another strategy to replace the disappearing cotton economy. In October 1940, J. Morgan Crook, the Mayor of Paris, wrote the U.S. Army's Eighth Service Command at Fort Sam Houston and requested that Paris be considered as a site for a new Army camp. Community leaders, including Williams, worked feverishly to prepare a proposal and to find an appropriate site for the camp; they also began to line up political allies to help Paris compete with other cities hoping for the same thing. Their timing could not have been better, in May of 1941, a Dallas company was awarded a contract to design a camp for northwest Lamar County. Nevertheless, Williams and his colleagues at the Chamber of Commerce knew that the actual construction of the camp was anything but certain, given the intense competition they faced.[18]

The shocking news of the Japanese bombing of Pearl Harbor on December 7 did not lead many people in the county to think that war would lift the local economy, although many people knew that the Chamber of Commerce had been working hard to procure the army camp. In early January 1942, the *Paris News* conducted an informal survey "embracing persons from all walks of life" and concluded that most people in the area were expecting the economic picture to get even worse because of the war. Every person contacted, the paper reported, "has made up his mind to face hard times with stoic determination" (PN, Jan. 4, 1942:1).

People began to prepare for war. In January, the county agricultural agent organized "County Defense Meetings" with farmers in various communities, including Ford's Academy and Forest Chapel, and blackout drills were planned for Paris. On a lighter note, the local Odd Fellows chapter sold 300 tickets to a dance celebrating President Roosevelt's birthday, to be held at the Odd Fellows Club on Lamar Lake. "FDR's Diamond Jubilee Ball" was apparently one of the great occasions of the Paris social season. It was also the last big event hosted at the Lamar Lake clubhouse, which very soon would be in the possession of the U.S. Army. (PN, Jan. 4, 1942:5, Jan. 9, 1942:1, Jan. 16, 1942:1).

On January 20, the *Paris News* announced that the work of the local Chamber of Commerce had paid off splendidly—a huge new U.S. Army camp would soon be constructed in the county:

> It is understood that the specifications call for 1,720 buildings, including, barracks, mess halls, administrative buildings, theaters, chapels, canteens, post exchanges, and a large 1,800-bed hospital. The hospital alone reportedly is to include 99 buildings. The barracks, hospital, laundry, bakery and cold storage plant for frozen meats and dairy products are among the largest designed by the War Department. (PN, Jan. 20, 1942:1)

Everyone immediately understood that creating the camp was going to be an incredible project, with enormous consequences for the local inhabitants. Essentially, the Army was planning to build a city three times the size of Paris in three months. Anywhere from 10,000 to 30,000 workers were expected to soon descend on the county. The project posed a real challenge for local leaders. "After all," the *Paris News* (Feb. 4, 1942:1) noted, "building a city to house 30,000 men and having to do it in 120 days will not be like building an extra room on your house."

City officials and the Chamber of Commerce scrambled to prepare for what was coming. In early February the Chamber created a number of new committees to deal with some of the most predictable problems: how to house the expected influx of workers; how to organize the local labor supply; how to regulate the creation of new trailer parks and subdivisions; how to make sure that rents in the area would not skyrocket beyond reasonable rates. The Paris City Council passed new ordinances governing zoning and trailer parks, and the Chamber of Commerce organized employment and housing registries and urged every Paris

household to register whatever homes, apartments or rooms they could rent (PN, Feb. 3, 1942:1, Feb. 5 1942:1).

The prospect of thousands of new civilians and soldiers pouring into the area on short notice also led some people in Paris to worry about how to maintain the character of their community. In early February the local Lions Club held a meeting of the city's business and religious leaders to discuss the problem. "Paris has always been known as a clean city, and as a friendly and hospitable city," one speaker said. What would be the best way to preserve those qualities? A. B. White, pastor of the First Baptist Church, assured those at the meeting that the city's churches realized that they had a responsibility "to look after the spiritual welfare" of the new soldiers and civilians in order to "create and maintain a wholesome and clean social condition" (PN, Feb. 13, 1942:3).

Meanwhile, as the *Paris News* noted, the announcement of the camp's arrival moved many city projects "out of the 'if and what' stage." Already being planned by late January was the construction of a new junior high school; the opening of two new theaters (the North Star and the Dixie) in Paris; new construction work on Highway 271 from Paris to the Red River; and the expansion of the area's hospital facilities (PN, Jan. 22, 1942:3).

At first the camp was projected to sprawl across much of northern Lamar County in two huge tracts east and west of the St. Louis-San Francisco railroad (see Figure 3-5). Many farmers in the area weren't sure what they should do. Some went ahead with their work as usual, though others said they would not even "turn a wheel" until they knew what was going to happen to their land. Many seem to have been resigned to their fate:

> Tom Baxter of the Pinhook community says his new store and home have been built but a short time and that he sure does hate to give them up, but says that if Uncle Sam says move then there is nothing else to do. (PN, Jan. 27, 1942:7)[19]

Facing eviction from lands their families had been living on for generations, some resorted to an old brand of Texas humor to deal with the situation. *Paris News* columnist, Dan Bills described the attitude of one farmer whose land would soon become part of the original Camp:

> E. E. McEwin of the Caviness community was milking his cow the other morning when he noticed that her eyes were watering considerably. After a close check he found nothing was wrong with her eyes, so he concluded that his cow was shedding tears because she would have to be moved out to make room for the army camp. He says she sure does hate to leave that good grass on the place which she has enjoyed for years. (PN, Feb. 3, 1942:7)

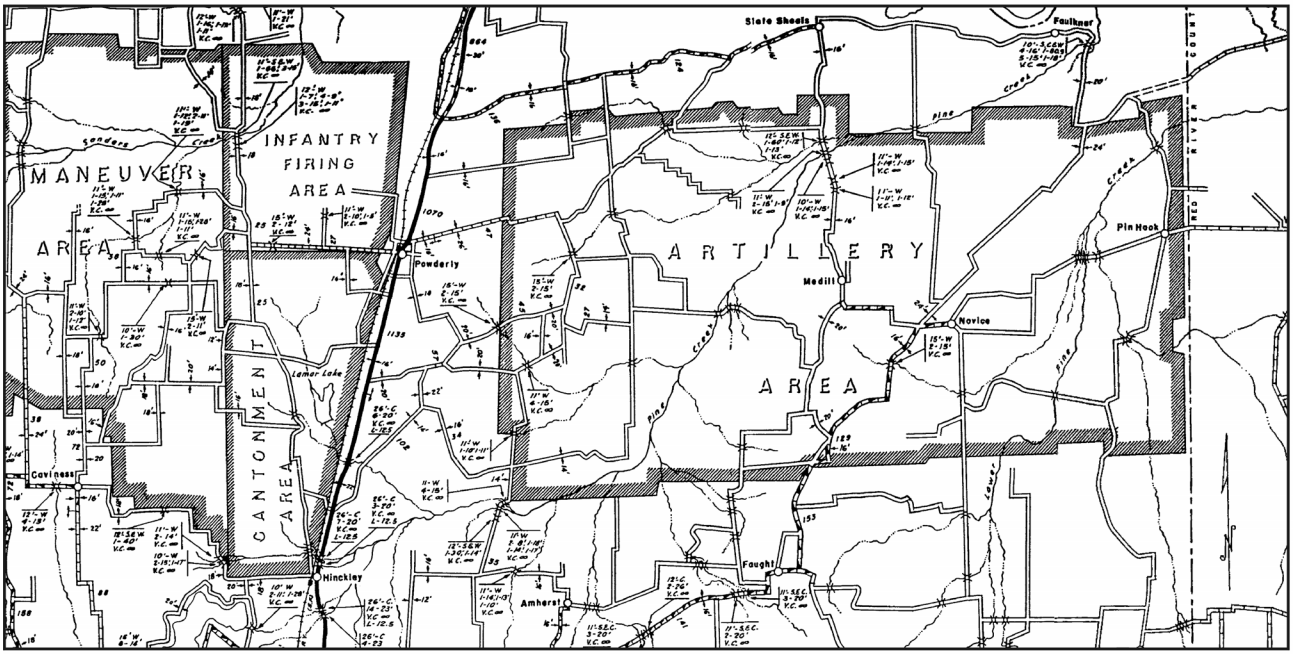
The questions of why and how the land for the camp was acquired are still matters of some dispute. Why was the camp placed in northeastern Lamar County rather than, say, to the south of Paris? According to Louis Williams, the decision was made in 1941, when the Chamber of Commerce was drawing up its proposals for the War Department. In 1973 he remembered discussing the location problem with Walter Hicks, the city's engineer:

> Walter said, "Well, I tell you. If I were locating an army camp, I would locate it north of Paris and west of the highway." I said, "Well, okay, what does that countryside look like?" He said, "Well, it has more open country in it than any area of the county." So I said okay, let's get in the car and see what it looks like."… We came to the conclusion that this would be the place. (Crow 1973:41)

In a later interview, Williams said that other factors, such as the area's terrain, soil and vegetation also influenced the decision (Steely 1992:4).

One factor he did not discuss in these interviews was the price of the land. This seems odd since in drawing up their proposal for the Camp, Williams and the other Chamber of Commerce planners must have anticipated that land acquisition costs would probably play some role in the Army's decision whether or not to place a camp in Lamar County. The lower the cost, the more competitive their proposal would be. And the land in northwestern Lamar County could be had very cheaply,

Figure 3-5. *Map showing original 1942 projection of camp into northeastern Lamar County*.
From 1942 Camp Maxey land acquisition map.



as Williams knew at the time. As he told Corrine Crow when discussing the area in a different context, "This land in the northern part of Lamar County was selling for four to five dollars an acre. It was worthless" (Crow 1973:31).

If price did play a role in the selection of the area, the fact that many black farmers living there were behind in their taxes may also have entered into the equation. The Rev. C. H. Littlejohn, who knew several people in the area who lost their lands to the camp, believes to this day that this was one of the reasons the camp was placed where it was (Rev. C. H. Littlejohn interview). There is no evidence to support his view, but it is worth noting that, according to the *Paris News* (Jan. 25, 1942:1), in 1942 the county would recover about $45,000 in back taxes on properties bought or condemned by the federal government when the camp was created.

The arrival of the camp meant that hundreds of farm families would have to leave their lands. How was the land acquired? According to Louis Williams, the vast majority of the landowners practically volunteered to leave, though not before the Chamber of Commerce worked hard to convince them. To get the Army to believe that Lamar County was a viable site for a camp, the Chamber had concluded in early 1941 that it would have to get landowners to sign options on their properties, in affect agreeing to sell their land to the government if a camp were in fact established there. "A regular army was organized for this purpose, to contact all the landowners out there as quickly as possible," Williams remembered in 1973:

> Roy Johnson was in charge of the …big map which we acquired and hung on the wall. …we took it off, site by site, off this map and looked up the title, the ownership of the land. Every person living out there or locally was contacted by mail. (Crow 1973:46–47, 49)

Most of the landowners "responded very cooperatively" Williams recalled. But a certain amount of coercion seems to have been employed, too. As Williams himself explained:

> …for those who were hardsells, for those who were trying to look under the chips to see what was there and this type of thing… [those people], as far as we possibly could, [were] put in the car. This happened to many older couples. They were

> put in the car and brought to town. That's when they met before the special negotiating committee of Mr. Bedford Harlan as chairman and Mr. Pink and myself. (Crow 1973:49)

He didn't volunteer what tactics the "special negotiating committee" used to bring recalcitrants into line, and Corrine Crow, his interviewer, didn't ask. Part of Williams' 1973 interview with Crow dealing with the land options campaign reads like this:

> W: I can't recall at the moment who were familiar with the people who lived out there. They would go out. It was amazing to us the large percentage of Negro families out there…
>
> C: Is that right?
>
> W: …and the number of people who were older and not interested in this thing but yet they were so motivated and so patriotic that most of them signed when they were approached on the site.
>
> C: All right, let me stop the tape. (Crow 1973:48 [ellipses in original transcript])

According to Williams, by the end of March 1941 the Chamber of Commerce had "at least about 90 percent" of the 50,000 acres they needed for the camp under options. Williams may have been right about this, but his estimate does not seem to square with the facts, insofar as they can be established. For example, almost half (44 percent) of the 111 Camp Maxey tracts deeded by the federal government to the Texas State Guard in 1951 were acquired through condemnation proceedings, not voluntary sales. Those included a number of properties associated with the Rich Hill community and the black Littlejohn family.[20]

In any case, once the Army decided to locate the camp in Lamar County, it moved quickly to establish control over the land it would need. By early February, federal negotiators were already in Paris, attempting to reach agreements with landholders in the area; the government's position was strengthened on February 10, when a federal court in New Orleans issued a court order giving the government immediate possession of 160 tracts. The order threatened contempt of court charges (and by implication, jail time) for "anyone who refuses to deliver the lands." By the end of April, the government had begun condemnation proceedings against more than 29,000 acres of land in the way of the camp.[21]

What happened to most of the hundreds of families uprooted by the creation of the camp is not clear. The tenant farmers in the area were completely out of luck; the government did not provide any funds to cover relocation expenses. Many landowners seem to have fared better. Some took their money and moved to Paris. Others bought acreage in other parts of the county. Mr. and Mrs. G. E. Martin of the Powderly community, for example, bought a farm near Reno in late February and were "well-contented" with their new place. But this was not always easy to do. As *Paris News* columnist, Dan Bills wrote in mid-February:

> The Army camp… is under way and many of our farmers are having to leave their homes. Some have no place to go and most every day some of them come to me wanting to know where they could get a place. (PN, Feb. 13, 1942:3)

The *Paris News* focused its coverage on the creation of the camp, and didn't pay much attention to the farmers' plight. Most of the few pieces it did print (all in Dan Bills' "Ramblin' Around" column) tended to cast the situation in a favorable light:

> W. H. Ford of the Ford's Academy community [his property was very near the old Ford's Academy school] is among the many farmers who… was forced to sell. He had lived at his home for 35 years and hated to leave, but he said if it took his land to whip the Japs and the Germans he was ready to go. (PN, Feb. 17, 1942:3)
>
> Ed Humphrey of the Caviness community… says it looks like he is going to be forced to move but he had rather camp on the side of the highway than be under the Japs and the Germans. (PN, Feb. 13, 1942:3)

The Paris paper never published an article about a disgruntled farmer, or about any of the black families

evicted from the area. According to James Hicks, who is well-acquainted with northwestern Lamar County, many of the area's blacks moved to California, Oklahoma, Arkansas, and Kansas after the camp was created (James Hicks interview).

As the farmers were ejected from lands now reserved for the camp, several communities in the area either disintegrated or were considerably diminished. Ford's Academy, Rich Hill, Cato, and Page's Chapel simply ceased to exist, while other communities like Emberson, Forest Chapel, Chicota, Powderly, Hinkley, Caviness and Mt. Tabor saw many old-time families move away.

On February 10, 1942, the same day the court authorized the Army to take control of the camp's first tracts, Major Earl D. Yarko of the U.S. Corps of Engineers set up his field office in the old Odd Fellows Clubhouse on Lamar Lake and began to organize the construction of the Camp. Various construction companies began moving employees and equipment into the area, and new tourist camps, trailer parks, "tent colonies," and restaurants appeared almost overnight along Highway 271. Construction began on February 27. By early March, 75 to 100 electricians were already stringing wires to the camp area, and 500 more electricians were expected to be on the job soon. (*Maxey Times* [MT], Apr. 9, 1943; PN, Feb. 11, 1942:1)

Civilian construction activities in the area surrounding the camp also "continued at a rapid pace." O. W. Lowe of Powderly, for example, was building a 50-seat cafe and a dormitory-style building that would house 100 men; new rent houses were going up in Chicota. The Dixie Trailways bus terminal in Paris was being expanded; its "negro waiting room" was going to double its original size. Meanwhile, as thousands of new people flooded into the county, the Paris Home Registration Office made a "patriotic appeal" to homeowners in the city, asking them to "arrange more apartments" by adding rooms to their houses if necessary. Already there were reports that some properties in the city had seen their rents jump 100 percent (PN, Feb. 11, 1942:1, Feb. 12, 1942:11, Feb. 22, 1942:9, Mar. 1, 1942:1, Mar. 5, 1942:1, Mar. 6, 1942:1).

The intensive construction activity in and around the camp provided a powerful stimulus to the county's economy. Civilians began working at the camp even before construction began, and both the federal and local governments set up registration drives to harness the local labor pool and to encourage people in the area to help build and operate the camp. By February 3, about 500 people had already registered for jobs at the camp, but many more positions still needed to be filled. As J. R. Lane recalls, "Anyone with enough money to buy a handsaw could become a carpenter" (J. R. Lane interview). The Chamber of Commerce sent employment registration cards to all the local schools and practically begged people to sign up for work: "We are urging every Parisian able to engage in civilian defense work to register immediately," the Chamber pleaded (PN, Feb. 3, 1942:1).

Following the recommendation of the Paris City Council, on April 2, 1942 the Army named the new facility "Camp Maxey" after Samuel Bell Maxey, the Confederate general and prominent post-war politician from Lamar County. The camp was formally activated on July 15, and by the end of the summer it was ready for its first troops. Elements of the Army's 102nd Division began to arrive for training in September (PN, Mar. 11, 1942:1; Steely 1992:7–8).

Soldiers and Civilians: Camp Maxey, 1942-1945

By late 1943 Camp Maxey had grown to cover 70,000 acres of northeast Lamar County; over 2,000 buildings, of 250 different types, had been built there (see Figure 3-6). The horseshoe-shaped cantonment area included, along with the post headquarters and divisional headquarters, hundreds of barracks housing over 30,000 soldiers. It also had its own airstrip and five large movie theaters, which provided what the Army called "celluloid morale." There were bowling alleys; a fire department; several post exchanges and mess halls; a large field house, which could accommodate as many as 4,000 people for dances, boxing matches, and symphonies; several chapels, offering nine Protestant and seven Catholic services every day of the week; and guest houses for visiting relatives and friends of the soldiers. The post also had three large service clubs (two for whites, one for blacks), where enlisted men and civilian employees checked out

books, played billiards, ping-pong or the piano, and organized talent shows. At least two nights a week, the service clubs were the places to go to "swing out with the girls from Paris or Hugo." Four hundred civilians worked at the camp's laundry; its bakery could produce more than 4,000,000 loaves of bread in a year. The camp's weekly newspaper, the *Maxey Times,* was recognized by the War Department as one of the best papers of its kind in the Army. (See Figure 3-6, and Figures 3-7 through 3-13; MT, Apr. 9, Aug. 13 and 20, Oct. 29, Dec. 3 and 10, 1943, Apr. 2, 1945).

Camp Maxey's 300 miles of roads connected the horseshoe with the camp's huge hospital complex (which had its own farm and a miniature golf course; Figure 3-14) and to a number of artillery ranges and other training facilities. To train for assaults on enemy positions, the soldiers were sent first through an 800-yard obstacle course crisscrossed with barbed wire and hidden trip wires. Once through that, they would have to crawl under live machine-gun fire through the camp's 120-yard infiltration course, "a carefully planned-out arrangement" that included entanglements of barbed wire, simulated air attacks, trenches and dynamite charges (to simulate shell fire; Figures 3-15 and 3-16). Then it was on to the "enemy village." (MT, May 2, 21, and 28, Aug. 12 and 20, 1943, Apr. 3 1945).

In 1943, the "enemy village" was a reproduction of a small German town: a street of one- and two-story buildings, with a "Gestapo Headquarters" at the end. The village, as the *Maxey Times* reported, included "an ingenious arrangement of ropes and pulleys located in the windows of houses throughout the village—when these are pulled, silhouette targets [simulating snipers] pop into view." Small dynamite charges were set around doors and windows in the village to teach the training soldiers about the dangers of booby traps. (By the summer of 1945, after Germany had surrendered, the village had been converted to "Japville," which, among other things, included a facsimile Shinto temple; it was defended by Japanese-American soldiers dressed as the enemy.) The purpose of all this training was explained by the *Maxey Times:* "Every soldier will be schooled to act calmly and with sound judgement amidst the noise, confusion, and surprises of actual battle." On occasion, gasoline was poured onto Lamar Lake and set afire so that men could learn to swim under burning waters (MT, May 28, 1943, Apr. 14, 1944, July 20, 1945).

Camp Maxey also had a prisoner-of-war camp, which was probably opened in late May or early June, 1943 (Figure 3-6). Located near Hinkley in the far southeastern corner of Maxey, the POW facility held several thousand Germans; many of its first "guests" had been part of Rommel's Afrika Corps. By 1944 the facility included dozens of barracks, a number of mess halls, and four post exchanges; it was surrounded by barbed wire fences, and overlooked by twelve guard towers. The high security might not have been necessary. Though the prisoners were often taken outside the grounds to work for local farmers (they picked cotton, for example, for five cents a day), few if any ever tried to get away, and no successful escape ever occurred. By April 1945 the camp held 7,458 German prisoners, somewhat short of its capacity for 9,000[22] (See Figure 3-6).

The creation of Camp Maxey transformed the economy of Paris and Lamar County, and led to changes—some anticipated, some not—in the cultural balance of the area. By early 1943, Paris had entered "a new era of civic life." By that time, the *Paris News* reported, "practically all business, civic, recreational [and] social activities" revolved around the new Army base. The city's retail businesses, banks and tax receipts had all seen great advances, and the "streets in the business district had a 'Saturday' look every day." (PN, Jan 1, 1943; J. R. Lane interview).

But, as the paper noted, the camp had also created "many civic problems" for Paris. Most pressing was the housing shortage. In less than a year about 10,000 people had moved into Paris, but the city had not been able to keep up with the influx. Part of the problem was related to the demands of the war itself; construction materials were difficult, sometimes impossible, to obtain. Newcomers, unable to find houses or apartments, lived wherever they could—in garages, tents, barns and even converted chicken coops.[23] The camp had also disrupted old social networks and intensified racial tensions. Given the extraordinary circumstances, though, these problems might have been much worse if local citizens and camp authorities had not worked hard to create ties between the camp and the town.

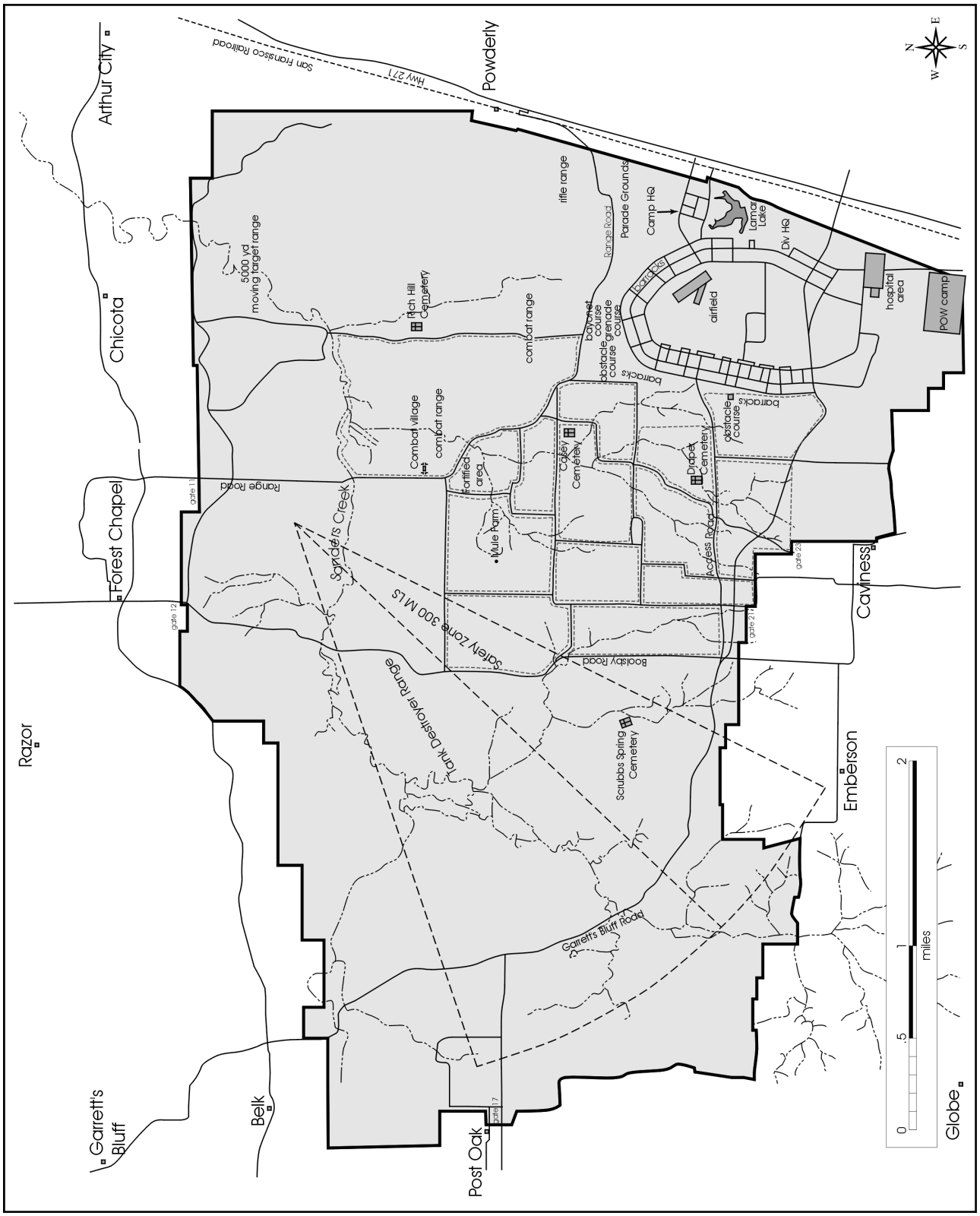


Figure 3-6. *Map showing training facilities and buildings at Camp Maxey.*

Figure 3-7. *A chapel at Camp Maxey, from postcard in Jim Steely collection.*

Figure 3-8. *An enlisted men's service club, from* Guide to the IRTC.

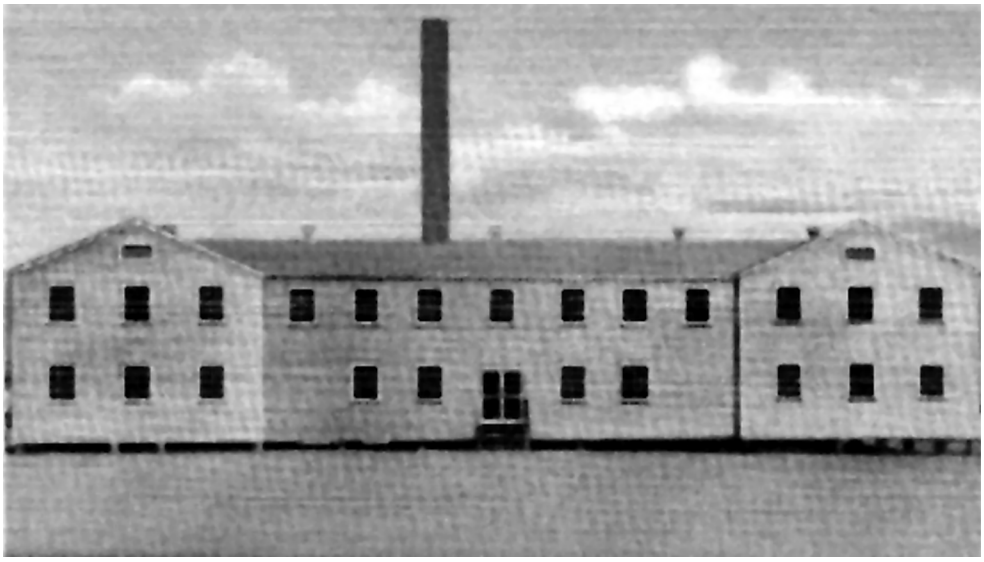


Figure 3-9. *Division headquarters building, from* Guide to the IRTC.

Parisians were pleased with the economic impact of the camp's arrival, but they also hoped to preserve the city's social stability and protect their traditional values. They wanted to be "friendly and hospitable" hosts to the soldiers and civilians the camp brought to the area, and in fact seemed to believe they had a certain patriotic duty to do so. At the same time they also felt, as one civic leader noted, that they would have to be "alert to permit nothing from the few who may be inclined. . . [to] jeopardize our reputation as a good, clean city in which to live." Camp authorities understood this view, and it was in the War Department's interest to cooperate with local officials, if only to maintain the morale of the trainees and protect their health. Good relations between the town and the camp would also help to build public support for the war and boost the sale of war bonds.[24]

Vigilant, effective law enforcement would be part of the answer. Paris and Lamar County hired more peace officers soon after the announcement of the camp's arrival, and over the following three years local authorities cooperated with the Army to suppress prostitution and the sale of alcohol, and to combat the spread of venereal diseases. They were not entirely successful, of course. Soldiers found ways to buy bootleg alcohol, and in 1943 about 30 percent of the men at the camp who contracted venereal diseases were infected by prostitutes. Nevertheless, Colonel Robert Annin (the camp's commander for most of its existence) and local officials expressed satisfaction with the overall results.[25]

Meanwhile, the residents of Paris and the surrounding area made many efforts to welcome the soldiers and to make their lives more interesting and enjoyable. Parisians invited soldiers to home-cooked meals, and organized picnics, parties and other social events in their honor. The city also held "Camp Maxey Appreciation Days" and found other ways to show the soldiers they were wanted. In early December 1943, nearly two thousand Parisians lined the downtown streets to cheer for the 99th Infantry Division and other units that were moving into the camp. "The crowd sang, danced, and joshed in a street-dance atmosphere as carnival as Paris has seen in a long time," the *Paris News* reported. (MT, Aug. 8 and Dec. 3, 1943).

Citizens also volunteered their time and, sometimes, their cash to express their appreciation to the soldiers. American Legion posts in Paris, in Hugo, Oklahoma and other nearby towns, for example, collected money to furnish recreation rooms in barracks at the camp; local churches made space available for events like

soldier art exhibits and the meetings of various support groups. Hundreds of Parisians engaged in activities sponsored by the city's War Recreation Council that, in cooperation with a WPA recreation project and the USO, was organized to provide wholesome entertainment options for the soldiers. (PN, Sept. 13, 1942, Aug. 29, 1943, Apr. 16, 1945).

In July 1942 the War Recreation Council created a "co-ed committee," which soon evolved into what became known as the Maxey Command. Organized and led by Margie Lou Hubbard, the Maxey Command arranged chaperoned activities and dates between young women in Paris and soldiers at the camp. Twice a week, 70 or more "Maxey Girls" (as they were called) rode by bus to Camp Maxey for dances and parties at the camp's enlisted service clubs; they also attended parties and dances at the camp's officers' clubs, and at private venues. Many of the "Girls" volunteered to work as hostesses in Paris' two white USO clubs, and a special "Hospital Corps" graced parties at the camp's hospital. In November 1944, a reporter for the *Maxey Times* (Nov. 11) estimated that the Maxey Girls had covered "something like 20,000 miles around dance floors to contribute to victory as morale boosters." The group was very popular with the soldiers at the camp, and Mrs. Hubbard received many letters of thanks from soldiers stationed all over the world. (PN, Feb. 3, 1944, Sept. 23, 1945; Steely 1992:12).

Figure 3-10. *Civilians working in the camp laundry, from* Guide to the IRTC.

The camp exposed the people of Paris to different ways of life and reshaped the city's society. As Lou Anne House, the society editor of the *Paris News*, explained, the camp "definitely helped [Paris] society":

> What I mean is that friends of mine all want to come to Paris because there is always something doing. I've made a great number of friends among army wives… So many of my friends have gotten married—that is what the camp has done. The local boys don't like the camp. The soldiers take all the girls… The camp has also helped to break up social crowds, cliques… That's good. We've gotten to meet so many different types of people. (MT, July 9, 1943)

Figure 3-11. *Barracks building, from* Guide to the IRTC.

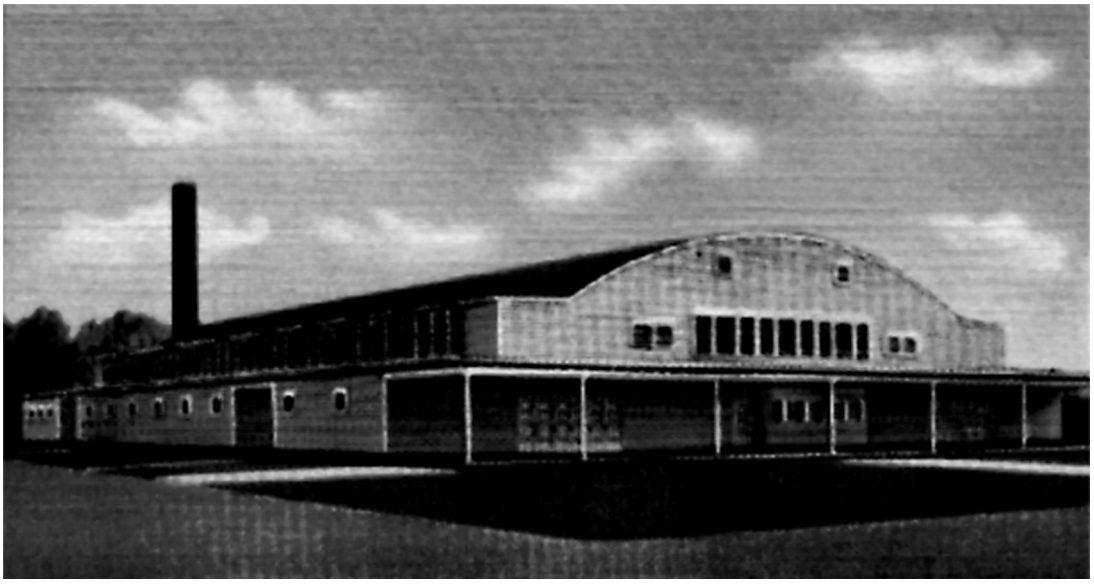


Figure 3-12. *The Camp Maxey fieldhouse, where many "name brand" bands played for thousands of jitterbugging couples.* Boxer Joe Louis, the famous "Brown Bomber," fought an exhibition fight here.

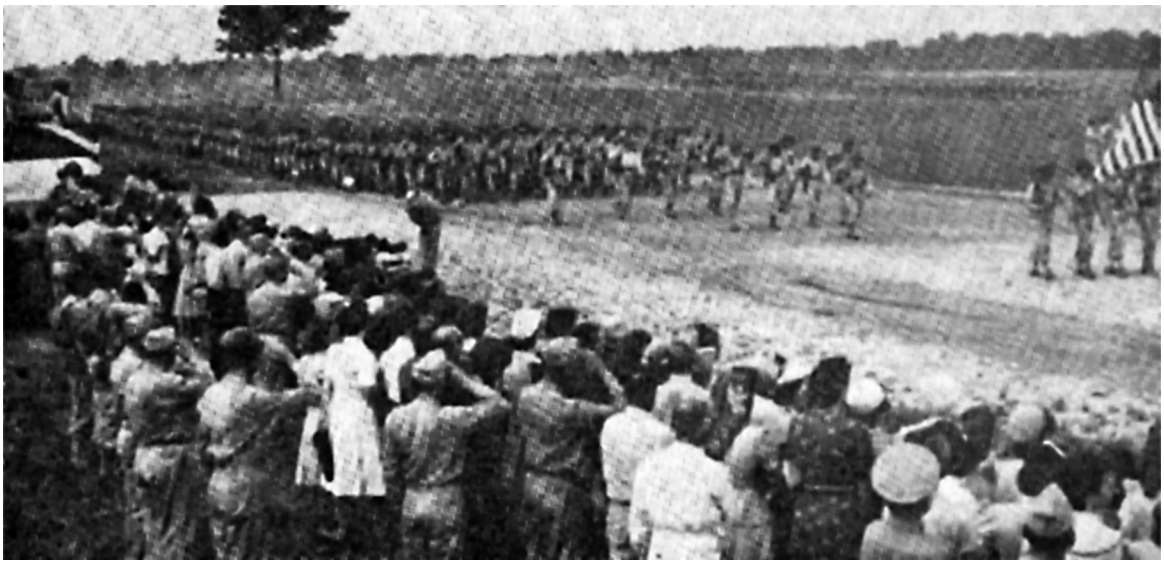


Figure 3-13. *Soldiers from Maxey on the march. From* Guide to the IRTC.

Figure 3-14. *Aerial view of Camp Maxey hospital complex, 1944*. Photo courtesy of Jim Steely.

Figure 3-15. *Training at the infiltration course. From* Guide to the IRTC.

Colonel Annin, the camp's commander, worked hard to cooperate with local authorities and various organizations to create a bond between the camp and its neighbors. He allowed local Boy Scout and 4-H groups to tour the camp "to see what the life of a soldier is like," and paid for the busses that ferried the Maxey Girls back and forth from the camp. In July 1943, local civilians were invited to visit Camp Maxey for a celebration of its first anniversary; hundreds of Parisians went and "gaped" at the tanks and other weapons displayed. (MT, July 25, Dec. 17 and 24, 1943).

The War Department, through the camp, also sponsored events that were clearly part of the government's larger campaign to ensure continuing public support for the war. In early March 1944, Army Service Forces held a week-long show in downtown Paris that displayed "many of the facets of army life" and the war against fascism abroad. Visitors could see captured enemy weapons, and view films like "Landing in Sicily" and "German Fortifications Along the Invasion Coast." During its one-week stand, the ASF show drew over 30,000 visitors; for some reason, its most popular attractions were the "dehydrated food booth" and the displays about quartermasters and medics. Another large audience gathered on June 7, 1945, when the Army staged a re-enactment of the Normandy D-Day landing on the banks of the Red River, just east of the bridge at Arthur City. (MT, Mar. 3 and 10, 1944, June 1 and 22, 1945).

The camp also became an important social center for northeastern Texas. In 1944 and 1945, a number of "name brand" bands were brought in to play at the camp's large field house for mammoth dances attended by thousands of jitterbugging couples. In late August 1944, for example, George Olson and his band played for a crowd of 3,000 soldiers and "Texas beauties." A reporter for the *Maxey Times* described the scene inside:

Figure 3-16. *Under fire on the infiltration course. From* Guide to the IRTC.

> "The band is sweating it out…and so are the dancers in desperate hard work; enjoyment. Contorted faces; swing it, baby." Outside the field house, "More retiring types of couples could be stepped on for blocks around, smooching, listening, and having a grand time. A profusion of cars was seen parked in the area. Most of them were occupied." (MT, Aug. 25, 1944)

Camp Maxey's contributions to the area were probably never more appreciated than on April 12, 1945, when a devastating tornado swept through Antlers, Oklahoma. The funnel hit the town about 6:00 p.m., within minutes it had completely destroyed 300 homes and businesses, and damaged 200 more. More than 80 people were killed, and hundreds injured. About two hours later, scores of doctors and first aid workers from Camp Maxey arrived, and before long two dozen ambulances from the camp were taking wounded and dying victims to hospitals around the area. More than seventy people were taken to Camp Maxey's hospital; five eventually died there. (MT, Apr. 18, 1945; Steely 1992:12).

By August 1945, when Japan's surrender ended World War II, Camp Maxey had changed Paris and northeastern Lamar County in many ways. The old communities evicted to make room for the camp would never return. The county's economy had significantly shifted, and the cosmopolitan outlooks that so many soldiers had carried into the area could never be erased. In September 1945, Maxey was designated a "separation point" for servicemen returning to civilian life, and on October 1, the camp was placed on the inactive list; its hospital scheduled to close in November. Meanwhile its soldiers, civilian employees, and German POWs slowly dwindled away. The last edition of the *Maxey Times,* published on October 12, 1945, summarized the life of the camp and printed a last communication from Colonel Annin. Almost 194,800 soldiers had trained at Camp Maxey during its two and a half years of existence; thousands of them had gone on to fight in Europe and the Pacific. More than 10,000 civilians had been employed at Maxey. Now it was passing into history (Steely 1992:13).

Epilogue

After the last POW left Camp Maxey in 1946, the camp seems to have been left "empty, but untouched" for about two years. In early 1947, when the camp was officially declared "surplus" by the War Department, it was estimated that it had about 2,500 buildings worth more than $30,000,000. Though the Paris-Lamar County Chamber of Commerce tried to delay the deconstruction of the camp, by April 1948 many of its buildings already had been sold or demolished, and the camp was "rapidly being reduced to a pocket-sized edition of itself":

> Many areas of the huge camp resemble sections of a large city which has just been showered in an air raid. Piles of rubble, split by orderly rows of sentinel-like chimneys, are about all that these workers leave behind as they clear the structures away.[26]

Hundreds of structures were sold and moved to various locations in the surrounding area. As late as 1999, the old divisional headquarters building was still being used by the Emanuel Baptist Church as part of its complex (See Figure 3-17).

Even in its demise, the camp continued to shape the economic development of Paris and Lamar County. In 1949, the DeKalb Hybrid Seed Company bought thirty of the camp's buildings (including 27 of its warehouses) and about 700 acres of the camp for a "huge poultry project." Another 10,000 acres of the former camp were deeded to the Texas National Guard that year; a Guard training facility would be operated there into the twenty-first century. Several thousand acres of land were also sold to private individuals, including some who had lived there before the camp was created. (Many parcels of land deeded away during this period were now judged unfit for crops, however, because unexploded mines and munitions lay beneath the soil.) [27]

The camp's water treatment plants were purchased by the City of Paris and, with some refurbishment, were still being used in the 1990s. Cox Field, an airfield separate from Camp Maxey but associated with its operations, was converted to be the city's airport, which later helped attract new industries to the area. In the 1960s, several thousand acres of the old camp neighboring Sanders Creek were transferred to the U.S. Corps of Engineers, which dammed the creek to create the Pat Mayse Lake reservoir (Campbell's Soup Company later built a large plant in the area partly because of this source of water). Even in its absence, the camp had helped Lamar County shift to a more balanced economy, as the Chamber of Commerce successfully used some of the same techniques it had

Figure 3-17. *Division headquarters building, still part of Emanuel Baptist Church in 1999*. Photo by John Leffler.

employed to attract the camp in the first place, to entice new industries to the area. By the early 1990s, Lamar County had over 6,000 industrial workers.[28]

In 1992, hundreds of people, including many men who had trained at Camp Maxey, gathered in Paris to celebrate the fiftieth anniversary of its opening. Old soldiers recounted their days at Maxey with a wistfulness mixed with humor; some of the most memorable days of their lives had been spent there. People from Lamar County, including Louis B. Williams, recalled the camp with fondness and pride. As part of the ceremonies, a Texas State historical marker was dedicated at the stone entrance to the camp, one of the few parts of the old facility that still remained standing.

Recommendations

The creation (and even the destruction) of Camp Maxey exemplified an extraordinary period in the history of northeastern Texas and the nation. Unfortunately, very few structures related to the original camp are still standing, and apparently all of them are so deteriorated, or have been so extensively renovated, that none would qualify for the National Register of historic buildings. The original Camp Maxey headquarters building, now being used as the headquarters for the Texas National Guard training facility, however, is so symbolically connected with the old Camp that it may be able to qualify for the National Register of historic places. This possibility should be explored.

In any case, Major Michael Diltz's commendable efforts to create a Camp Maxey Museum in the old HQ building should be strongly encouraged and supported. If the training facility should ever be closed, the HQ building should be preserved—and, if necessary, moved—to save an important link to a part of our past that is quickly fading away.

Endnotes

1. The 1870 U.S. census lists a William McEwin, farmer, aged 43, living in this vicinity with his wife Catherine and five children.

2. Before he died in 1858 Williams had a lifetime of notable accomplishments. He served several terms in the Texas House and Senate, and as a surveyor helped to plot much of the land in northern Lamar County. He also had a successful legal career, was a noted "land man," and served as a Lamar County Commissioner in 1854. Hicks et al. 1993:239–240; Neville 1996:990.

3. Land grant files, in Texas General Land Office, Austin [hereafter TGLO]: Williams Ragsdale Lamar files 15 and 16; Willard Stowell Red River file 316; Alfred Moore, Red River Dist. file 30; Samuel Worthington Lamar file 79; Robert Price Lamar file 19; William Ingram Red River file 19; Richard Graham Lamar file 25; Samuel Dalton Lamar file 79.

4. Willard Stowell land grant, Red River file 316, TGLO.

5. The path of this road is still clearly visible in the northern part of present-day Camp Maxey, especially just south of Pat Mayse Lake where the road runs past the Rich Hill Cemetery. Author's personal inspection, August 1999.

6. Information about land sale to Williams in John Dorsey land grant file, Red River file 417, TGLO. Date of movement deduced from death date of Matilda, buried in Sumner Cemetery, in Brothers 1999, Matilda Emberson record.

7. In Brothers 1999, cemetery records for Moses Sumner, Sarah Emberson, Marcus Sumner, and John Marshall Sumner.

8. In Brothers 1999, cemetery records for Jesse, Robert, Elizabeth, and Edward Green Caviness.

9. Hicks writes that Littlejohn had "many" slaves; my estimate is based on the number of black Littlejohns born in South Carolina before 1851, as listed in the 1870 Lamar County census.

10. Martha Jane Nixon homestead affidavit, Feb. 1877, in M.J. Nixon land grant file, Lamar file 160, TGLO; census information on Mary Jane Nixon family in 1870 Lamar County manuscript census.

11. Information drawn from my inspection of 1870 Lamar County manuscript census, compiled and indexed in Mary Claunch Lane, "The 1870 Lamar County, Texas Federal Census," loose-bound, compiled 1993. Location of black households drawn in part from Lamar County Police Court map of precincts of Lamar County in 1869 and from placement of these households in the census with known location of Mary Jane Nixon's.

12. Examination of 1870 census; personal inspection of cemetery, August 1999. The area was already known as "Rich Hill" when Littlejohn deeded the property; see deed from Louis Littlejohn, L.E. Littlejohn, et al. to United States of America, May 12, 1943, Lamar County Deed Records (hereafter LCDR) 264:422. Exhibit A to deed from United States to the Texas National Guard Armory Board, which listed properties connected to the community, mentions properties explicitly connected to the Rich Hill School, the "Colored Masonic Lodge" and two churches—a "Negro Church of God in Christ," and a "Negro Methodist Episcopal" church. By the 1930s, though, only one of these churches remained, and it is not clear whether both of them ever existed simultaneously. Additional and corroborating information from telephone interview with the Rev. C.H. Littlejohn. Deed dated August 10, 1951, in LCDR 325:420–426, Lamar County Courthouse, Paris. Rich Hill's cemetery was once enclosed by a cedarpost and wire fence that ran about fifty yards on each side; most of the graves were moved to the Littlejohn Cemetery in Paris (not to be confused with the Littlejohn cemetery in Chicota) in the 1960s, when the Corps of Engineers created Camp Maxey. Though no markers remain, there are very likely graves still in the area; Robert McKnight, who has worked at Camp Maxey for many years, remembers seeing at least two wooden crosses within the small wire enclosure that still stands within the site of the old cemetery; estimates that he has encountered evidence of at least 20–30 homestead sites in the vicinity, within the boundaries of the present Camp Maxey. Two of the people once (and perhaps still) buried at Rich Hill are known to be Carrie Littlejohn (d. July 28, 1909) and Effie Whaley (d. March 4, 1913). Robert McKnight interview; Brothers 1999, record for Rich Hill B Cemetery.

13. "Paris Industrial Report, 1909" (typescript in historical files of Mary Claunch Lane, Paris, Texas), p. 1.

14. Conclusions about the growing number of farms and backgrounds of settlers drawn from inspection of the Lamar County manuscript census returns for 1870, 1880, 1900, 1910, and 1920; Guy Morgan, "Paris and Lamar County," *Texas Magazine* 1:6 (Oct., 1909-April 1910), 76–77; James Hicks interview.

15. Though no census information can be found for Page, he, Mullins and Nixon were certainly illiterate—they all signed their homestead affidavits with an "X."

16. Affidavits in land grant files for C. Mullins (Lamar file 50), M. J. Nixon (Lamar file 160), and H. Page (Lamar file 51), TGLO; 1870 Lamar County manuscript census. Brothers 1999, record for Arthur May Page, Sr.

17. See William Owens, *This Stubborn Soil: A Frontier Boyhood,* 1986 [1966]). Owens grew up during the early twentieth century in and around the Pinhook community in northeastern Lamar County.

18. Jim Steely, "Camp Maxey" (Texas historical marker application essay, typescript dated April, 1992. This essay contains an excellent discussion of how Williams and the Chamber of Commerce worked to win the camp, and of the intense political competition they faced.

19. As it turned out, of course, the Pinhook area never became a part of the camp.

20. Exhibit A in Correction Bill of Sale and Deed without Warranty, United States of America to Texas National Guard Armory Board, August 10, 1951, LCDR 325:426–427. Forty-nine of these properties were acquired by the federal government through Declarations of Taking in 1942 and 1943. According to the document the records associated with the condemnations were filed with the U.S. District Court, Eastern District of Texas, Paris Division. My attempts to examine these documents were unsuccessful; clerks in that office and in the Lamar County Courthouse were unable to locate the documents or any reference to them.

21. *Paris News,* February 11, pp. 1, 10; unidentified newspaper clippings dated April 13, 1942 in Camp Maxey clippings file, Aiken Archives, Paris Junior College, Paris, Texas.

22. *Maxey Times*, May 5,1943; map of POW camp on 1944 Camp Maxey site plan map, in historical collection at Camp Maxey; Steely 1992:10. For other references to the POW camp at Camp Maxey see Mark Choate, *Nazis in the Piney Woods*, 1989; Arnold P. Kramer, "When the Afrika Corps Came to Texas," 1977:247–282; and Robert W. Tissing, "Stalag-Texas, 1943–1945: The Detention and Use of Prisoners of War in Texas During World War II*," Military History of Texas and the Southwest* 13:1 (Fall, 1976), 28–33.

23. "Year Ago Today, Construction was Started," undated clipping [Paris News?] and *Paris News*, Jan. 1, 1943, both clippings in Camp Maxey clipping file, Aiken archives.

24. Quote in *Paris News,* Feb 13, 1942, p. 3. John Morton *Blum's V Was For Victory: Politics and American Culture During World War II* (1976) contains excellent discussions of why the Roosevelt Administration felt it had to actively promote the war effort to ensure ongoing public support for the war, and looks at many of the methods that were employed to do so.

25. In an average month in 1943, about two percent of the soldiers in the camp were treated for venereal diseases; in June of 1943, 200 Paris women were being treated for venereal diseases in the clinics operated by the Paris-Lamar County Health Care Unit. *Antlers American,* March 25, 1943, clipping in Maxey file, Aiken Archives; *Maxey Times,* Sept. 17, 1943, April 30, 1943; June 18, 1943; July 23, 1943. By 1945, the Camp infection rate had dropped to about one percent per month.

26. *Paris News,* January 3, 1947, in Maxey file at Aiken Archives; Steely 1992:14; extended quote from "Crews Wreck Camp Maxey," an article published in the *Antlers American*, April [day illegible], 1948, clipping in Maxey file, Aiken Archives.

27. "Fort Maxey Nearer Final Disposal After 1949 Moves," undated, unidentified clipping in Maxey file, Aiken Archives. The deed to this property was revised in 1951. Deed from U.S.A. to Texas National Guard Armory Board, August 10, 1951, in LCDR 325:420–426, lists many properties now fit only for "surface use." Rumors about huge numbers of carbines and other weapons supposedly buried somewhere on the old camp are discussed in W. O. Chariton, "The Guns of the 49th Division," in Chariton et al. 1991:13–35.

28. Louis B. Williams interview on Camp Maxey Anniversary Celebration videotapes (5 tapes, July 1992), tape 1, in Aiken Archives; Steely 1992:15; Tyler 1996:942.

Newspapers (unbroken runs)

The Maxey Times, from April, 1943 to October, 1945.

The Paris News, from December, 1941 to March, 1942.

Personal Interviews

Diltz, Michael, Facility Manager, Fort Maxey, Texas, interviewed at Camp Maxey in October 1999.

Hicks, James R., of Paris, Texas, interviewed by telephone in December, 1999.

McKnight, Robert, civilian employee at Camp Maxey, interviewed at Camp Maxey in July 1999.

Lane, J. R., interviewed at his home in Paris, Texas, in October 1999.

Littlejohn, Rev. C. H., of Blossom, Texas, interviewed by telephone in October 1999.

Steely, Jim, interviewed in his office at the Texas Historical Commission, Austin, Texas in June 1999.

Chapter 4: Geomorphology and Geoarchaeology of Camp Maxey

Corey A. Crawford and Lee C. Nordt

Introduction

There were two geoarchaeological objectives within the Camp Maxey project area in north-central Lamar County. The first objective was to establish a general geomorphic and stratigraphic framework for the project area. Objective number two was to assess surface and buried preservation potentials of prehistoric archaeological sites.

Methods

Nineteen backhoe trenches were excavated to depths of 1 to 3 m, and four cutback exposures were examined to describe the soils and stratigraphy (Figure 4-1). Soil-stratigraphic descriptions were written following the procedures of the Soil Survey Division Staff (1993). Soil-stratigraphic columns of seventeen selected backhoe trench and cutbank profiles were constructed to illustrate the morphological and stratigraphic variation of geological units throughout the study area (see Figures 4-2 through 4-5).

Study Area

The Camp Maxey project area is situated on approximately 5000 acres in north-central Lamar County immediately south of Pat Mayse Lake. The tributary network consists of low-order creeks that flow northward towards the Red River. Pat Mayse Lake was constructed by the U.S. Army Corps of Engineers within the Sanders Creek basin.

Two Cretaceous geological formations are mapped within the project area (Barnes 1979). The Eagle Ford Shale (Kef) underlies the majority of the study area. This formation is comprised of gray clays and shales, that grade into channel sands to the east near the Lamar-Red River County line. The southern portion of the project area is underlain by the Bonham Formation (Kbo), a marl and clay unit with increasing sand content towards the east.

Approximately 1 km north of the project area, an area of Qt4 is mapped (Barnes 1979). This formation is a terrace of the Red River situated 110 to 120 feet (34–37 m) above the floodplain, at an elevation of 510 to 520 feet (155–159 m). Several areas east and west of the project area are mapped as Qt5 at elevations of about 560 feet (171 m). A majority of the project area lies within the elevations of these Red River terraces, and thus may contain erosional and depositional remnants of Pleistocene alluvial deposits of the ancestral Red River.

Geomorphology and Soils

Nordt and Bousman (1998) defined three geomorphic surfaces containing erosional and depositional elements within the project area. Within the current project area, two of these geomorphic surfaces are identified and discussed.

The oldest geomorphic surface (G2) is mapped between surface elevations of 500 to 540 feet (152–165 m). The Freestone Series coincides with this surface, where it is underlain by the Bonham Formation (Ressel 1979). The Freestone Series is classified as a fine-loamy, siliceous, thermic Glossaquic Paleudalf. The Whakana Series coincides with this surface where it is underlain by the Eagle Ford Shale. The Whakana Series is classified as a fine-loamy, mixed, thermic Glossaquic Paleudalf. Both the Freestone and Whakana are characterized by thick A-E-Bt horizons with fine sandy loam to loam A and E horizons and clay loam to clay Bt horizons.

The G2 geomorphic surface is also within the range of the Qt4 terrace of the Red River, 10 to 40 feet (3–12 m) above the modern entrenched stream valleys. Depositional elements are associated with several bogs

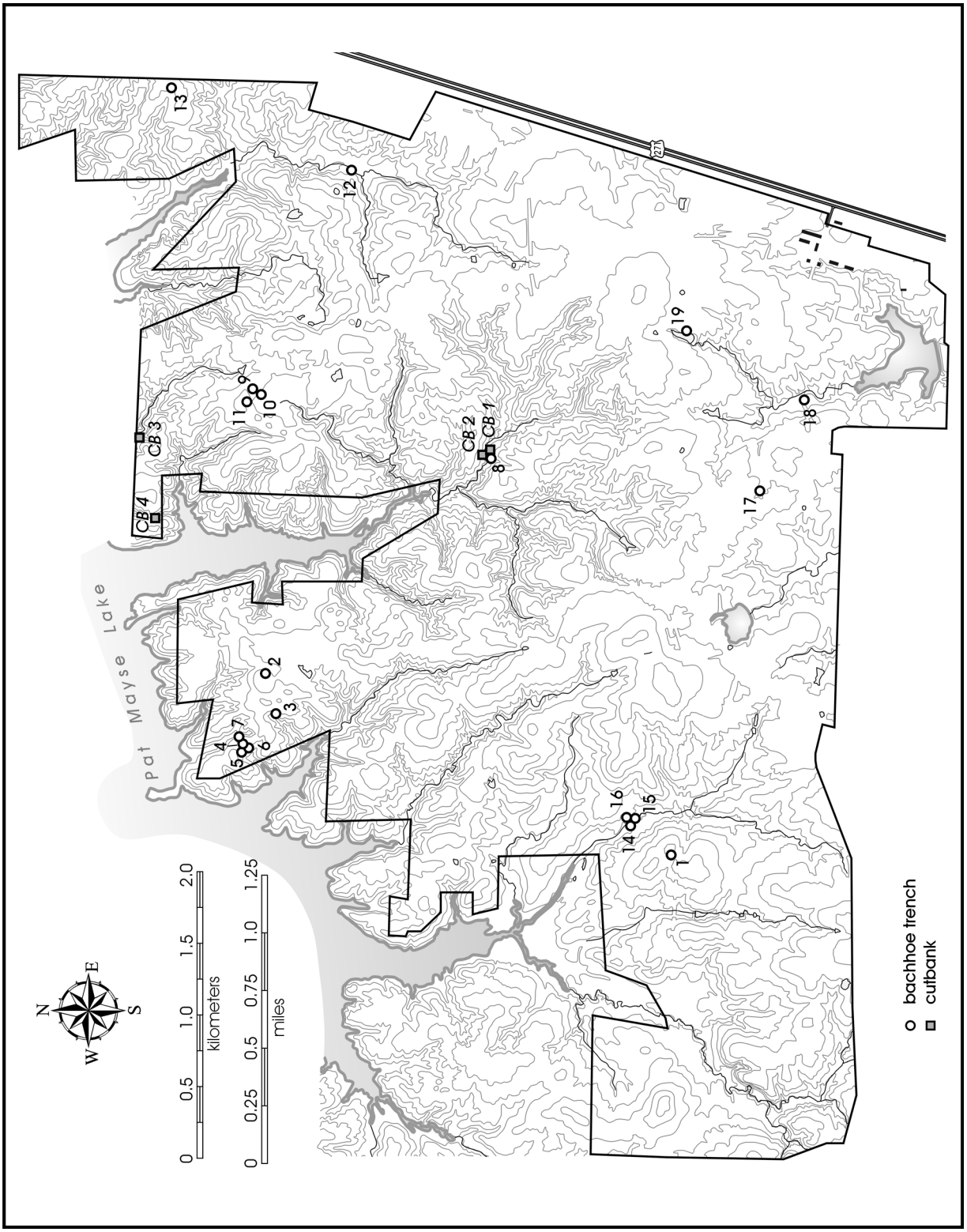


Figure 4-1. *Location of backhoe trenches and cutbanks investigated at Camp Maxey.*

and the terrace itself throughout the study area. This surface also contains erosional elements on steeper slopes. Based on stratigraphic position and degree of soil development, this geomorphic surface is most likely Pleistocene in age.

The youngest geomorphic surface (G3) typically occurs below elevations of 500 feet (152 m). This surface includes depositional elements such as the modern floodplains (frequently flooded surfaces) and flood terraces (intermittently flooded surfaces), and erosional elements on steep hillslopes grading into the flood terraces and floodplain. The Whakana Series is associated with the flood terraces and toeslopes in the northern portion of the study area. These surfaces are most likely the remnants of Qt4 terraces of the Red River. Soils in the southern portion of the project area on the G3 surface are mapped as the Lassiter Series (fine-silty, mixed, non-acid, thermic Aquic Udifluvents) and Annona Series (fine, montmorillonitic, thermic Vertic Paleudalfs) in the modern floodplains. The Lassiter Series is frequently flooded and is characterized by a shallow A-C profile sequence commonly underlain by a buried soil between depths of 50 and 100 cm (Ressel 1979). Texture ranges from silty loam to silty clay loam. The Annona Series is characterized by an A-E-Bt-Btss profile sequence with textures ranging from loam in the A and E horizons to clay in the Bt and Btss horizons. The Annona Series is described as a clayey upland or terrace soil, suggesting the modern tributary valley associated with this soil is comprised of strath terraces, upon which Holocene lateral accretion sediments have accumulated (Waters 1992).

Stratigraphy

Pre-Holocene

A Pre-Holocene unit was identified in each of the nineteen backhoe trenches (BHT) and four cutbank (CB) exposures in the project area (see Figures 4-1 through 4-5 and Appendix A). This unit is characterized by a gray clay (Bt, Btg, Btv) with reddish iron masses and plinthite overlain by a sandy mantle (A, E, Bw) in the uplands (BHTs-1, 11, 17, and 19) and Red River terraces (BHTs-4, 3, 9b, 10, and 13, CB-3 and CB-4) within the G2 geomorphic surface. Figure 4-2 presents a typical upland profile (BHT-1), while Figures 4-3 (BHT-4, CB-3) and 4-4 (BHTs-3, 9b, and 10) present examples of the Red River terraces. No evidence of eolian processes was observed within the G2 geomorphic surface. Due to elevated position and age of these upland and river terrace landforms, the Pre-Holocene soil profiles are most likely pedogenically formed from the weathering of the Eagle Ford Shale and the Bonham Formation.

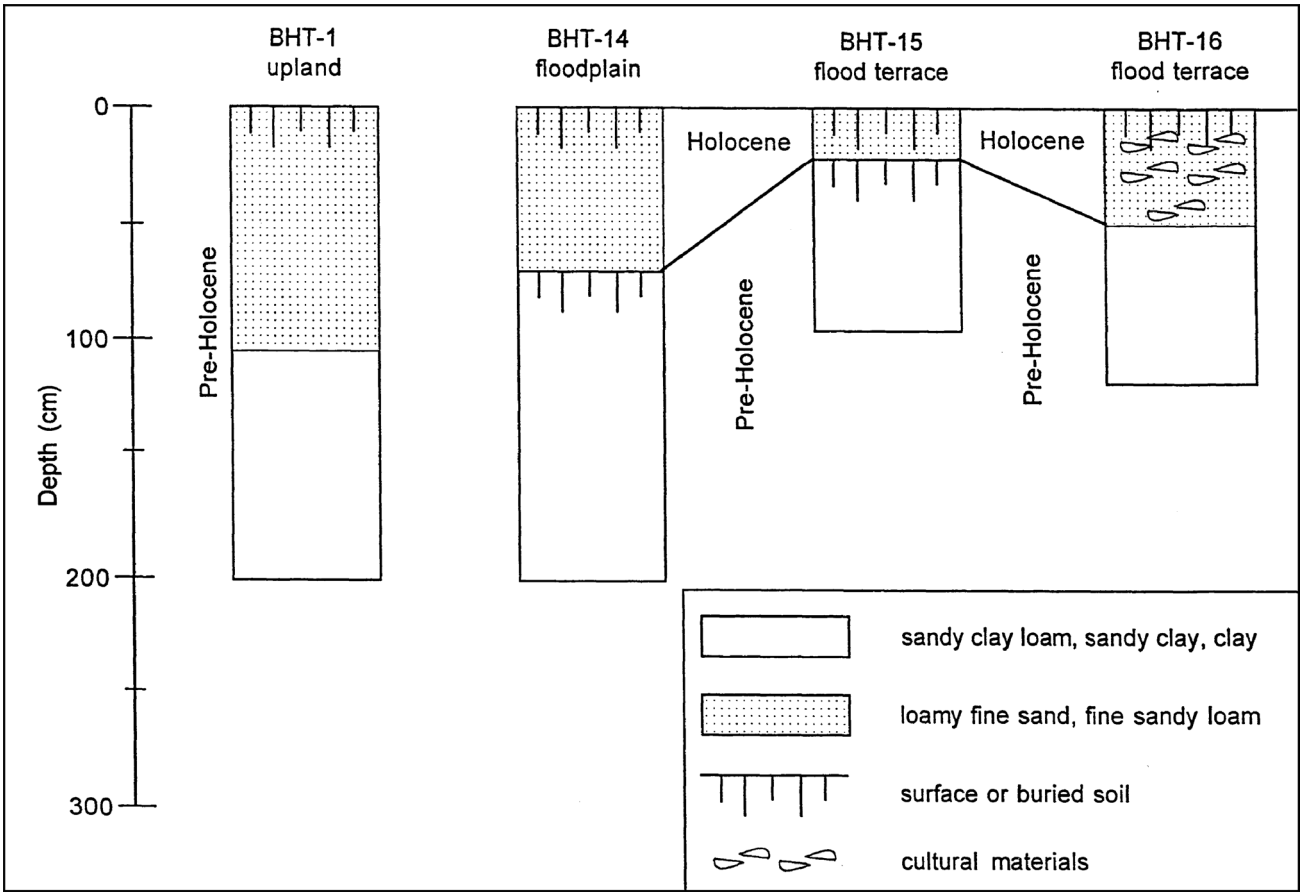
A buried river channel containing gravels was observed in CB-3, supporting the idea that some of these higher landforms are remnant Pleistocene terraces of the ancestral Red River (Figure 4-3). A thin, sandy Holocene unit caps several seasonal bogs (BHTs-2a, 2b, and 9b) within the G2 geomorphic surface (Figure 4-4). This unit is most likely colluvial in origin, derived from sediments from the river terraces surrounding the bogs.

Within the younger and lower G3 geomorphic surface, the Pre-Holocene unit is expressed as a truncated gray clay (Bt, Btg, Btv) with reddish iron masses and plinthite, similar to the G2 surface. The Pre-Holocene clay in toeslope positions within the G3 geomorphic surface is overlain by sands, which are most likely Holocene and of colluvial origin (BHTs-6 and 7, Figure 4-3). Within the floodplain and flood terrace positions associated with the G3 geomorphic surface, the Pre-Holocene clay is also probably overlain by Holocene sands that were most likely stream-transported. The sandy mantle associated with the older and higher G2 geomorphic surface is thicker than where it is associated with the G3 surface.

Holocene

With the exception of the seasonal bogs within the G2 geomorphic surface (BHTs-2a, 2b, and 9b, Figure 4-4), the Holocene unit was mapped primarily in the toeslopes, flood terraces, and floodplains associated with the G3 geomorphic surface (Figures 4-2, 4-3, and 4-5). Seasonal bogs (BHTs-2a, 2b, and 9b) on terraces within the G2 geomorphic surface appear to be capped by Holocene sands, which are most likely colluvial in origin.

Figure 4-2. *Backhoe trench (BHT) soil-stratigraphic profiles of BHT-1, BHT-14, BHT-15, and BHT-16.* See Figure 4-1 for locations.



The Holocene unit was observed as a brownish loamy fine sand to fine sandy loam in toeslope positions (BHTs- 6 and 7, Figure 4-3), flood terraces (BHTs-16 and 8, CB-1, and CB-2 [not pictured], Figures 4-2 and 4-5), and narrow floodplains (BHT-14, Figure 4-2). In the toeslope positions the sandy Holocene unit is most likely colluvial in origin, formed by gravity-driven sediments originating upslope. The Holocene unit associated with flood terraces was probably formed from stream-transported sands deposited during substantial flood events. On the broad floodplains (BHT-12) the Holocene unit is expressed as a veneer of sandy clay loam or sandy clay underlain by a partially scoured, Pre-Holocene A-E-Bt sequence (Figure 4-5). However, along the drainage into Lamar Lake, Historic interbedded clay and sand layers to a depth of 134 cm (BHT-18) were observed in the floodplain (Figure 4-5). These depositional horizons are thought to be associated with the construction of flood control levees along this drainage. The Historic unit caps a veneer of clay, underlain by a partially scoured A-E-Bt sequence similar to that observed in BHT-12 (Figure 4-5).

Landscape Evolution

The earliest evidence of landscape construction within the project area occurred in response to fluvial deposition and construction of the Qt4 terrace of the Red River (Figure 4-1; BHT-4, Figure 4-3; BHT-3, Figure 4-4). The majority of the G2 surface is associated with the Qt4 terrace, which based on stratigraphic position and degree of soil formation, appears to be Pleistocene in age. The soils typically consist of loamy fine sand A and E horizons over well developed, clayey Bt horizons. Both layers appear to be pedogenically related.

During construction of the Qt4 floodplain, the Red River crosscut the higher G1 geomorphic surface to the south of the project area, creating gentle slopes that now grade into the Qt4 terrace. The origin of the bogs on the Qt4 terrace is unknown, but they may be vestiges of paleo-channels or floodplain depressions that formed in association with the Qt4 floodplain during the Pleistocene (BHTs-2a, 2b, 9b, and 10, Figure 4-4).

Some time during the latter part of the Pleistocene a major episode of channel entrenchment occurred in the project area creating the modern tributary valleys and the G3 geomorphic surface (BHTs-14, 15, and 16, Figure 4-2; BHTs-4, 5, 6, and 7, Figure 4-3; BHTs-8, 12, and 18, and CB-1, Figure 4-5). The first period of landscape stability occurred with the construction of flood terraces within the modern valleys three to five feet above the modern channel thalwegs. Soils on the flood terraces have loamy fine sand and fine sandy loam A and E horizons over well developed sandy clay loam and sandy clay Bt horizons similar to the Qt4 terrace. However, because this flood terrace is probably intermittently flooded and because steep hillslopes grade into the terrace, it is possible that A and E horizons (sandy mantle) are Holocene, and not pedogenically related to the underlying Bt horizons. The Bt horizons are still assumed to be Pleistocene truncated. The steeper hillslopes and toeslopes grading into the flood terraces contain a sandy mantle that in places is also probably Holocene. The underlying Bt horizons are again assumed to be Pleistocene.

The last period of landscape development occurred with the formation of the modern floodplains following another period of channel downcutting. The floodplains typically occur less than three feet above the modern channel thalwegs. Floodplain deposits consist predominantly of loamy fine sands and fine sandy loams (BHT-14, Figure 4-2; BHTs-12 and 18, Figure

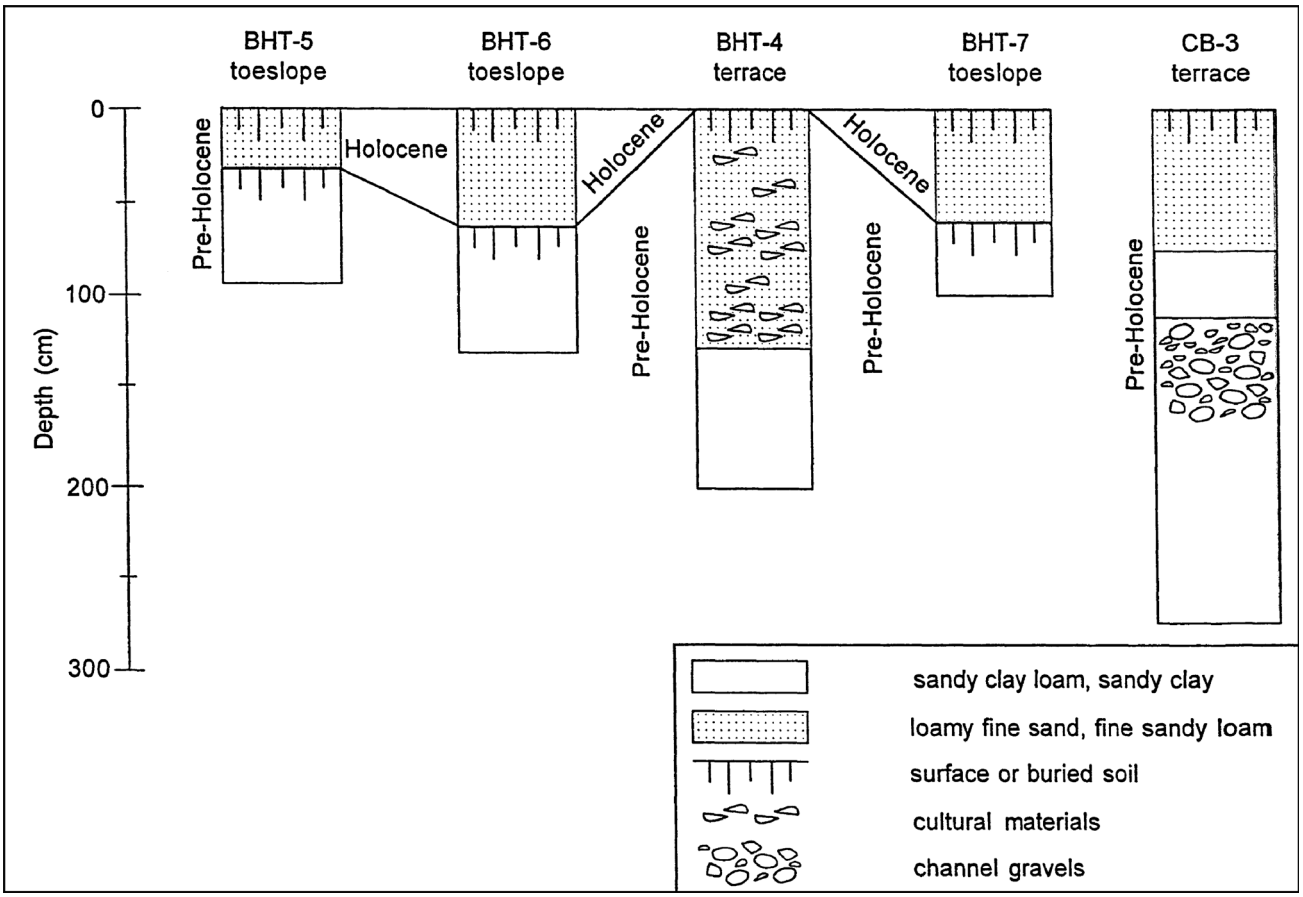


Figure 4-3. *Backhoe trench (BHT) and cutbank (CB) soil-stratigraphic profiles of BHT-5, BHT-6, BHT-4, BHT-7, and CB-3.* See Figure 4-1 for locations.

4-5). Sandy clay loam and sandy clay deposits (BHTs-12 and 18, Figure 4-5) were also observed within the broader floodplains. These depositional components of the floodplains are most likely Holocene in age, and are underlain by scoured, presumably Pleistocene Bt horizons.

Colluvial deposition was occurring around the margins of the seasonal bogs on the Qt4 surface during the Holocene as illustrated by the presence of buried soils along and within the outer parameter of the bogs (BHTs-2a, 2b, and 9b, Figure 4-4). The sandy unit that buries these soils probably originated along the rims of the bogs, and most likely pinches out towards the center of the bogs.

Geoarchaeological Research Issues

Among the most controversial issues in east Texas, is whether prehistoric sites can occur in a primary context within the so-called sandy mantle (Perttula et al. 1986; Thoms 1993; Waters and Nordt 1996). The dominant characteristics of the sandy mantle as outlined in Nordt and Bousman (1998) include: **1)** A-E soil horizons; **2)** an abrupt to clear, and irregular to smooth, textural boundary between the upper sandy mantle and the underlying Bt (clay-enriched) horizon; **3)** varying thickness and sometimes irregular ground surface of the sandy mantle; **4)** water worn siliceous gravels in the sandy mantle (A-E) but not in the underlying clay layer; and **5)** cultural materials in the sandy mantle but not in the underlying clay horizons.

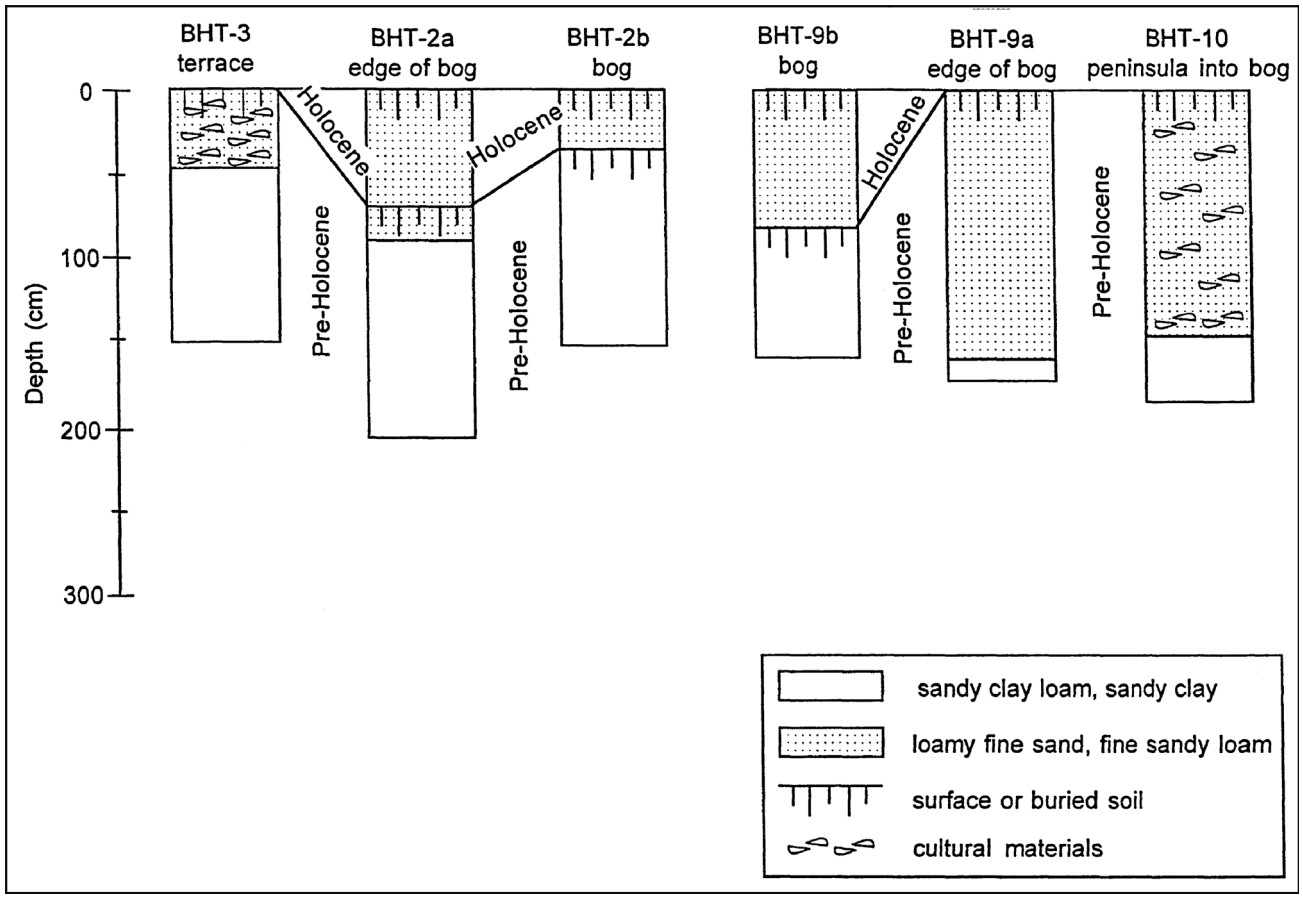
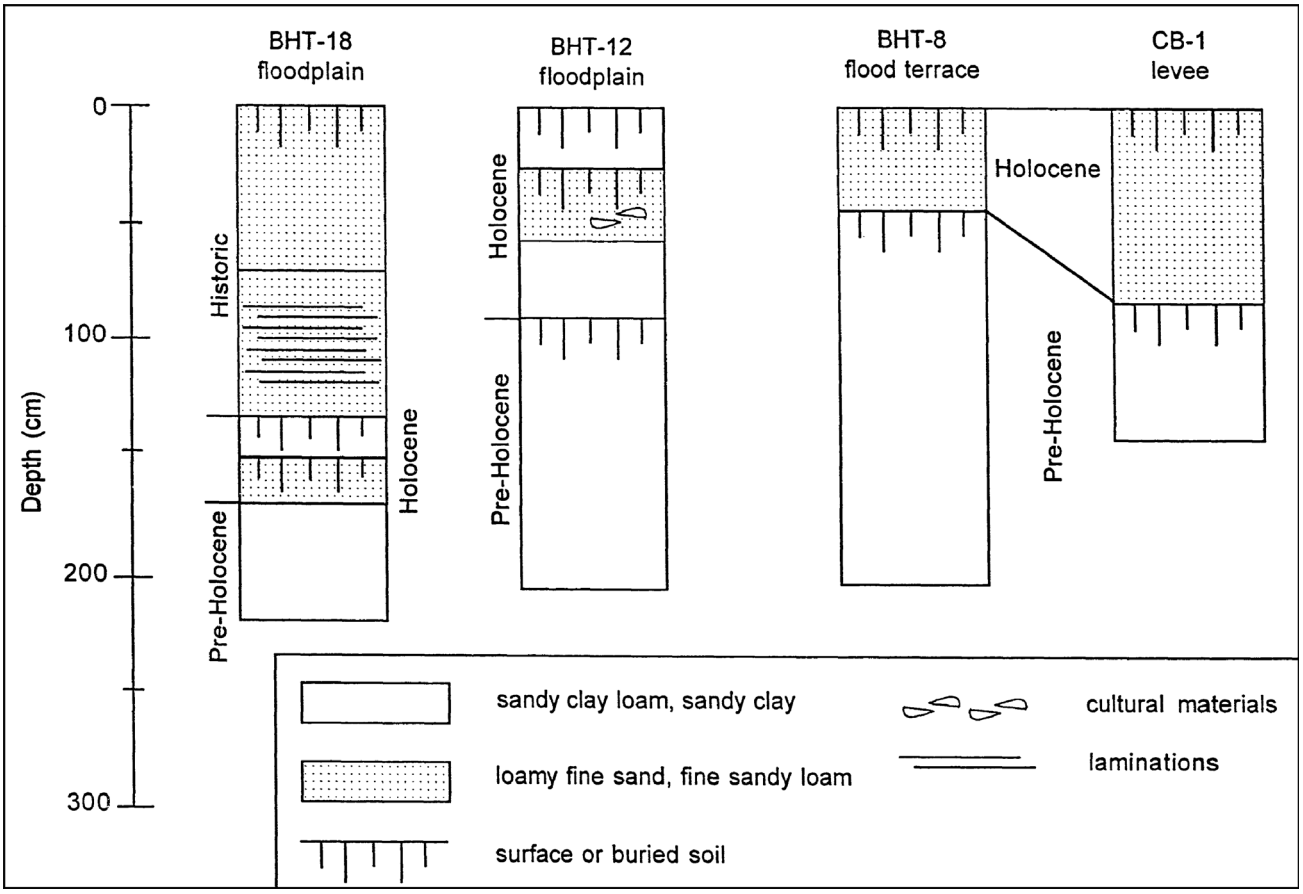


Figure 4-4. *Backhoe trench (BHT) soil-stratigraphic profiles of BHT-3, BHT-2a, BHT-2b, BHT-9b, BHT-9a, and BHT-10.* See Figure 4-1 for locations.

Figure 4-5. *Backhoe trench (BHT) and cutbank (CB) soil-stratigraphic profiles of BHT-18, BHT-12, BHT-8, and CB-1.* See Figure 4-1 for locations.



Three models on the origin of the sandy mantle are currently accepted. The first, the pedogenic model, maintains the sandy mantle and underlying clay-enriched horizons were created by pedogenic processes (eluviation and illuviation) forming the characteristic A-E-Bt horizons (Waters and Nordt 1996). The A-E (eluvial) horizons were formed by the translocation of clay, sometimes in the form of lamella, down the profile. The clay lamella increase in size and frequency with depth, and eventually coalesce to form the Bt (illuvial) horizons. The pedogenic model argues the sandy mantle and underlying clay-enriched horizons formed as a result of pedogenesis and are therefore the same age. In this model all buried cultural materials are assumed to be in a secondary context, worked down through the profile by pedogenic processes (pedoturbation). Apparent stratigraphic cultural sequences within the sandy mantle may in fact be "reconstituted" due to pedoturbation of surface occupations over extended periods of time (Thoms 1993).

The second model, the depositional model, maintains that the sandy mantle is a depositional unit (Waters and Nordt 1996). Following this model, prehistoric occupation sites were buried within the sandy mantle by colluvial and eolian depositional processes during the Holocene. This model has been validated, in part, by the presence of *in situ* cultural features (Rodgers 1994) and buried A horizons (as evidenced in this study; BHT-2a, Figure 4-4; BHTs-12 and 18, Figure 4-5). At some sites erosional features such as gullies and small-scale escarpments have also been buried by the sandy mantle (Thoms 1993). The depositional model asserts buried sites can occur in a primary context within the sandy mantle.

The third model, the graviturbation model has been suggested by Thoms (1993). This model is a synthesis of the pedogenic and depositional models. The graviturbation model maintains that over time the sandy mantle slowly moves across the landscape due

to gravity and turbation processes, while the underlying Bt horizons form as clays are simultaneously translocated down the profile. Thoms (1993:78) characterizes the graviturbation model as follows: the sandy mantle on landform crests (uplands) are typically thin; most well-developed Bt horizons are on hill crests; there are lithological and mineralogical similarities in the sand fraction between the A, E, and Bt horizons; clay lamella may form the Bt horizons; and there is evidence of "reconstituted" cultural stratigraphy.

Within the Camp Maxey project area, the pedogenic model seems to apply to the uplands (BHT-1, Figure 4-2; BHT-11, and BHTs-17 and 19 [not pictured]) and Red River terraces (BHTs-4, 3, 9b, 10, and 13, CB-3, and CB-4, Figures 4-2 through 4-4). Due to the higher elevation, and absence of super adjacent hillslopes, these landforms have been unaffected by colluvial processes. Furthermore, no evidence of eolian processes were observed within these landforms. Thus, the uplands and terraces are presumably pedogenically formed and uniformly Pre-Holocene in age.

The depositional model seems to apply to the sandy mantle that buries the seasonal bogs or marshes (BHTs-2a, 2b, and 9b, Figure 4-4) toeslopes (BHTs-6 and 7, Figure 4-3), flood terraces (BHTs-16 and 8, CB-1, and CB-2 [not pictured], Figures 4-2 and 4-5), and floodplains (BHTs-14, 12, and 18, Figures 4-2 and 4-5) within the project area. Depositional units in the seasonal bogs and toeslope positions are most likely colluvial in origin, while depositional units within the flood terraces and floodplains are presumably stream-derived. All depositional units are assumed to be Holocene in age.

Geoarchaeology

As previously stated, the position of the uplands (BHT-1, Figure 4-2; BHT-11 and BHTs-17 and 19 [not pictured]) and Red River terraces (BHT-4, CB-3, Figure 4-3; BHTs-9b and 10, Figure 4-4; BHT-13 and CB-4 [not pictured]) suggests that the associated sediments are stable, pedogenically altered to A-E-Bt profiles, and most likely Pre-Holocene in age. Consequently, a palimpsest of cultural materials spanning all of Texas prehistory may be present on these geomorphic surfaces. Cultural materials have been pedoturbated into the sandy mantle (A-E) associated with several terraces throughout the project area (BHTs-4, 3, and 10, Figures 4-3 and 4-4). The prospect of finding deeply stratified cultural materials below the sandy mantle-clay contact (E-Bt) is highly unlikely because the clay is resistant to pedoturbation, and presumably Pre-Holocene in age. The highest probability for finding buried cultural materials is most likely within the Red River terraces associated with the G2 geomorphic surface as illustrated by the high density of cultural materials within the associated deposits (BHTs-4, 3, and 10, Figures 4-3 and 4-4). However, any buried cultural materials contained within the Red River terraces and uplands within the deposits of G2 geomorphic surface most likely occur in a secondary context as a result of pedoturbation.

Cultural materials associated with the G3 geomorphic surface are most likely confined to the brownish sandy mantle units associated with the toeslopes (BHTs-15, 6, and 7, Figures 4-2 and 4-3), flood terraces (BHT-16, Figure 4-2; BHT-8 and CB-1, Figure 4-5; and CB-2 [not pictured]), and floodplains (BHT-14, Figure 4-2; BHTs-12 and 18, Figure 4-5).

Within toeslope positions (BHTs-6 and 7, Figure 4-3), cultural materials will most likely occur in a secondary context within the sandy mantle (A-E horizons), transported downslope by colluvial processes. Furthermore, it is possible these materials may have been pedoturbated after primary deposition on toeslope surfaces. It is plausible buried cultural materials could occur in a primary context within the toeslope position, if a site was initially on a toeslope position and then buried by colluvium from the super adjacent slope. However, no surface or buried cultural materials were observed in toeslope positions within the project area. The prospect of finding deeply stratified cultural materials below the sandy mantle-clay contact (E-Bt) is highly unlikely.

Surface and buried cultural materials associated with flood terraces (BHT-16, Figure 4-2; BHT-8 and CB-1, Figure 4-5; CB-2 [not pictured]) throughout the project area most likely occur in a secondary context. Any buried cultural materials within the Holocene

sandy mantle (A-E horizons) have probably been pedoturbated. However, it is still possible buried sites may be present in a primary context in some areas within the sandy mantle (A-E) associated with the flood terraces. Again, the prospect of finding deeply stratified cultural materials below the sandy mantle-clay contact (E-Bt) is highly unlikely.

Surface and buried cultural materials associated with floodplains (BHT-14, Figure 4-2; BHTs-12 and 18, Figure 4-5) throughout the Camp Maxey project area most likely have been stream-transported, or transported by colluvial processes. It is possible buried sites may occur within the sandy mantle (A-E) within the floodplains, but in some areas pedoturbation processes have probably altered contextual integrity. There is a high probability that historic materials may be recovered to a depth of 150 cm within the floodplain associated with the construction of flood control levees above Lamar Lake (BHT-18, Figure 4-5).

Conclusions

Future research within the project area incorporating dating techniques (radiocarbon assays, optical thermoluminescence) and/or pedological analytical techniques (mass balance reconstruction, thin-section analysis), may lend further insight into the ages and origins of the landforms within the Camp Maxey project area. Chronological information provided in this report should be considered tentative.

Chapter 5: Previous Archaeological Research and Historic Context

Timothy K. Perttula

Previous Archaeological Research

Camp Maxey is situated near the headwaters of several small streams that drain into Sanders Creek, a northward-flowing tributary of the Red River. Archaeological research in the middle reaches of the Red River, in the western portions of the Northeast Texas Archeological Region (Kenmotsu and Perttula 1993), has been ongoing since the early 1900s, but unfortunately the research has been relatively sporadic in the immediate vicinity of Camp Maxey (see Kahl et al. 1999; Story 1990). In this chapter, the history of previous research in the Camp Maxey area will be discussed, focusing on the 1960s investigations of several prehistoric sites prior to the construction of Pat Mayse Lake (Lorrain and Hoffrichter 1968; Shafer 1965), followed by a review of the native history of this part of northeast Texas. Because of the nature of research in the area, this review will concentrate on the last 2,000 years of prehistoric settlement of the middle Red River area, as this period is well known by comparison to the preceding 10,000 years.

Prior to the archaeological work conducted at Pat Mayse Lake, just north of Camp Maxey, prehistoric and historic Caddoan research in the general area consisted of early 1930s investigations at the important T.M. Sanders mound site (41LR2), at the mouth of Bois d'arc Creek and the Red River (Jackson et al. 2000), and the early historic Womack site (41LR1) at Garrett's Bluff, both by the University of Texas (Guy 1990:Table 3). Dallas Archeological Society members also worked at Sanders, excavating a multiple burial in the burial mound (see Guy 1990:45; Hamilton 1997), and documenting burials and other features at Womack (Harris et al. 1965). In 1946, Alex D. Krieger synthesized the findings from the Sanders site in conjunction with an overview of Caddoan archaeology in northern Texas (Krieger 1946).

Investigations at Pat Mayse Lake were conducted by The University of Texas (Shafer 1965) and Southern Methodist University (Lorrain and Hoffrichter 1968) in 1965 and 1967, respectively. A total of 23 prehistoric sites were recorded during the work along Sanders Creek and tributaries, most of them of either Woodland (ca. 200 B.C.–A.D. 800) and Caddoan (postdating A.D. 800) age, but significant Archaic and Paleoindian artifacts and/or deposits were also present at several of the sites. The Archaic deposits include middens with discarded and broken tools, fire-cracked rocks, and other items.

The 1967 excavations by Lorrain and Hoffrichter (1968) examined nine sites on upland (Emberson [41LR10], Charles Watson [41LR25] and Cundleff [41UR29]), floodplain rise (Snapping Turtle [41LR11], Charles Price [41LR12], and Gold Bug [41LR13]), and low terrace (Drowned Head [41LR27], Weekend Warrior [41LR31], and Water Snake [41LR32]) landforms in the Sanders Creek valley. Although the work was not extensive (only a total of 81 m^2, 16 backhoe trenches, and two small machine-scraped areas were completed at the nine sites), Lorrain and Hoffrichter (1968) did document a fairly intensive use of the Sanders Creek valley in the Woodland, Early Caddoan, and Middle Caddoan periods. The Caddoan settlements appear to be closely affiliated with communities to the north a few miles away on the Red River.

These components, particularly the Caddoan occupations, appear to be residential in nature (either seasonal or year-round), with midden deposits, and/or baked clay concentrations from hearths and/or collapsed house walls, although no structures were defined during the limited work. The recovery of bison bones at the Gold Bug and Weekend Warrior sites in apparent ca. A.D. 900-1300 Caddoan midden contexts

indicates exploitation of the meat and/or hides of this important prairie resource by Caddoan hunters. At the Drowned Head site, however, a Late Archaic component with a shallow midden was identified with a basin-shaped hearth and much fire-cracked rock.

In Camp Maxey itself, archaeological efforts have been limited to a few cultural resource management survey projects associated with proposed developments and ground-disturbing activities on the Texas Army National Guard facility. Corbin (1992) completed a survey of an 8.8 mile pipeline that bisected the facility and documented several prehistoric and historic sites, including 41LR137, which has a Paleoindian component. Structural remains associated with the use of Camp Maxey during World War II were recorded as 41LR139. Three small surveys have subsequently been conducted by archaeologists from the Adjutant General's Department of Texas (AGD) in 1993, 1997, and 1998 (Adjutant General's Department 1993, 1997; Sullo and Stringer 1998), and four historic late nineteenth to early twentieth-century sites with cisterns (41LR145-41LR148) were recorded. Most recently, AGD archaeologists have investigated an apparent Early to Middle Caddoan period prehistoric residential site (41LR170) on Camp Maxey and Corps of Engineers Tulsa District lands at Pat Mayse Lake (Shellie Sullo, 1998 personal communication), and 1,000 acres was surveyed by the Center for Archaeological Research, The University of Texas at San Antonio (Nickels et al. 1998). During the course of an Archaeological Resources Protection Act investigation at a looted archaeological site on an island at Pat Mayse Lake, significant information has been obtained by U.S. Army Corps of Engineers, Tulsa District archaeologists on a Woodland and Early Caddoan occupation near the Camp Maxey II archaeological survey (Todd McMackin, January 2000 personal communication).

Historic Context

Paleoindian

This part of northeast Texas was settled first by mobile hunter-gatherers as early as 12,000 years ago (the Paleoindian period), and used by Archaic foragers for millennia (Fields and Tomka 1993). Much of what is known about these periods comes from the study of lithic tools and lithic raw materials found in surficial, mixed, and multicomponent sites across the region, as discrete Paleoindian components in this area have been difficult to recognize and define.

The wide dispersion, but relatively sparse archaeological record, of Paleoindian artifacts on many different landforms suggests that the Paleoindian groups were very mobile hunters and gatherers rather than specialized hunters of extinct megafauna (Fields and Tomka 1993:82). Although mixed with other materials, the Snapping Turtle site (41LR11) on Sanders Creek has a fairly substantial Late Paleoindian tool assemblage of Dalton and Plainview points, Quince-style bifacial scrapers (Lorrain and Hoffrichter 1968:Figure 9a-m), and a drill.

Early Archaic

Although evidence of the Early Archaic occupations is rather limited from northeast Texas, it appears that group mobility remained high for hunting-gathering foragers during this period, and group territories were large and poorly defined, with most sites conforming to what Thurmond (1990:41) called "heavy" and "limited-use" areas; that is, repeated and recurrent occupations by small groups. Anderson (1996) suggests that such Archaic groups had highly mobile foraging adaptations along the Red River, with expedient lithic technologies. Most sites of this age were briefly used, but tended to concentrate in the larger drainages within the region.

Middle Archaic

By the Middle Archaic period, fairly substantial and extensive occupations are recognized within the major basins, with a rather limited use of smaller tributaries and headwater areas. Burned rock features (possible hearths, ovens, and cooking pits) and burned rock concentrations are present in Middle Archaic contexts at a few sites in the Sulphur River drainage (see Cliff et al. 1996; Fields et al. 1997), suggesting that an important activity was the cooking and processing

of plant foods. Lithic raw material data from a possible Middle Archaic assemblage at Lake Fork Reservoir in the upper Sabine River basin indicates that the exchange of non-local materials (particularly finished tools) was commonplace, although "patterns in raw material use were not uniform across Northeast Texas" (Fields and Tomka 1993:92). Girard's (2000) recent investigations of the Conley site on Loggy Bayou, a tributary of the Red River in northwestern Louisiana, indicates that substantial residential settlements of Middle Archaic age are preserved in the region. His work documented a buried archaeological deposit that extends for more than 100 m in the cutbank, and the deposit contains numerous pit features, three human burials, and a dense midden with a large and diverse assemblage of faunal remains. A radiocarbon date of cal 7500–7635 B.P. has been obtained on the charcoal in the midden.

Late Archaic

Late Archaic sites are widely distributed in the Pineywoods and Post Oak Savanna of northeast Texas, occurring along the major streams, near springs, on spring-fed branches, upland ridges, and on tributary drainages of all sizes. In fact, the distribution of Late Archaic sites suggests these groups moderately to extensively used almost every part of the region, and in particular, major concentrations of Late Archaic sites have been noted along the Red and Little Rivers in southwest Arkansas and northwest Louisiana (Anderson 1996). Similar densities of Late Archaic sites can be expected in the Red River valley in northeast Texas. Some Late Archaic occupations contain earthen middens (for example, the Yarbrough site along the Sabine River; see Johnson 1962), but sites of this age generally contain burned rock features and/or concentrations of burned rocks, as well as small pits.

Recently, however, Schambach (1993a, 1993b, 1995, 1997, 1999a, 1999b) has suggested that traders from Spiro in the Arkansas River valley of eastern Oklahoma "established and maintained an entrepot at Sanders [41LR2, at the mouth of Bois d'arc Creek and the Red River] for the purposes of obtaining Osage orange bows from the Caddo in exchange for Mississippian prestige goods" (Schambach 1999a:170). Furthermore, these Arkansas Valley Spiroan traders are thought to have been Tunican peoples (Schambach 1993a:221–224), not Caddoan. He further suggests that the best, if not the only, native stand of Osage orange wood was in the bottomlands of Bois d'arc Creek (Schambach 1999a:171), although Early et al. (1999) cast doubt on this assertion through their documentation of Osage orange wood used in a ca. A.D. 1450–1500 Caddo structure in the Ouachita Mountains of southwestern Arkansas, more than 150 miles east of the Sanders site.

These settlement data are compatible with higher population densities during the Late Archaic, more limited group mobility, the possible establishment of delimited territorial ranges, and an economy based on the hunting and gathering of local food resources. No paleobotanical evidence is available that indicates the Late Archaic populations in northeast Texas cultivated native plant species (such as sumpweed, sunflower, and chenopod), as was the case ca. 2,000–3,000 years ago in many parts of eastern North America (Fritz 1994:25–27). Nutshells and prairie turnips are documented in Late Archaic components along the lower Sulphur River, however (Cliff et al. 1996). The high use of local lithic raw materials during the Late Archaic speaks to a more confined interregional interaction at this time (Fields and Tomka 1993; Perttula and Bruseth 1995).

About 2,000 years ago, during the Woodland period along the Red River in northeast Texas, however, the prehistoric Native Americans living in the middle reaches of the Red River basin began to settle down in small hamlets and camps dispersed across recognizable territories (Perttula et al. 1993; Schambach 1982). These Native American groups made thick and plain grog-tempered pottery, and used Gary and Kent dart points for hunting and other tasks (Story 1990). About A.D. 700, these groups began to make and use small stemmed arrow points for hunting. One of the better known late Woodland sites in the region is the Ray site (41LR135), situated on a small terrace of Nolan Creek, a tributary of Big Pine Creek in the Red River basin (Bruseth 1998:53). Excavations there document that the site was a "small hamlet occupied by one or two families for a few generations" (Bruseth 1998:55), with house patterns and trash midden

deposits, mainly plain grog-tempered ceramics, Gary points, and an abundance of Homan arrow points.

Late Prehistoric/Early Historic

The principal occupation of Red River and Lamar counties in prehistoric and early historic times (up to about A.D. 1800) was by Caddo-speaking groups (specifically the Kadohadacho and affiliated groups) that lived in settled horticultural and agricultural communities (principally farmsteads and small hamlets). Larger villages were also situated along the Red River during much of the prehistoric and early historic era along the Red River (see, for example, Bruseth 1998:55–62; Perttula 1992; Story 1990). The current chronology of Caddoan periods and phases in the middle Red River valley is provided in Table 5-1.

Caddoan Archaeological Sites

Caddo archaeological sites in the region are known to be located on elevated landforms (alluvial terraces and rises, natural levees, and upland edges) adjacent to the major streams, as well as along the minor tributaries and spring-fed branches. They are also located on or in proximity to arable sandy loam soils, presumably for cultivation purposes. These Caddo groups were powerful theocratic chiefdoms that built mounds for political and religious purposes and functions, traded extensively across the region and with non-Caddoan-speaking groups, and, in certain settings, developed intensive maize-producing economies (see Perttula 1996b).

Formative Caddoan sites along the Red River are common in the main valley and tributaries of the river, and are also present in the southern flanks of the Ouachita Mountains (Bruseth 1998:Figure 3-7). Settlements comprise villages, hamlets, and single households, and an occasional village (such as the A.C. Mackin and Arnold Roitsch sites) has a house and/or burial mound. Also present at the larger villages are substantial cemeteries (as at Cemetery No. 2 at the Holdeman site, with more than 30 burials), and the Bentsen-Clark site (Banks and Winter 1975) contains two large shaft tombs with numerous grave goods. Common kinds of grave goods include arrow point quivers, large chipped bifaces, celts, long-stemmed clay pipes, and Spiro Engraved, Holly Fine Engraved,

Table 5-1. Periods and Phases in the Middle Red River Valley*

Period	Phase	Time
Formative Caddoan	—	A.D. 900–1100
Middle Caddoan	Sanders	A.D. 1100–1300
Late Caddoan	early McCurtain	A.D. 1300–1500
	late McCurtain	A.D. 1500–1700
Historic Caddoan	—	A.D. 1700–1730+

* After Bruseth 1998:Figure 3-4

Crockett Curvilinear Incised, Kima Incised, Pennington Punctated Incised, East Incised, and other decorated and plain vessels (Bruseth 1998:57 and Table 3-1).

Middle Caddoan period sites in the middle Red River valley of northeast Texas may have cultural affiliation with the Sanders focus originally recognized by Krieger (1946) at the Sanders site. Such components are distributed in the middle Red, Kiamichi, and Upper Sabine River basins of southeast Oklahoma and northeast Texas (see Bruseth et al. 1995:Figure 3). In the middle Red River valley, components at key sites include the A.C. Mackin (41LR36), Fasken (41RR14), Roitsch (41RR16; previously known as the Sam Kaufman site), Dan Holdeman (41RR11), T. M. Sanders (41LR2), and Harling (41FN1) sites (Bruseth 1998; Mallouf 1976).

Middle Caddoan period settlements along the middle Red River include dispersed farmsteads and hamlets with structures, middens, and cemeteries, as well as large communities such as the Roitsch and Holdeman sites with single and multiple mounds; these include substructure mounds, flat-topped platform mounds, and burial mounds (see Hamilton 1997; Perino 1995). Sites may have had from one to as many as three mounds at the larger communities or villages.

Burials in mound and non-mound contexts were typically in extended supine position, with large numbers of grave goods in association. At the Holdeman site, for example, Middle Caddoan period burials contained an average of 6.5 grave goods, mainly ceramic vessels, per individual (Perttula 1995:Table 1), with even more substantial grave good associations (shell conch dippers, gorgets, bone beads, projectile points, and ceramic vessels) from Class I and II elite or high status burials at the Sanders site (Hamilton 1997:Table 2). The mortuary component at the Sanders site also includes plain and engraved shell gorgets, dippers, beads, triangular inlays, and conch pendants, as well as bone beads, pigments, and copper-covered siltstone earspools (Krieger 1946:202–203). Green pigments were a common inclusion in Middle Caddoan period burials at the Holdeman site (Perttula 1995:Table 6).

Regarding the subsistence pursuits of the Middle Caddoan populations in the middle Red River valley, tropical domesticates (maize) are present in archaeological context. Stable carbon isotope data from the Holdeman and Sanders sites suggests that the dependence on maize was not uniform, and ranged from an apparently high dependence at Sanders (Wilson and Cargill 1993), but not necessarily so at Holdeman ca. A.D. 1200. At Sanders, for instance, stable carbon isotope values from three skeletons in Burial 17 range from -9.99 ‰ to -12.98 ‰. The calibrated ages of two other skeletons in Burial 17 (Darrell Creel, 1998 personal communication) are A.D. 1161 and 1212 (CALIB 4.1, Beta 3, 1999, see Stuiver et al. 1998), and at two sigma, the burials overlap in time between A.D. 1147-1279, squarely in the Middle Caddoan period. Assuming that stable carbon isotope values of -20.00 ‰ represent a diet based on the 100 percent consumption of non-maize terrestrial plants and non-bison animals, while values of -8.00 ‰ represent a diet of 100 percent maize and/or bison foods (see Schoeninger et al. 2000:69), the isotope values from Sanders suggest that maize and/or bison comprised 58–85 percent of the diet of those individuals. Dental paleopathologies at the Sanders site confirm the fact that the Sanders population had a carbohydrate-rich diet (Wilson 1997), and caries are also common in the Holdeman site dentition (Loveland 1987, 1994).

Among the lithic artifacts found in Middle Caddoan period contexts are Bonham, Morris, and Scallorn sattler arrow points (see Brown 1996:442), grinding stones, flake tools, celts, and sandstone abraders (Krieger 1946; Perino 1995). There are long-stemmed Red River, Haley variety pipes, as well as clay and stone elbow pipes present (Perttula 1997:Figure 2a-b), and a wide assortment of ceramic vessels. Vessels of the types Canton Incised, Maxey Noded Redware/Blackware, Paris Plain, Sanders Engraved, and Sanders Plain are relatively common in Middle Caddoan period contexts in the middle reaches of the Red River, along with East Incised and Monkstown Fingernail Punctated. At the Sanders site, for example, of the 461 classified vessels, Sanders Engraved accounts for 15.8 percent of the assemblage; Canton Incised accounts for 29.1 percent; Maxey Noded Redware accounts for 8.3 percent; and red-slipped plain (Sanders Plain) bowls comprise another 4.6 percent of the assemblage (Krieger 1946:Table 5). More than 15 percent of the vessels at the site have a red slip. At the Holdeman site, 23 percent of the Middle Caddoan vessels have a

red slip, plain V-shaped and carinated bowls and jars are very common (comprising 67 percent of the 109 vessels in the Middle Caddoan component), while Maxey Noded Redware and Canton Incised are predominant (see Perttula 1995:Table 9). Other vessel characteristics/attributes include increased red-slipping of bowls and bottles; bowls with scalloped rims; red-slipped neckless bottles; rim effigy heads and tabtails; rim peaks; strap handles; incised, punctated, and appliqued jars; and interior thickened rims on many red-slipped bowls (see Perttula 1997:Figures 3 and 4).

Certainly the best-known prehistoric Caddoan period in the middle Red River valley is the Late Caddoan period and the McCurtain phase. Bruseth (1998) provides the most up-to-date discussion of the archaeological character of the Late Caddoan McCurtain phase. From stable isotope analyses and bioarchaeological evidence of health and dietary conditions, the McCurtain phase Caddo were agricultural peoples, depending heavily on the cultivation of maize as the main staple of the diet (Colby 1997; Rose et al. 1998). Like other Late Caddoan groups on the Red River, the McCurtain phase settlement pattern includes numerous habitation sites (with household cemeteries) and mound centers—such as the Roitsch, Dan Holdeman (Perino 1995), and Rowland Clark (Perino 1994) sites—although the mounds appear to have mainly been constructed and used between ca. A.D. 1300–1500. Bruseth (1998:62) suggests that the Caddo settlements along this stretch of the Red River resembled the Terán-Soule model (see, for example, Schambach et al. 1983; Trubowitz 1984) in that Caddo villages were composed of individual compounds of houses and other structures associated with mounds and the residence of a caddi or chief. The density of McCurtain phase sites indicates that "greater numbers of people were living in closer proximity than before" (Bruseth 1998:64). At the Roitsch site (previously known as the Sam Kaufman site), the mound in McCurtain phase times was used as a place for the burial of the social elite, as a shaft tomb with 10 individuals and many grave goods was located near the center of the mound (Skinner et al. 1969). Special purpose salt-processing sites (such as the Salt Well Slough site [41RR204]) are also common in the vicinity of the Roitsch site. The distribution of McCurtain phase settlements along the middle Red River suggests that these westernmost Caddoan farmers did not permanently (or perhaps even intermittently?) occupy the valley upstream from the mouth of the Kiamichi River (see Bruseth 1998:Figure 3-9), some miles downstream from the Camp Maxey area.

During the Late Caddoan period there is evidence of extensive trade or exchange. The recovery of Gulf Coast conch shell artifacts (gorgets, beads, and pendants) points to southern connections, while Kay County flint in one burial indicates that the Late Caddoan McCurtain phase groups at Roitsch (Perino 1995) had exchange relationships with Plains Village groups (the Great Bend cultures) along with the Arkansas River in southern Kansas and northern Oklahoma. Red River McCurtain phase ceramics have also been found in Great Bend sites dating after A.D. 1500. Banks (2000) has reported the recovery of metallic objects of probable European blacksmithing origins in at least one Late Caddoan burial at the Arnold Roitsch (Sam Kaufman) site in Red River County, Texas, along with a calibrated ^{14}C date of A.D. 1430–1630. He suggests the metallic objects may be the result of sixteenth century contact between the Spanish entrada of Moscoso and McCurtain phase Caddo groups.

Due to diseases introduced by Europeans and the incursions of the Osage into the Red River valley to obtain deer hides and Caddo slaves, Kadohadacho groups had abandoned the middle and lower Red River basin by the late 1700s (see Smith 1998). These Caddo groups subsequently moved to the Caddo Lake area along the Louisiana and Texas border. In the Camp Maxey area, however, an early eighteenth-century settlement or hunting camp at the Womack site (Harris et al. 1965) indicates that the Caddo were probably exploiting this part of the Red River basin for deer hides in the French fur trade. The Womack artifact assemblage is dominated by stone scrapers, large knives, and triangular projectile points, along with iron knives, gun parts, lead shot, and native and French gun flints; other French trade goods also were abundant (Harris et al. 1965; Perttula 1992). Based on the recovery of European trade goods, stone scrapers, and plain shell-tempered pottery, other possible historic Caddoan sites may be present at the Sanders and Harling sites on the Red River. Schambach (1996, 1999a) has suggested that the Womack site, and several

other early to mid-eighteenth-century sites in northeast Texas, were actually occupied by long-distance Tunica traders "who had reactivated their old, Northeast Texas entrepot soon after they moved from the Yazoo to their new homeland in the Red River mouth region around 1706" (Schambach 1999a:199). He postulates that the Womack site was an entrepot used by the Tunica for the collection of horses and deer hides for trade with European colonists in Louisiana and Arkansas.

Chapter 6: Background and Research Design for Prehistoric Sites

Timothy K. Perttula

Prehistoric Research Issues

Several pertinent northeast Texas research issues can be addressed using the archaeological site and artifact assemblage information obtained from the Camp Maxey survey, and we will discuss each in turn. The available regional archaeological information for this part of the Red River basin suggests that, first, Late Paleoindian and Late Archaic sites are relatively common, particularly Late Archaic components (see Johnson 1989; Lorrain and Hoffrichter 1968; Story 1990), which tend to occur in a wide diversity of settings, including an intensive use of forested and prairie uplands; second, Woodland period sites, including components that may contain middens and structures from sedentary occupations, are abundant along the Red River and its alluvial floodplain, but less common along the tributaries near their headwaters, although these (such as the Ray site) may also contain structures and middens (Bruseth 1998); and, finally, Caddoan sites dating between ca. A.D. 800–1700 are well represented in this part of the Red River basin, especially hamlets, villages, and mound centers along the Red River and its principal northward-flowing tributaries (such as Sanders Creek). Major changes in Caddoan land-use and subsistence patterns after ca. A.D. 1300, where intensive maize-producing economies had evolved in parts of the Red River basin and other parts of the Caddoan area (see Perttula 1996b:313–322), suggest that the upper part of the Red River (in Lamar and Fannin counties) was not intensively occupied by Caddoan groups (Bruseth 1998:Figures 3-9 and 3-10), and was not reoccupied until the eighteenth century by Caddoan and Wichita groups, and an occasional French trader.

Paleoindian and Archaic Mobility Patterns and Landscape Use

An important issue for understanding the archaeology of the Red River basin and its tributaries is the use of the land by many generations of mobile hunter-gatherers during the Paleoindian and Archaic periods. The available evidence, while slim and based primarily on differences in occupation intensity, tool-kit composition, lithic assemblage diversity, and the use of local versus non-local raw materials (Fields and Tomka 1993), suggests significant differences over time in residential and non-residential settlement patterns within the northeast Texas region. In particular, it appears that there were increased population densities by Late Archaic times, with a more intensive use of the landscape that was accompanied by decreasing territory sizes (Fields and Tomka 1993:85). Fields and Tomka (1993) also suggest that the western portions of northeast Texas (like the Camp Maxey area) were less-intensively used for residential purposes than other parts of northeast Texas.

Based on the general setting, we would expect that the use of Camp Maxey during Paleoindian to Archaic times would have been less intensive than along either the Red or Sulphur rivers, but would have peaked in use during the Late Archaic. It is probable that residential and non-residential use by these broad-spectrum hunter-gatherers occurred at some time on virtually every level landform near available water and forest resources. Lithic quarries and procurement sites should also be present, with abundant chipping debris and burned rocks from the heat-treating of the poor quality quartzites and cherts. The identification of

Paleoindian and Archaic occupations at Camp Maxey, and the study of their lithic assemblages (most notably what information they contain on the range of activities, length of occupation, frequency of reoccupation, technology, and raw material procurement and use) will contribute important information on Paleoindian and Archaic hunter-gatherer mobility in the Red River basin of northeast Texas.

Sedentary Woodland Groups

The Woodland or Fourche Maline period (ca. 200 B.C. to A.D. 800) was apparently a time of significant change in settlement permanence among local hunter-gatherer groups in the Red River basin, as they became more sedentary. It was also a period when there were major innovations in technology, including the introduction and adoption of the bow and arrow and ceramic containers; there is some evidence that tropical cultigens, as well as the use of local seed plants, began to be more commonly used in the diet toward the end of the period. Schambach (1997) also indicates that the Caddoan mound-building tradition actually began as a burial mound tradition in the Woodland Fourche Maline period along the Red River (perhaps between A.D. 600–900), and that the first construction of flat-topped temple mounds dates several hundred years later. Such sites in the Red River basin are characterized by thick grog-tempered ceramics with flat bottoms and stilted bases, Gary dart points, and chipped stone axes; during the latter part of the period (ca. A.D. 600–700), arrow points first appear, along with Coles Creek-style vessels.

The identification of Woodland period sites at Camp Maxey, and a determination of their character (that is, presence of middens, types of ceramics, and so forth) and landform setting, are significant both in documenting the range of settlements in this part of the Red River basin and in their potential to address settlement subsistence, material culture, and technology questions posed in "The Emergence of Sedentism in Northeast Texas" (Perttula et al. 1993). At present, "there is a critical need for information about the Woodland period in the Red River drainage" (Perttula et al. 1993:101). Questions of settlement distribution and permanence during the Woodland period are thus key to understanding the tempo and character of cultural change that took place in the subsequent Caddoan tradition.

Caddoan Settlements and Communities

The Caddoan people lived in sedentary, dispersed communities; there is a preponderance of small sites. These communities consisted of single homesteads and/or farmsteads with one or two structures and small family cemeteries; small hamlets with a few houses, trash midden deposits, and family cemeteries; and a few larger villages with a patterned arrangement of houses and middens around plazas, and cemeteries. Occasionally the villages included small earthen mounds, and these apparently were capped with public structures.

The dispersed communities, at least through much of Caddoan prehistory, were associated with civic-ceremonial centers containing earthen mounds and public architecture (see Story 1990). The homesteads, farmsteads, and self-sufficient hamlets could be as much as 30 km from the centers. The most current model of Caddoan settlement—the Terán-Soule model (Schambach 1983:7)—is based on the Terán de los Rios map of the Nasoni village on the Red River (1691), and Soule's 1874 photographs of a Caddoan village (Long Hat's Camp) in western Oklahoma (Nye 1968:400–401). The Terán map shows that the village was divided into individual compounds containing one to three grass or cane-covered structures, above-ground granaries, outdoor ramadas or arbors, as well as compound cultivated plots. Soule's photographs capture the relationship between the structures, ancillary facilities, and open plaza-like areas within the compound.

Recent broad-area excavations at Caddoan hamlets or farmsteads (such as the McLelland, Spoonbill, Deshazo, Musgano, Cedar Grove, and Hardman sites) in northwest Louisiana, northeast Texas, and southwest Arkansas show that they were occupied year round, contained sturdy household structures, smaller wood granaries or ramadas (about 3–5 m in diameter), as well as extramural cooking and working areas near the houses (Bruseth and Perttula 1981; Clark and Ivey 1974; Early 1993; Kelley 1994; Story 1982; Trubowitz

1984). Midden deposits from household refuse are common in and around the structures and work areas, as are household cemeteries (with both adults and subadults).

Archaeological investigations of Caddoan sites at Camp Maxey may examine the social aspects of changes in Caddoan domestic settlement patterns, specifically the extent to which connections can be made between large-scale social change and changes evident in the archaeological record at the domestic level. Of particular importance in addressing this research issue in survey level investigations is to obtain from surface and shovel testing basic information on the internal character of Caddoan settlements, looking at spatial details of ceramic (including daub and burned clay, which are good signatures for Caddoan houses) and lithic distributions, midden size (if present), spacing between middens and ceramic/lithic concentrations, and determining temporal relationships between associated features and artifact assemblages at homestead and hamlet levels. Current archaeological evidence from the Red River suggests that during the period A.D. 850–1300 there was a shift from multifamily residential groups, to groups approximating nuclear families after A.D. 1300. Caddoan settlement data from Camp Maxey should be relevant to examining this postulated residential shift.

Sociopolitical Dynamics in Caddoan Groups

Between about A.D. 900 and 1600 in the Caddoan area, there is clear archaeological evidence for the development of complex and socially ranked societies, well-planned civic-ceremonial centers, elaborate mortuary rituals and ceremonial practices, and evidence for extensive interregional trade. This development certainly occurred along the Red River (see Bruseth 1998) and its major tributaries, but the archaeological evidence for social complexity among Caddoan groups living in hinterland and marginal areas (stream headwaters, prairie/woodland-edge habitats) is not well known. Archaeological investigations at Camp Maxey provide an opportunity to examine, to some extent, the sociopolitical character of the Caddoan groups that lived along Sanders Creek and its tributaries by determining whether civic-ceremonial centers are present, or if there is a likely hierarchy of sites (Perttula 1993:138), such as community centers, villages, hamlets, and farmsteads, that can be identified within or near the survey area.

The Development of Caddoan Agricultural Economies and the Use of Prairie Edge/ Woodland Habitat

The appearance of maize among Caddoan peoples seems to have occurred after A.D. 700–800. Unlike the Mississippi Valley and much of eastern North America, where the appearance of maize between A.D. 700 and 900 is interpreted as the primary addition that nurtured the growth of Mississippian societies, the development of Caddoan agricultural economies—based primarily on maize, beans, and squash—is not synchronous with the early growth and elaboration of Caddoan culture. Rather, the significance of the tropical cultigens to Caddoan economies becomes most apparent only after ca. A.D. 1200, then intensifying after A.D. 1300–1400 in the Late Caddoan period, some several hundred years after the initial development of Caddoan culture in the Trans-Mississippi South.

An intensification of maize agriculture after A.D. 1300–1400 in the Caddoan area may be responsible in part for the demise of many of the Caddoan civic-ceremonial centers, the abandonment of habitats where maize agriculture could not be successful, and the changes in social and political relationships within Caddoan culture, through the development of predictable maize surpluses. It is probable, then, that the relative success in agricultural production realized by the Caddoans led to a social homogeneity among some Late Caddoan period groups (particularly those outside the major river valleys) in that household agricultural sufficiency among dispersed sedentary communities negated the primary role of the elite-controlled social and political economy. After this time, therefore, social and political integration was regionally and locally redefined (see Story 1990:340), and much of the emphasis on mound-building and renewal was discontinued.

Although we would not expect much direct evidence for Caddoan agriculture to be acquired during the

course of an archaeological survey, there are clues in the record that can indicate whether particular archaeological sites at Camp Maxey have the potential to address this research issue. Critical would be identifying Caddoan sites that contain midden deposits and/or have the potential to contain features with charred plant remains and animal bones. Such archaeological contexts point to long-term residential settlements with structures, trash middens, and storage features, and these are the types of settings where plant remains (including tropical cultigens) can be expected to be preserved. While the absence of such sites during a single archaeological survey would not be conclusive, it would at least establish a framework of research potential for any of the Caddoan sites that would be recorded during the investigations.

Chapter 7: Methods

Steve A. Tomka, Anthony S. Lyle, and Marybeth S. F. Tomka

Introduction

The fieldwork was conducted by experienced staff archaeologists under the direct supervision of the project archaeologist with one visit per each ten-day survey period by the principal investigator. CAR survey teams worked in ten-day shifts during the pedestrian survey phase (site discovery and recording stages). The project archaeologist and a crew of four to eight staff archaeologists conducted all work involved in the site discovery and recording stages. The fieldwork was carried out during 11 ten-day sessions.

Survey Methodology

The field investigations consisted of two stages: a site discovery stage and a site recording stage. Both stages of work included shovel testing for the discovery of buried cultural deposits. A number of criteria were used to define the levels of effort expended for the survey. They included: **1)** surface visibility; **2)** probability of site location; **3)** previous military impact; **4)** previous archaeological work accomplished in the area; and **5)** present use.

Surface visibility varied across the project area. The vegetation growth during the wet spring season, and heavy leaf litter in the fall season inhibited surface visibility. Surface visibility in the previously burned areas, as well as other open areas, was inevitably poor given the lush carpet of little bluestem that has grown on these sites following burning. Due to the poor surface visibility in general, and especially in the unburned grasslands and woodlands, a system of shovel testing was useful in countering the surface visibility problems. Also, as the soil survey indicates, and as we observed during previous fieldwork, most upland soils are thin and gopher and ant burrows revealed only culturally sterile Bt horizon sediments.

Probability Areas

Due to time and budget constraints, a sampling strategy was employed that took into account high, moderate, and low probability areas for site locations, and high probability areas for buried site occurrence. For these purposes, high probability areas are defined as promontory areas adjacent to second and third order streams. Moderate probability areas are promontory areas that are in the general vicinity of such streams but at a greater distance from channels. High and moderate probability areas are identified in Figure 7-1 (Figure 7-1 is in Map Supplement).

Intensive shovel tests (5/acre) were excavated in the high probability areas, with 3 shovel tests/acre in moderate probability areas, and in areas of low probability the shovel test density of 1 unit/2 acres was initiated. Given that the high and moderate probability areas are oddly shaped and of varying sizes, the project archaeologist positioned the shovel tests so that they were dispersed evenly across the area being investigated. After the placement of the required number of units per acre, a few areas appeared to have inadequate densities of shovel tests (as per proposal) and were tested by excavating additional tests.

Caddoan land use and settlement patterns are relatively well understood. Caddoan sites are considered most likely to occur on interfluve ridges between creeks. Sites are unlikely to occur on flat, upland stream divides. Floodplains, even the small ones that occur at Camp Maxey, are the most likely locations for finding *in situ* buried sites, and these areas were inspected carefully. Given this understanding, high, moderate, and low probability areas were identified at the outset to ensure that sufficient surface coverage and shovel testing efforts were used in these areas to identify all cultural resources. This strategy does not mean that moderate and low probability areas were not explored,

since a Caddoan land use model may not account for land use strategies during preceding prehistoric time periods and later occupations.

Previously cleared and burned areas of the facility have been used for vehicular traffic and parking. Various *tank tracks* and *firebreaks* were encountered during the survey as well as identified from aerial photographs taken in February 1994, when the vegetation growth was minimal. These activities have impacted surface and shallow subsurface materials to depths of 20–40 cm. These disturbances were visually examined during the systematic pedestrian survey. During the spring season, the previously mentioned vegetation growth covered many of these tank tracks and firebreaks. In many cases these "roads" were visible only in sections where the vegetation allowed visibility. The majority of these unimproved roads and firebreaks were surveyed previously by Nickels et al. (1998). Furthermore, these areas were not seen as a significant source of visibility due to the aforementioned conditions, and in most cases were treated within the probability areas within which they fell.

Transects

We had originally proposed that moderate and high site probability areas should be inspected using sweeps and low probability areas should be surveyed in transects. Once the fieldwork began, it became clear that the use of transects throughout the project area would provide a more systematic approach with lesser dependence on subjective decisions by the project archaeologist and/or individual crew members. Sweeps were reserved for areas that appeared to have been highly disturbed (e.g., target ranges, areas with numerous structural foundations).

Survey transects were spaced at 30-m intervals in all probability areas (high, moderate, and low). This proved to be quite useful in organizing the 6 to 8 person survey team. The project archaeologist delineated manageable parcels of land (i.e., Areas 1 through 32; Figure 7-2) by using natural and artificial boundaries such as major roads, boundary fence lines, natural features such as drainages and tree lines, and man-made features such as overgrown county roads. In each area the project archaeologist calculated transect degree headings using a hand-held compass. Each transect's starting and ending points were marked with flagging tape. The survey area, transect letter, orientation, surveyor's initials, and the date were noted on each strand of tape by the survey team. Each surveyor maintained the bearing of the transect with a hand-held compass while walking the appropriate transect and pacing off stations at 30-m intervals.

Depending on the location of the individual transect in relation to the probability area, the surveyors were instructed to excavate and record shovel tests (STs) across the landscape. Due to the amount of time it takes to conduct a shovel test, the survey team was often spread across a large area. Four hand-held "walkie-talkie" radios were used to maintain communication and organization. To explain further, a general example is included as follows. If we used eight transects at a time we had between 1 and 3 surveyors entering a high probability area requiring more shovel tests per acre. On the parallel transects, several surveyors were in moderate areas, while the remaining survey transects were in low probability areas. Because fewer STs were necessary in the low probability areas, this allowed the surveyors in the low probability areas to complete their individual transect and move over to the higher probability areas to help excavate the necessary number of tests per probability area.

On occasion, extremely dense vegetation required that two crew members walk transects together, for both safety and accuracy. In these cases, one surveyor used a hand-held compass to sight-in and orient the other member (i.e., the front runner) along the designated bearing. Field notes were made regarding vegetation type and density, topography, surface sediments, and naturally or artificially disturbed areas. Where accessible, cutbanks, road cuts, and exposed slopes were inspected for archaeological materials.

On some occasions, when the parcel of land requiring survey was irregular in shape (e.g., floodplains), a sweep survey was conducted. In these cases, crew members were evenly spaced in a line at the designated starting point and then systematically moved through the survey area.

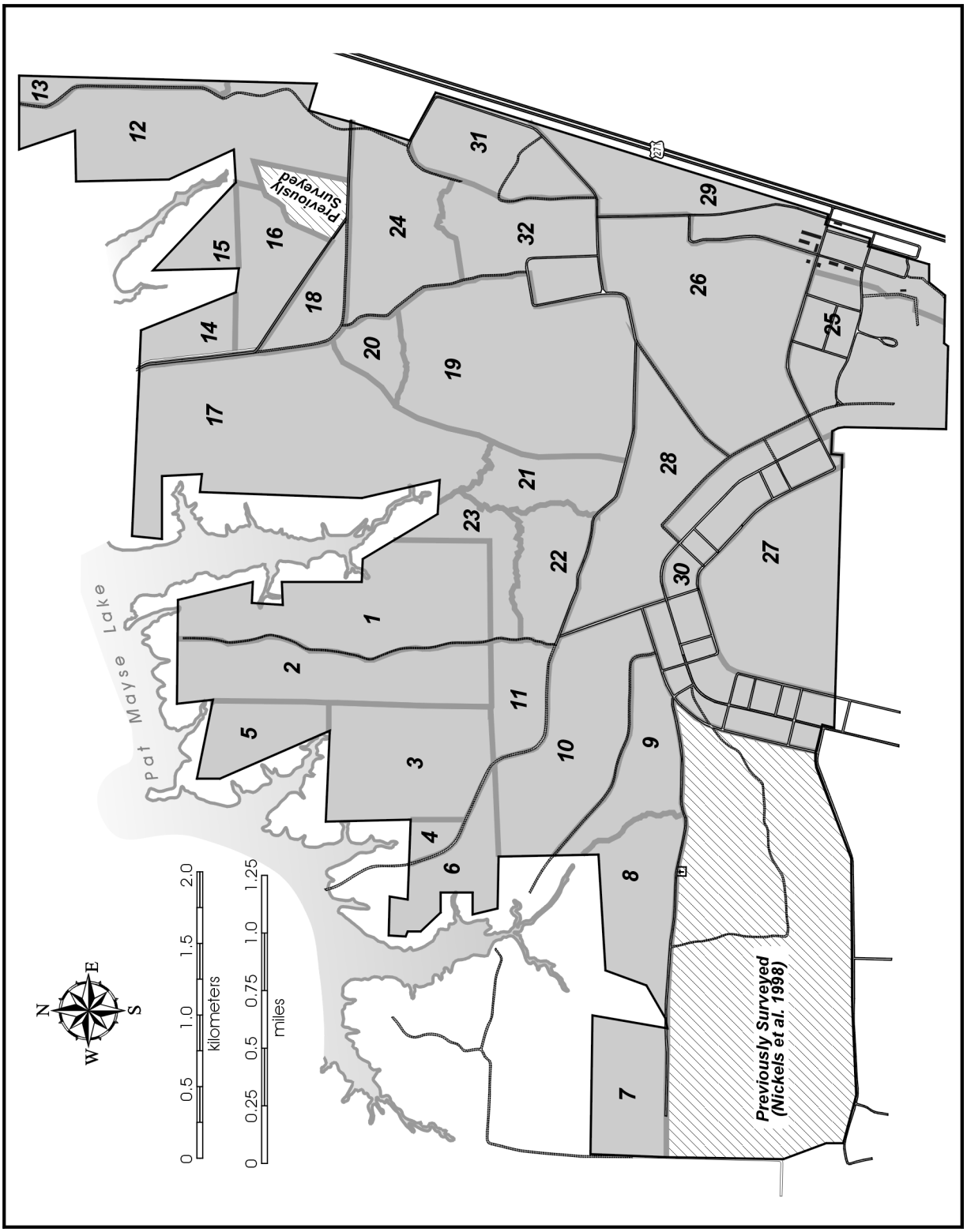


Figure 7-2. *Breakdown of survey areas employed during Camp Maxey survey.*

Shovel Testing

Shovel tests were numbered by transect and station (e.g., ST A-5 would be the shovel test excavated at station 5 on transect A). A shovel test is a 30–50-cm diameter unit, excavated, screened, collected, and recorded in 20 cm levels to a depth of 40 to 100 cm, or until bedrock or the sterile Bt horizons were encountered. Shovel tests were excavated as deep as 130 cm when artifacts were encountered throughout the deposit and the potential for subsurface cultural strata was deemed high (e.g., in floodplain sediments or thicker sandy sediments on ridge crests) and in cases where it was possible and necessary to locate the approximate depths of the sterile Bt horizon. Each surveyor carried a shovel and portable screen. All sediments were screened through ¼-inch wire mesh and the results of shovel tests recorded on a standardized form. All shovel tests were backfilled immediately upon completion and a piece of orange flagging tape was labeled with the area, date, excavator's initials, positive or negative depending on the presence or absence of artifacts, and the station which corresponded to the shovel test number (B-5 would be the fifth 30-meter station on transect B). All shovel test positions (as well as other surface artifacts, features and landmarks) were recorded using a Global Positioning System and hand-held *Trimble GeoExplorer* units. Six hand-held units were available for the survey teams to share, and each surveyor/excavator was proficient in their use. Appendix B is a catalog of all shovel tests excavated during the present Camp Maxey survey. Figure B-1 (Map Supplement) shows the location of all shovel tests, previously surveyed areas, and disturbed areas at Camp Maxey.

In surveying low probability areas, along each transect CAR surveyors excavated shovel tests depending on the vicinity to higher probability areas, and the extent of visible disturbance (i.e., roads, training bunkers, tank tracks). For example, an area of low probability in open terrain bordering a drainage with moderate and high probability areas along its banks and interfluves would be designated as an area requiring shovel testing, while a low probability area in open terrain away from any significant drainage, or with disturbances such as concrete bunkers, would warrant the excavation of more expedient shovel probes. A shovel probe is a modified shovel test recorded on the standard shovel test form, excavated in one consecutive level to 60 cm if no cultural resources were encountered, or until an artifact was encountered. If this occurred, then the probe was converted to a shovel test and continued in 20 cm levels. Shovel probes were only used in low probability areas.

When artifact-bearing locations were identified, the positions were marked with flagging tape, noting transect, station, and date. When possible, crew members intensively surveyed the area, flagged artifacts, and made a preliminary assessment on the quantity and type of artifacts present. In other cases the positive shovel test was well marked with flagging tape, and noted for a revisit.

Definition of Archaeological Occurrences

Previously constructed categories for managing sites identified during this survey included Prehistoric and Historic (which included World War II facility sites). Prehistoric properties were further subdivided into two categories: sites and isolated finds. For the purpose of this survey, and to maintain consistency with the previous phase of this work, sites were defined as locations that have at least five artifacts within a 25 m^2 area, or have two or more positive shovel tests in the same area, or contain a single cultural feature. Isolated find designations were given to locations of fewer than five artifacts, no more than one positive shovel test, and no cultural features.

The types of historic sites recorded during the survey included possible farmsteads, trash dumps, cistern/well features, and World War II sites associated with Camp Maxey. The strategy for site recognition of historic sites included the presence of a feature or associated features, five surface artifacts in 25 m^2, or five positive shovel tests yielding historic artifacts in a 25 m^2 area.

At the conclusion of the site discovery phase of the fieldwork, the survey team reviewed locations that had sufficient artifact density to be labeled as potential sites. Revisiting these locations for detailed inspection formed the second phase of fieldwork.

Revisiting and Documenting Sites

In most cases, due to the short amount of time available for the site revisiting phase and amount of training necessary to record all sites systematically, the project archaeologist and entire survey crew revisited sites as a single recording team. In order to identify vertical and horizontal site boundaries during the revisit, shovel tests were conducted around previously excavated positive shovel tests. In most cases, the revisiting of positive STs resulted in the identification of field sites. Once a field site was determined, either during the initial discovery phase or upon revisiting and subsequent shovel testing efforts, the survey team would intensively examine the ground surface, flag artifacts, and note any high-density concentrations. Boundaries were established according to surface artifacts and positive shovel test distribution. A site boundary was defined by a significant drop off in surface or subsurface artifact densities. The project archaeologist assigned crew members various tasks necessary to properly document the field sites. These tasks included the following procedures:

1) Each site was assigned a temporary field number. Trinomials were obtained from the Texas Archeological Research Laboratory (TARL) after the field work and artifact analyses were conducted. The information recorded on the site recording forms in the field were transferred to TexSite software and filed with TARL. State trinomials were obtained for each new site identified during the survey.

2) Shovel tests were excavated at each site to test for subsurface cultural materials and define site size. The survey crew excavated a sufficient number of shovel tests within the site to determine the horizontal and vertical extent of the archaeological deposit, the horizontal and vertical extent and severity of disturbance present, and to develop a preliminary understanding of the nature of the soils and depositional history at the site. The project archaeologist determined the number of shovel tests, taking into consideration site size, artifact frequency over the site surface, and topographical variation over the site surface. The number of shovel tests excavated during this stage of the fieldwork at each site ranged from a minimum of 4 (small sites) to a maximum of 49, depending on site size. During the site revisit stage, shovel tests were numbered sequentially by site with the temporary site field numbers (e.g., ST 5-1 would be the first shovel test excavated during the revisit at Field Site 5). Levels were removed in arbitrary 20-cm increments to a depth of 80 to 130 cm or to culturally sterile deposits. All sediments were screened through ¼-inch wire mesh. One 50-x-50-cm unit was excavated in order to explore for a feature associated with a concentration of prehistoric ceramics recorded on the surface of site FS#7-41LR187. Notes were made on standardized forms regarding sediment texture, Munsell color, structure, as well as gravel size and frequency, and artifact content. Artifacts removed from subsurface contexts were bagged by area number, shovel test number, and level, and logged in the Master Lot Log.

3) Due to the low surface visibility encountered during this phase of fieldwork, the site recording crew attempted to make a 100-percent inventory of the surface artifact assemblage at each site. Because of low artifact density and low surface visibility, the surface assemblages were minimal. In the few cases where surface artifacts were present and observed, each artifact was recorded on a work sheet specifying flake types, cores, quarry blanks, preforms, utilized and retouched pieces, diagnostic artifacts (including historic and prehistoric ceramics), and counts of fire-cracked rock. Temporally diagnostic artifacts, and unusual or unique items from sites, were collected and logged in the field, regardless of provenience on or off of a site, as unique items (UIs) or as isolated finds (IFs). All artifacts collected from the sites were bagged and labeled with their appropriate field provenience and transported to CAR for analysis and use in interpreting the site and its eligibility for the National Register.

4) To establish the site datum, an 8-penny nail was hammered into a tree at eye level as near the site's center as possible. An aluminum tag with the Field Site Number, date, and "CAR-UTSA" was attached. The approximate site boundaries were plotted on a USGS 7.5' topographic map and a *Trimble GeoExplorer* Global Positioning System (GPS) was used to determine UTM coordinates. CAR surveyors recorded a GPS reading from the

site datum and from areas of artifact concentrations, as well as all shovel tests and excavation units. This information has been corrected by CAR personnel and used to create final site maps.

5) Site boundaries were established based on artifact distribution over a site, usually determined from shovel test data. A significant decrease in artifact recovery from shovel tests (i.e., negative shovel tests) in conjunction with the shape and extent of the overall landform that the site was located on were the main criteria for determining the site boundaries (see *Definition of Archaeological Occurrences,* this chapter). For mapping purposes the boundaries tended to be the edge of the landform, if most shovel tests were spread across the landform and the majority produced artifacts, or the boundaries were identified by resulting negative shovel tests.

   Hand-drafted site maps, showing site boundaries, datum locations, shovel tests, collected items, features, areas of high artifact density, directions to visible landmarks, and physical features on the landscape, were recorded. Mapping was done by pace and compass, and supplemented by GPS readings and the use of a USGS 7.5' topographic map. Landforms, roads, and drainages that would be helpful in relocating the site were noted. Survey areas with site locations and boundaries were plotted on 7.5' Series USGS quadrangles (Figure 8-1 in Map Supplement shows the locations and site boundaries for all archaeological sites identified and documented during the Camp Maxey survey and provided to TXARNG offices for resource management purposes).

6) Two each of archival quality 35 mm black and white prints, and 35 mm color slides were made of all sites (as per proposal), as well as some typical vegetation and terrain, and artifacts and features, where appropriate.

Surveying Disturbed Areas

As previously mentioned in this chapter, sweeps were occasionally employed to survey irregularly shaped areas. In addition, two areas of more substantial acreage were surveyed using sweeps and are explained here in more detail. Both of these areas were known to have been heavily impacted from previous and current military use, therefore, it was determined to be unnecessary to survey them with 30-meter transects. However, it was necessary to inspect them for cultural resources and attempt to determine the amount of undisturbed areas, if any were remaining. These two areas include the "horseshoe," or cantonment, area of the original WWII base (Survey Areas 27 and 30; Figures 7-2, 7-3, and B-1), and the other highly disturbed area was the range area in the east-central portion of the base (Survey Areas 31 and 32; Figures 7-2, 7-4, and B-1). The cantonment, or "horseshoe," area was known to contain hundreds of WWII buildings that have mostly been demolished since the end of WWII (see Chapter 3 and Figures 3-6 through 3-9, 3-11, 3-12, and 3-14). Many of the old roads are still in place and used for current TXARNG purposes and some of the old foundations are present. Several moderate probability areas were identified in these areas at the beginning of the fieldwork . This situation made it necessary for the project archaeologist and survey crew to selectively "spot test" for buried archaeological deposits, and to identify and record the nature of the disturbances in these areas. Methodologically, the "sweep" type survey was used in these areas, and shovel tests were placed in the moderate probability areas and other potential locations. Some heavily disturbed areas were surveyed but not shovel tested.

Backhoe Trenches

The project geomorphologist conducted investigations using a backhoe in selected areas, and profiles were recorded with standard soil survey staff procedures (Soil Survey Division Staff 1993). Nineteen backhoe trenches (BHTs) were strategically placed across the project area (see Chapter 4) and were dug to a depth of between two and three meters. These trenches were placed in accessible areas near field sites when possible, and in areas of interest to the geomorphologist in order to get samples from across the project area. These areas of interest included, but were not limited to, floodplains, interfluvial zones, and moderate and high probability areas for potentially deeply buried cultural resources.

Figure 7-3. *Disturbed areas within the "horseshoe" or cantonment area of the original WWII base.*

Of the nineteen backhoe trenches, six were also investigated with 50-x-50-cm test units (TUs) for the recovery of cultural materials. These were placed in the profiles of BHTs in conjunction with the geomorphological profiles. Each test unit was measured at the surface, excavated in 20-cm levels, recorded on a standard excavation form, and mapped with a GPS point taken at the northwest corner of the test unit. All matrix was shoveled and/or troweled and screened through ¼-inch mesh. Most of the TUs were excavated through the artifact bearing sandy mantle zone into the sterile red clay zone. In cases where the geomorphologist determined that the top level was disturbed, this level was visually examined, but not screened.

Laboratory Methods

At the conclusion of the fieldwork, all cultural materials recovered from the survey were inventoried and analyzed at the CAR laboratory. Proveniences for the materials entering the CAR laboratory were verified through the use of lot numbers, which were recorded on a Master Data Recovery Form during the field investigation. Field Site (FS) numbers were assigned to all artifacts from a particular site. Where appropriate FS numbers and Unique Item (UI) numbers were assigned to all artifact bags in the field. Artifacts and samples were separated by artifact type and recovery context to facilitate analysis. Processing of artifacts began with washing and sorting into appropriate

categories. These data were entered into Microsoft Excel or Excel compatible spreadsheets. Artifacts from the prehistoric sites and isolated finds were analyzed by Timothy Perttula, and his methods are described in Chapter 8 of this volume. Anne Fox (CAR staff) analyzed the temporally diagnostic artifacts and isolated finds from historic contexts. Antonia Figueroa (CAR staff) and Heide Castenada (CAR staff) quality control checked all field site provenienced artifacts, entered these into the catalog database, and weighed the fire-cracked rock (FCR) from all field sites. The artifact catalog was later imported into a Microsoft Access database and compiled for the multiple phases of work at Camp Maxey.

Sketch maps of all sites were produced in the field using the compass and pace method. In addition, the position of each shovel test excavated during both site discovery (i.e., transects) and site boundary definition stages was shot in using a hand-held GPS unit. Once in the lab, GPS data on each shovel test was downloaded and added to the continuously updated map of ST distributions across the project area. During report preparation, field sketch maps were scanned for all sites recommended for further work. ArcView maps were prepared for each of these sites based on the original field sketch maps and the GPS shovel test data. Only maps for sites recommended for further work are presented in this volume (see Map Supplement).

Marybeth S. F. Tomka, lab coordinator, and Laura Burgess, Gloria Murguia, and Connie Gibson, CAR staff, prepared all cultural materials collected from Camp Maxey for curation in accordance with federal regulation 36 CFR Part 79, and in accordance with current guidelines of TARL. Lithic, metal, bone, and ceramic artifacts processed in the CAR laboratory were washed, air-dried, and stored in archival-quality bags.

Figure 7-4. *Highly disturbed areas in the range area in the east-central portion of the base.*

Acid-free labels were placed in all artifact bags. Each bag has a tag containing the provenience information and corresponding lot and/or catalog number. All artifacts, except those too small, were labeled with permanent ink and covered by a clear coat of acrylic. All artifacts were separated by class and stored according to TARL guidelines. Documents and forms were printed on acid-free paper. After completion of the reporting for the current project and in preparation for future work, the artifacts and records from the sites scheduled to be tested from this project and the previous survey were pulled. The survey artifacts and records will be curated at TARL with the associated records and recovered artifacts from the testing effort. Any recataloguing or reanalysis of material that results in different data than that presented herein will be documented both on the artifact tags and in the accompanying records.

Field notes, forms, photographs, slides, and drawings were placed in archival-quality folders. Photographs, slides, and negatives were placed in archival-quality sleeves. A copy of the survey report and all computer disks pertaining to the investigations at Camp Maxey were submitted to TARL for permanent storage.

Site Forms and Mapping

State trinomials were obtained from TARL for each site identified during the survey. The information recorded on the site recording forms in the field was transferred to TexSite Version 2.0 software for filing with TARL. Site and artifact data used in analyses were provided in database form compatible with Microsoft Excel. Final site maps were produced using a multistep drafting process:

1) The data was imported from a 7.5' Series digital quadrangle (USGS Digital Raster Graphic image of a scanned 1984 7.5' quadrangle, georeferenced to the UTM grid) into ArcView 3.1 software.

2) The image was then brought into Corel Draw 9.0 and copied to make adjustments based on the hand-drawn field maps adding data not collected with the hand-held GPS units (i.e., roads, creeks, and other landmarks).

Chapter 8: Prehistoric Archaeological Sites and Artifact Descriptions

Timothy K. Perttula, Anthony S. Lyle, and Steve A. Tomka

Introduction

A total of 71 sites containing only prehistoric lithic and/or ceramic artifacts were identified and documented during the 1999 archaeological survey of Camp Maxey. Two previously recorded sites also were revisited and additional archaeological work has been carried out. The location of these sites within the Camp Maxey project area is shown in Figure 8-1 (all Chapter 8 figures are located in the Map Supplement). In addition, a total of 169 isolated finds were recovered either in shovel tests and/or from surface collections. The majority of these isolated finds consist of fire-cracked rocks (FCR) and heat spalls off fire-cracked rocks. A few shovel tests (STs) contained clearly cultural materials such as unmodified debitage. When FCR, heat spalls, and unmodified debitage were encountered in shovel tests, additional shovel tests were excavated in the vicinity of the positive ST to search for cultural materials and establish site boundaries where warranted. In the case of each isolated positive shovel test these additional efforts at locating cultural materials turned up negative.

The number of shovel tests excavated on each of these sites ranges from 3 to 40, with some dug in the process of site discovery and additional STs excavated during site definition efforts. The total number of STs excavated on each site and the number of STs positive for prehistoric material is presented in Table 8-1. Site maps showing the distribution of the STs and the general physical characteristics of the prehistoric and multicomponent sites recommended for further work are presented in the Map Supplement, Figures 8-2 through 8-24. The great majority of the prehistoric artifacts consist of pieces of lithic debris derived from the manufacture and maintenance of stone tools, but 13 sites have dart projectile points or projectile point fragments, four others have arrow points, and another 11 sites have prehistoric Caddoan ceramic sherds. Projectile points were recovered at only two of the sites with Caddoan ceramics (41LR186, 41LR187).

Laboratory Analyses

Given the low diversity in the kinds of prehistoric artifacts recovered in the archaeological survey investigations at Camp Maxey, standard laboratory methods were employed in the analysis of the recovered cultural materials. The lithic artifacts were first separated by class of artifact: tool or tool preform, core, or lithic debris, the latter two the by-products of tool manufacture, then further separated by raw materials (i.e., petrified wood, novaculite, fine-grained and coarse-grained quartzite, chalcedony, along with a variety of cherts of different colors), all of which appear to be available in local or regional stream gravels and upland sources (e.g., Banks 1990).

The presence or absence of cortex and heat-treating was noted for the tools as well as each piece of lithic debris. The tools or tool preforms were identified morphologically (i.e., projectile point, biface, uniface or expedient flake tool, scraper, etc.), and characteristics of flaking, edge finishing, breakage, and use-wear were determined, along with applicable measurements of size and shape.

Analysis of the ceramics was based on differences in paste and temper, type of sherd (i.e., rim, body, or base), rim and lip form (cf. Brown 1996:Figure 2-12), decoration (if present), surface treatment (smoothing, burnishing, or polishing; see Rice 1987), and oxidation patterns (cf. Teltser 1993). Sherd cross-sections were inspected macroscopically and with a 10X hand lens to determine the character of the paste and its inclusions. Determining the firing atmosphere—the conditions of temperature, duration of firing, clays with different organic contents, or the amount of oxygen available at the time of firing—is based on the identification of the firing core in the sherd cross-sections and the identification of oxidation patterns as defined in Teltser (1993:535–536 and Figure 2).

Table 8-1. Total Number of Shovel Tests and Positive (prehistoric) Shovel Tests Excavated on Each Site

Permanent Site No.	Field Site No.	Total STs	Positive STs	Figure No.
41LR182	FS 2	12	4	
41LR183	FS 3	17	8	
41LR184	FS 4	10	7	8-2
41LR185	FS 5	16	3	
41LR188	FS 8	16	7	
41LR189	FS 9	7	3	
41LR192	FS 12	21	6	
41LR194	FS 14	13	8	8-3
41LR195	FS 15	11	5	
41LR196	FS 16	18	13	8-4
41LR200	FS 20	9	5	8-5
41LR201	FS 21	18	7	
41LR203	FS 23	26	10	8-6
41LR204	FS 24	26	14	8-7
41LR205	FS 25	18	5	
41LR206	FS 26	12	2	
41LR207	FS 27	17	7	8-8
41LR208	FS 28	12	10	8-9
41LR211	FS 34	23	6	
41LR212	FS 35	12	3	8-10
41LR213	FS 37	21	5	8-11
41LR214	FS 38	31	13	8-12
41LR215	FS 39	38	7	
41LR216	FS 40	17	5	
41LR217	FS 41	31	7	
41LR220	FS 44	19	11	
41LR221	FS 45	13	3	
41LR222	FS 46	18	7	8-13
41LR223	FS 47	14	8	
41LR224	FS 48	13	5	
41LR226	FS 50	23	5	8-14
41LR227	FS 51	16	8	
41LR228	FS 52	15	5	
41LR229	FS 53	11	2	
41LR230	FS 54	17	8	
41LR231	FS 55	5	2	
41LR232	FS 56	12	7	
41LR233	FS 57	12	5	8-15
41LR234	FS 58	8	3	
41LR236	FS 60	10	2	
41LR237	FS 61	14	3	
41LR238	FS 62	27	5	8-16
41LR242	FS 66	8	3	
41LR243	FS 67	20	10	
41LR244	FS 68	6	3	8-17
41LR245	FS 69	17	9	
41LR246	FS 70	7	6	

Table 8-1. continued…

Permanent Site No.	Field Site No.	Total STs	Positive STs	Figure No.
41LR247	FS 71	19	9	
41LR249	FS 73	9	3	
41LR250	FS 74	16	7	
41LR252	FS 76	8	4	
41LR253	FS 77	13	6	
41LR255	FS 79	15	8	
41LR256	FS 80	13	4	
41LR257	FS 81	9	5	
41LR258	FS 82	30	21	8-18
41LR259	FS 83	14	9	8-19
41LR260	FS 84	15	11	8-20
41LR261	FS 85	7	5	
41LR262	FS 86	4	3	
41LR266	FS 90	15	6	8-21
41LR267	FS 91	9	5	
41LR268	FS 92	5	4	8-22
41LR269	FS 93	6	4	
41LR271	FS 95	15	7	
41LR274	FS 98	8	4	
41LR275	FS 99	5	3	
41LR276	FS 100	15	2	
41LR277	FS 101	13	6	
41LR278	FS 102	11	4	
41LR280	FS 104	3	2	
41LR137		34	23	8-23
41LR168		40	7	8-24

Site Descriptions

The total counts and weights of fire-cracked rock and total counts of heat spalls by site are included in the following artifact descriptions. The fire-cracked rock was weighed on a digital scale and rounded to 1/10 (0.1) of a gram (g), and entered in the Project Catalog (Microsoft Excel spreadsheet). For a catalog of the artifact types and counts by shovel test and level see Appendix D. These analysis methods apply to prehistoric artifacts described in both Chapters 8 and 9.

41LR182 (Field Site 2)

This site was identified in a moderate site probability area. The majority of the site probably lies to the east and north of the project area on a large peninsula bordering Pat Mayse Lake (Tulsa Corps of Engineers) property. The extent of the site identified within the project boundary is approximately 7,276 m². The project area fence corner borders the north end of the site. The southwestern border of the site is a gully that contains historic debris. Included in these historic

remains are the partially buried parts of a Model T Ford vehicle and a braided-wire fence gate. This dump is possibly associated with a historic site to the east of the boundary fence, or with the historic materials identified at 41LR181 (Field Site 1). Because no historic features were present, only prehistoric occupation was assigned to 41LR182. A total of 12 shovel tests were excavated on site, four of these contained cultural materials.

Artifacts

Four shovel tests had prehistoric chipped lithic debris (n=7) between 0–60 centimeters below surface (cm bs). Of these, 71 percent are from 0–40 cm bs. The small sample of lithic debris is dominated by gray chert (n=3), along with grayish-brown chert (n=1), black siliceous shale (n=1), Ogallala quartzite (n=1, cortical and heat-treated), and coarse-grained quartzite (n=1). The proportion of chert in the lithic debris is 57 percent.

One piece of FCR weighing 4.6 g was recovered from 20–40 cm bs in a single shovel test (ST ZZ-0). The overall density of all artifacts is 2.00 per positive shovel test.

41LR183 (Field Site 3)

This site is bordered by the facility boundary fence on the east and south sides. It is located within a high site probability area and was originally identified on the basis of a single positive shovel test with prehistoric artifacts. It is approximately 9,717 m² in size. It is possible that at least 60 percent of the site lies outside of the facility to the southeast on a finger ridge overlooking a side drainage of Pat Mayse Lake. This site may contain a deep artifact-bearing zone that could not be reached through shovel testing. Several shovel tests reached 130 cm bs without encountering the sterile red clay Bt zone. A total of 17 STs were dug on site, of these ten contained prehistoric cultural materials.

Artifacts

There are five shovel tests with prehistoric lithic artifacts other than FCR and heat spalls. In these shovel tests, 71 percent of the artifacts are from 0–60 cm bs. The artifact density is 1.40 per positive shovel test. A single flake was recovered between 100–120 cm bs in ST RR-14[N-2] and a FCR fragment came from Level 5 (80–100 cm bs) of ST RR-14. The small lithic assemblage includes two multiple platform cores and eight pieces of lithic debris.

One of the cores (ST RR-14W-3, 60–80 cm bs) has multiple flake removals on a non-heat-treated quartzite cobble that is 58 x 52 x 24 mm in length, width, and thickness. The second core (ST RR-14-N3, 40–60 cm bs) also is a multidirectional non-heat-treated quartzite specimen. It measures 72 x 51 x 46 mm in length, width, and thickness. More than 83 percent of the lithic debris is chert from local gravel sources, including Big Fork chert (n=1), dark gray chert (n=1), dark red chert (n=1, cortical), yellowish-red chert (n=1, cortical), and gray chert (n=1). The other piece is a non-cortical but heat-treated Ogallala quartzite lithic debris from ST W-2.

Two shovel tests approximately five meters apart produced 88.4 g of FCR from two levels in RR-14, and 75.4 g from two levels in RR-14-N1. Two other STs contained one heat spall each (N-17 and RR-12). The overall density of all artifacts is 1.50 per positive shovel test.

41LR184 (Field Site 4)

The site is located in the north-central portion of Survey Area 2 in a high site probability area. It appears that at least a portion of the site is outside Camp Maxey on Corps of Engineers (COE) property overlooking Pat Mayse Lake. This site is approximately 3,962 m² in area. A total of 10 shovel tests were excavated on site (see Figure 8-2). Of these, seven contained cultural materials extending to a depth of at least 80 cm bs.

Artifacts

Seven shovel tests on the landform had prehistoric chipped lithic artifacts between 0–85 cm bs. About 90 percent of the lithic artifacts were found between 0–60 cm bs, and they were concentrated in three shovel tests (STs 4-2, 4-3, and A-15) on the crest of the ridge.

The lithic artifacts consist of one biface, three cores, and 89 pieces of lithic debris. The thick (12.5 mm), ovoid biface fragment (ST 4-7, 0–20 cm bs) is made from a heat-treated coarse-grained quartzite and is 26 mm in width. The three cores consist of one of coarse-grained quartzite (ST A-15, 0–20 cm bs), one of Ogallala quartzite (ST 4-3, 40–60 cm bs), and a multiple platform core of a coarse-grained quartzite with six flake removals (ST 4-7, 20–40 cm bs). The lithic debris is dominated by coarse-grained quartzite (n=37, 60 percent cortical and 54 percent heat-treated) and Ogallala quartzite (n=20, 50 percent cortical and 55 percent heat-treated). Together, these quartzites comprise 64 percent of the lithic debris sample. There are many other raw materials represented in the lithic debris, including: novaculite (n=7, 43 percent cortical and heat-treated), claystone/siltstone (n=7, 29 percent cortical), red chert (n=5, 80 percent cortical and 20 percent heat-treated), brown chert (n=3, 67 percent cortical), grayish-brown chert (n=3, 33 percent cortical), light gray chert (n=2, 100 percent cortical), dark red chert (n=1), dark gray chert (n=1), petrified wood (n=1, cortical), and reddish-brown chert (n=1, cortical). One lithic debris is an unidentified reddish-white chert piece.

FCR was recovered from five STs (4-1, 4-2, 4-3, 4-7, and A-15), and two pieces weighing a total of 121.0 g were found in a surface scatter. A total of 44 FCR, with a weight of 499.1 g, were found in the shovel tests between 20–60 cm bs. One heat spall was recovered from 40–60 cm in ST 4-2, an additional specimen was found in ST 4-1 (0–20 cm bs), and a final piece was recovered from ST 4-8 (0–20 cm bs). An unmodified piece of ocher was recovered from ST A-15, 0-20 cm bs. The overall density of all artifacts is 20.3 per positive shovel test.

41LR185 (Field Site 5)

This site is in Survey Area 2, bordered by the project area boundary to the north. This site contained moderate amounts of material in a small and concentrated area. The site is in an upland wooded area with a gentle slope to the north and nearest drainage. The tip of the landform on which the site is located extends onto COE property overlooking Pat Mayse Lake. This site is approximately 10,097 m² in area. A total of 16 shovel tests were excavated on site. Three of the shovel tests contained cultural materials extending to a depth of at least 60 cm bs.

Artifacts

Of the three positive shovel tests, two (B-5 and 5-3) contained one heat spall each between 0–20 cm bs. The only additional artifact from the site is an FCR fragment from 40–60 cm bs in ST 5-5. It weighs 5.8 grams. The overall density of prehistoric artifacts is 1.00 per positive shovel test. Normally, a site with these three artifacts would not be considered a site. However, one of the fine-grained quartzite heat spalls appears to have a flake scar on its dorsal surface suggesting that debitage also may be present on site.

41LR188 (Field Site 8)

This site is located in the northwest portion of the project area (in Survey Area 2). It occupies a two-pronged toeslope identified as having moderate site probability. This site is approximately 27,630 m² in area. Seven of the 16 shovel tests excavated at the site yielded sparse cultural materials (e.g., lithic debitage, FCR, and heat spalls) to a depth of 80 cm bs.

Artifacts

Six shovel tests have prehistoric chipped lithic artifacts (n=10) between 0–73 cm bs. The seventh positive shovel test (ST 59) yielded a heat spall. Among the ten chipped lithic artifacts is a single multiple platform flake core of reddish-brown chert (ST 54, 0–20 cm bs). It measures 52 x 42 x 26 mm in length, width, and thickness. The chipped lithic artifact density is 1.7 per positive shovel test. Two of the remaining nine debris are coarse-grained quartzite (n=2, cortical and heat-treated), one is a fine-grained quartzite, and the remainder consist of a heat-treated novaculite (n=1), two pinkish-red chert (n=2), a corticate tan chert (n=1), an unidentified dark red chert with inclusions (n=1), and a grayish-brown chert (n=1, corticate).

One heat spall (ST 59) and six FCR, weighing a total of 47.7 g, were recovered between 40–80 cm from

three STs (53, 62, and 70). The overall density of prehistoric artifacts is 2.43 per positive shovel test.

41LR189 (Field Site 9)

The site is located on a relatively flat area between 41LR186, 41LR187, 41LR188, and 41LR202 (FS 6, 7, 8, and 22). The area was identified as having low site probability. The site was estimated to be 18,873 m² in size. A total of seven shovel tests were excavated at this site with three encountering cultural material consisting of debitage and FCR/heat spalls. Artifacts extended to a depth of 80 cm bs.

Artifacts

Two of the seven shovel tests contained prehistoric chipped lithic artifacts between 0–81 cm bs; about 87 percent of the artifacts are from 0–60 cm bs. More than 70 percent of the artifacts came from ST 72. The third positive shovel test (ST 74) yielded a piece of FCR.

Only two (22 percent) of the nine lithic debris are pieces of quartzite; one is coarse, the other is fine-grained. In addition to a non-cortical piece of petrified wood, the remainder are various colored cherts including yellowish-brown chert (n=1), dark grayish-brown chert (n=1, non-cortical), gray chert (n=2), dark gray chert (n=1, cortical), and a red chert with white mineral inclusions (n=1, cortical).

Shovel Test 73 contained a heat spall. A single ST (74, 20–40 cm bs) contained one piece of FCR weighing 6.5 g. The overall density of all prehistoric artifacts is 3.67 per positive shovel test.

41LR192 (Field Site 12)

This site occupies a narrow, north-south oriented landform bordering the western end of the same small drainage associated with 41LR191 (FS 11). The site is within a moderate probability area overlooking the upper portion of the creek and is approximately 13,390 m² in area. Prehistoric materials are scattered on the surface along the upland edge of this site, and buried materials were recovered in six of the 21 shovel tests excavated on site. Prehistoric cultural deposits extend to a depth of at least 100 cm bs.

Artifacts

Five shovel tests yielded prehistoric lithic debris, with about 63 percent from 0–40 cm bs. However, lithic artifacts were recovered from 80–100 cm bs in ST 12-5 and ST KK-8. The sixth positive ST (12-8) contained a single FCR. The lithic debris is dominated by chert raw materials, including red chert (n=5, 100 percent cortical), brown chert (n=1, cortical), gray chert (n=2, 50 percent cortical and one is heat-pocked), and a dark gray chert (n=1, cortical). The final lithic debris is a piece of cortical petrified wood.

A total of nine heat spalls from three STs (12-5, 12-6, and KK-8) were collected between 0–80 cm bs. Only one FCR was collected. It was from ST 12-8, 0–20 cm bs, and weighed 11.7 g. A single piece of glass and four pieces of burned clay (possibly daub) were recovered from the surface of the site. Given its isolated nature, the glass is not assumed to represent a historic component at the site. The overall density of all prehistoric materials is 3.33 per positive shovel test.

41LR194 (Field Site 14)

This site is located on the edge of a moderate probability area in the eastern portion of Survey Area 1, approximately 150–200 meters from a north-south running dirt road. The site is approximately 5,108 m² in area. Thirteen shovel tests were excavated in this site (see Figure 8-3), with eight producing cultural materials including burned nutshells in two units. Material is present to a depth of at least 120 cm bs. An unidentified piece of metal at a depth of 40–60 cm bs suggests the presence of a historic component, although a surface scatter of historic artifacts was not observed.

Artifacts

Seven shovel tests had chipped lithic artifacts between 0–120 cm bs, including 36 pieces of chipped lithic debris. The vertical distribution of artifacts suggests there may be two prehistoric components buried in

the landform, one between 0–40 cm bs (n=14, or 41 percent of the artifacts), and the other between 60–130 cm bs (n=18, or 53 percent of the artifacts); the 40–60 cm bs level contained only four pieces of lithic debris. Chert lithic debris is abundant in both possible components, ranging from 58–67 percent.

The most common raw material represented in the lithic debris is novaculite (n=6, 17 percent heat-treated and 17 percent cortical) and coarse-grained quartzite (n=6, 33 percent cortical and 50 percent heat-treated), followed by Ogallala quartzite (n=5, 40 percent heat-treated). Only 31 percent of the lithic debris is comprised of the two kinds of locally-available quartzite raw materials. The other lithic debris raw materials include: yellow chert (n=2), gray chert (n=3, 33 percent cortical), light gray chert (n=1), red chert (n=1, cortical), siliceous shale (n=1, cortical), petrified wood (n=1), claystone/siltstone (n=3, 67 percent cortical), grayish-brown chert (n=2, 100 percent cortical), reddish-yellow chert (n=1, cortical), brown chert (n=1), reddish-brown chert (n=1, cortical), tan chert (n=1, cortical), and an unidentified white chert (n=1).

Four FCR, weighing a total of 38.0 g, were recovered between 40–120 cm bs in three STs (14-4, 14-10, and 14-11). In addition to these artifacts, 41LR194 is one of the few Camp Maxey sites where charcoal was recovered during testing. Two pieces of carbonized plant remains were recovered from Level 4 (60–80 cm bs) in ST 14-7. The overall density of all prehistoric artifacts is 6.12 per positive shovel test.

41LR195 (Field Site 15)

41LR195 is located on the north bank of a small drainage in the east portion of Survey Area 1, just north and west of 41LR194 (FS 14). It is located on the edge of a moderate probability area. This site is approximately 4,059 m² in area. A total of 11 shovel tests were excavated, with four STs yielding a small number of prehistoric cultural materials and a fifth containing a military bullet. The materials extend to a depth of 80 cm bs.

Artifacts

Three shovel tests had prehistoric chipped lithic debris (n=7) from 0–80 cm bs; 83 percent of the lithic debris is from 0–40 cm bs. Several different raw materials are represented in the lithic debris, including coarse-grained quartzite (n=2, 50 percent cortical and heat-treated), petrified wood (n=1, cortical), gray chert (n=1), novaculite (n=1), and grayish-brown chert (n=1, cortical).

A single heat spall was recovered in ST 15-9 at 20–40 cm bs. The overall density of all prehistoric artifacts is 2.00 per positive shovel test. A military bullet came from ST 15-6a at a depth of 40–60 cm bs.

41LR196 (Field Site 16)

This site is approximately 20,954 m² in size. It is located on the south bank of the same drainage associated with 41LR194 and 41LR195 (FS 14 and 15). The site appears to be a long but narrow scatter of cultural materials along the wooded banks of this drainage (see Figure 8-4). Thirteen of the 18 shovel tests excavated in the site yielded prehistoric materials to a depth of 100 cm bs.

Artifacts

There were 13 shovel tests with prehistoric lithic artifacts between 0–100 cm bs, including fire-cracked rock and 53 pieces of lithic debris. The artifacts were concentrated between 0–40 cm bs (n=19, or 37 percent of the assemblage) and 60–100 cm bs (n=29, or 56 percent of the assemblage), with only five pieces of lithic debris in the 40–60 cm bs level. This distribution suggests there are two distinct components buried in the sandy sediments on the landform. Most of the chipped lithic artifacts are from ST Z-16 (n=11), ST 16-8 (n=9), ST 16-8 (n=8), and ST 16-7 (n=7).

The lithic debris is dominated by coarse-grained quartzite (n=22, 32 percent cortical and 50 percent heat-treated) and Ogallala quartzite (n=13, 11 percent cortical and heat-treated). The overall proportion of quartzite raw materials in the lithic debris is 61 percent, with 56 percent of the lithic debris in the upper component (0–40 cm bs) comprised of quartzite, as compared to 71 percent in the lower component (60–100 cm bs). The remainder of the lithic debris includes novaculite (n=5, 20 percent cortical and 40 percent heat-treated), yellowish-gray chert (n=2, cortical), dark

brown chert (n=1, cortical), brown chert (n=3, 67 percent cortical), claystone/siltstone (n=3, cortical), gray chert (n=2), dark reddish-brown chert (n=1), and a light gray chert (n=1, cortical).

Thirteen heat spalls were found between 0–100 cm bs in six STs (W-24, Y-11, Z-16, 16-6, 16-7, and 16-9). Eleven FCR with a total weight of 158.2 g were recovered in five STs (W-15, Z-15, Z-16, 16-3, and 16-4) between 0–100 cm bs. The overall density of all prehistoric artifacts is 5.92 per positive shovel test.

41LR200 (Field Site 20)

This small site is located about 100–150 meters south of 41LR197 (FS 17) overlooking a moderate-sized drainage immediately to the north (see Figure 8-5). The area was designated as having moderate probability and is approximately 7,004 m² in area. Five of the nine shovel tests excavated near the edge of the finger-ridge yielded prehistoric cultural remains to depths of 100 cm bs.

Artifacts

Five shovel tests had prehistoric chipped lithic artifacts between 0–100 cm bs, but 77 percent of the artifacts were concentrated between 0–40 cm bs. The lithic artifacts include 11 pieces of lithic debris. The lithic debris is dominated by coarse-grained quartzite (n=5, 80 percent cortical and 60 percent heat-treated), and other raw materials represented in the lithic debris are cortical pieces of Ogallala quartzite (n=1), reddish-brown chert (n=1), red chert (n=2), Big Fork chert (n=1), and brown chert (n=1).

A total of six FCR, from four STs (20-10, 20-12, 20-13, and Sweep 19), were collected with a total weight of 145.5 g. Four of the pieces (STs 20-10, 20-13, and Sweep 19) were from 80–100 cm bs. Along with FCR, two pieces of charcoal were collected between 60–80 cm bs in ST 20-10. The overall density of prehistoric cultural materials is 3.8 per positive shovel test.

41LR201 (Field Site 21)

This site occupies a two-pronged finger ridge south of 41LR200 (FS 20) in the southeastern portion of Survey Area 1. It is situated within a moderate probability area and is approximately 26,312 m² in area. It contains three concentrations of artifacts on the surface and seven of the 18 shovel tests also revealed the presence of subsurface materials. These materials extended to a depth of 80 cm bs.

Artifacts

Six shovel tests on the landform contained prehistoric chipped lithic debris between 0–100 cm bs. An additional ST (O-13) contained a military bullet from 0–20 cm bs. Thirty-one percent of the chipped lithic artifacts are from ST 21-7; one piece of lithic debris was also found on the surface at ST Sweep 9. About 62 percent of the lithic debris is a coarse-grained quartzite (n=8, 12.5 percent cortical and heat-treated), and there are single pieces of red chert (cortical), quartz (cortical), brownish-gray chert, yellow chert (cortical), and a dark gray chert (cortical).

Five FCR were recovered from 0–60 cm in ST 21-7. The FCR weighed a total of 37.8 g. The overall density of prehistoric cultural materials is 3.00 artifacts per positive shovel test.

41LR203 (Field Site 23)

The landform that this site is situated on extends to the north and east across the facility fence and onto COE property (see Figure 8-6). The portion of the site in the project area appears to contain at least two clusters of buried deposits. A total of 10 positive STs were encountered out of 26 dug on site. Five positive shovel tests cluster in the north-central area of the site, four other STs cluster in the central area and a single positive ST is near the southern boundary of the site. A number of negative STs were excavated in and around these clusters. The site is estimated at 23,710 m² in area. The spring vegetation consisted of thick, knee-high little bluestem and a clump of small sumac bushes. The surface visibility was minimal.

Artifacts

Seven shovel tests contained prehistoric chipped lithic artifacts between 0–60 cm bs. The prehistoric lithics were roughly equally distributed in the 0–20, 20–40, and 40–60 cm levels. Six of the lithic artifacts are pieces of Ogallala quartzite lithic debris (17 percent cortical and 50 percent heat-treated). The remaining piece of lithic debris is a non-heat-treated and non-cortical red chert. Additionally, one fragment of burned nutshell was recovered from Level 3 of ST 23-10.

ST 23-17 (40–60 cm bs) contained one FCR weighing 95.3 g. Three heat spalls were recovered between 0–40 cm in three STs (23-3, 23-12, and B-12). The overall density of prehistoric cultural materials is 1.2 per positive shovel test.

41LR204 (Field Site 24)

This site (see Figure 8-7) occupies an upland interfluvial ridge with an open, grassy field and a grove of hardwood trees dominated by walnut and oak. It is approximately 11,912 m² in area. The surface visibility was estimated at five percent in the field of little bluestem and up to 50 percent visibility in the western wooded area of the site. Fourteen of the 26 shovel tests excavated on site were positive. Several unique items were recovered from surface contexts. Visible disturbances to the site included a military "foxhole" and tank tracks cutting through the site. These tank tracks impacted to approximately 25 cm below the surface.

Artifacts

Nine shovel tests had prehistoric chipped lithics and ceramics between 0–63 cm bs; two other chipped lithic artifacts came from the surface by ST 24-1 and ST 24-2. The twelfth ST (24-9) yielded a piece of animal bone from 0–20 cm bs. One heat spall and a fire-cracked rock came from the last two positive shovel tests (ST F-8 and ST G-8). Sixty-two percent of the artifacts are from the northern end of the site (ST 24-18, ST G-10, and ST 24-5). This is the same area that contains the prehistoric ceramics (STs 24-1 and 24-18).

The 35 chipped lithic artifacts include a bifacially flaked cortex-backed chopper or wedge, a thick biface from surface context, and 33 pieces of lithic debris from the shovel tests. The small cortex-backed chopper or wedge (near ST 24-2) has a bifacially flaked edge, and while it may have been too light to have served as a chopper, it may have been used as a wedge. It is made on a heat-treated coarse-grained quartzite pebble (76 x 51 x 27 mm in length, width, and thickness). The thick biface (near ST 24-1) is made from a non-heat-treated coarse-grained quartzite; it measures 59 x 55 x 23 mm in length, width, and thickness.

Several different kinds of local raw materials are represented in the lithic debris, with a coarse-grained quartzite dominating the lithic debris assemblage: coarse-grained and Ogallala quartzite (n=24, 35 percent cortical and 43 percent heat-treated), grayish-brown chert (n=2, 50 percent cortical), black siliceous shale (n=1, zero percent cortical), novaculite (n=2, 50 percent cortical), banded brown-dark brown chert (n=1, probably Woodford chert, 100 percent cortical), and gray chert (n=3, 33 percent cortical). The proportion of quartzite among the lithic debris is 71 percent.

Two shovel tests at the northern end of the site (ST 24-1, 0–20 cm and ST 24-18, 40–60 cm) contained prehistoric ceramic sherds, with two sherds in the first positive ST and one in the second (overall ceramic density is 0.21 per positive shovel test). All three of the plain body sherds (6.7–7.4 mm in thickness) are tempered with grog (crushed sherds) and represent two separate vessels that have been fired in a reducing environment, but cooled in a high oxygen environment.

One heat spall each came from ST F-8 (20-40 cm) and ST G-10 (20–40 cm) and six FCR (total weight 17.7 g) from four STs (24-1, 24-18, G-8, and G-10) between 0–60 cm bs were recovered from 41LR204. The overall density of prehistoric materials is 3.35 per positive shovel test.

41LR205 (Field Site 25)

41LR205 occupies an upland landform on the east side of a small intermittent and unnamed creek in Survey

Area 8. The site is approximately 12,314 m² in area. The north end of the site is in an open grassy field while the south, east, and west boundaries of the site lie in wooded areas lining the two creeks. A total of 18 shovel tests were excavated on site, five of these contained artifacts. Shovel testing revealed an average depth to clay of between 50 and 60 cm bs.

Artifacts

Five separate shovel tests contained prehistoric lithic debris (n=8) between 0–40 cm bs, with a total artifact density of 1.60 per positive shovel test. Fifty percent of the lithic debris is from only 0–20 cm bs.

The lithic debris includes coarse-grained quartzite (n=6), red chert (n=1), and petrified wood (n=1). The petrified wood piece is non-cortical and non-heat-treated, while 83 percent of the coarse-grained quartzite lithic debris is non-cortical and heat-treated; the red chert piece is cortical. A single heat spall was recovered from the site in ST 25-3, 0–20 cm bs. The overall density of prehistoric artifacts is 1.80 per positive shovel test.

41LR206 (Field Site 26)

This site is located on an upland landform that slopes to the north and west. It is approximately 3,779 m² in area. The site is north of a facility road (running east-west) and is approximately 200 m northwest of Casey Cemetery. A few small "pimple mounds" are present in this area. These were tested, but not all contained artifacts. The vegetation consists of scattered hardwood trees with medium undergrowth, with heavier tree cover north and west of the site. Surface visibility was estimated at zero percent due to ground debris and vegetation. This site is southeast of the floodplain of an unnamed drainage, and slopes steeply to the drainage. A total of 12 shovel tests were excavated to define this site, with only two containing artifacts.

Artifacts

A single core (ST S-15, 20–40 cm) of a local brown chert comprises the only prehistoric chipped lithic artifact from the site. It has multiple platform flake removals, and measures 49 x 25 x 17 mm in length, width, and thickness. One heat spall from ST 26-4, 0–20 cm bs, was recovered, as well as one FCR weighing 47.3 g from ST S-15, 20–40 cm bs. The overall density of prehistoric artifacts is 1.5 per positive test.

41LR207 (Field Site 27)

This site (see Figure 8-8) is approximately 8,227 m² in area. To the east of the site lies the nearest extant water source, an unnamed tributary to Sanders Creek. Dense vegetation along this creek provides the riparian setting with poison oak and ivy, bull nettle, and mixed hardwoods (including blackjack oak and walnut). Heavy leaf cover prevented any surface visibility. A series of small gullies are eroding to the east of this drainage. Other effects of erosion can be observed along the east edge of the landform and site. This erosional pattern could have impacted the archaeological deposits and may continue to effect the site in the future. For example, a small gully is extending between clusters of positive shovel tests around ST BB-7, ST BB-10 and ST BB-15. Although located close to historic sites, no disturbances from human activity were observed at 41LR207. The landform slopes gently to the creek and was tested with 17 shovel tests, of these, seven contained prehistoric artifacts.

Artifacts

Six shovel tests at this site contained prehistoric chipped lithic debris (n=15) between 0–80 cm bs. A seventh positive ST (27-3) yielded a single piece of FCR. Seventy-one percent of the chipped lithic artifacts are from three shovel tests (ST 27-1, ST 27-2, and ST BB-7) in the northern and northwestern part of the landform.

The raw materials represented in the lithic debris are diverse, but apparently all are from local sources (i.e., Red River gravels). They include a coarse-grained quartzite (n=7, 43 percent cortical, 29 percent heat-treated), gray chert (n=2, zero percent cortical), Ogallala quartzite (n=4, 75 percent cortical, 50 percent heat-treated), dark gray chert (n=1, 100 percent cortical), a yellowish-gray banded chert (n=1, zero percent cortical), red claystone/siltstone (n=1, 100 percent cortical, and the specimen is heat-pocked), and

a yellow chert (n=1, 100 percent cortical). The proportion of quartzite in the lithic debris is 65 percent.

One FCR with a weight of 1.8 g was recovered from ST 27-3 (0–20 cm bs). A single military issue bullet was recovered from ST 27-2, Level 1 (0–20 cm bs). The overall density of prehistoric artifacts is 2.57 per positive shovel test.

41LR208 (Field Site 28)

This site is on a small terrace east of the floodplain of an unnamed creek that drains to Pat Mayse Lake, which is over one kilometer to the north (see Figure 8-9). This site is approximately 4,720 m² in area. The northern half of the site is open with little bluestem and sumac bushes, while the southern half of the site contains hardwoods and conifers. Surface visibility was estimated at 7–10 percent for the site overall. This terrace contains a distinct military training feature probably used during the WWII period of base operations (Maj. Michael Diltz, personal communication). This feature is a fairly elaborate trench placed on the south crest of this low ridge or terrace, and it contains several pieces of sheet metal and barbed wire. This military entrenchment was approximately one meter deep and removed an estimated 15 percent of the entire landform. The earth which was removed from the trench was apparently mounded around the trench.

A total of 12 shovel tests were dug in the site. In general, clay was reached at a depth of between 50 and 55 cm bs. Ten STs were positive with prehistoric artifacts, including ST 28-2, which recovered evidence of a feature containing FCR, charcoal, and two possible diagnostic artifacts (one arrow point and one reworked dart point). Three backhoe trenches (BHT 14, 15, and 16) were placed in the vicinity of the site, and one test unit (TU 6) was placed in the wall of BHT 16 at approximately five meters north of the datum. The test units also contained prehistoric artifacts.

Artifacts

Eight shovel tests and a 50-x-50-cm test unit (TU) associated with BHT 16 yielded prehistoric chipped lithic artifacts between 0–60 cm bs. About 85 percent of the artifacts are from depths of 0–40 cm bs. Four shovel tests on the crest of the landform (ST 28-1, ST 28-2, ST 28-9, and ST 28-10) have the highest densities of prehistoric lithic artifacts.

The 34 chipped lithic artifacts include a Late Archaic style dart point from ST 28-2 (0–20 cm bs), a bifacial tool fragment (a possible dart point tip) from the same provenience as the dart point, and 32 pieces of lithic debris. The dart point has a straight stem with well-developed barbs, and the blade has been broken by an impact fracture. It is made of a non-heat-treated coarse-grained quartzite, and is 30 mm in width, 6.9 mm in thickness, and has a 13.0 mm stem width. The bifacial tool fragment (only 3.7 mm in thickness) has a sinuous edge and is made from a dark gray and lustrous chert.

The lithic debris is dominated by pieces of coarse-grained quartzite (n=22; 68 percent of the sample), 45 percent of which are cortical pieces and 72 percent are from heat-treated cobbles and pebbles. One of the quartzite debris is a grayish-brown quartzite probably from the Atoka Formation in the Ouachita Mountains of southeast Oklahoma (see Banks 1990), and present also in Red River gravels. Other raw materials represented in the lithic debris include red chert (n=3, 100 percent cortical), reddish-brown chert (n=1, cortical), reddish-gray chert (n=1, cortical and heat-treated), yellow chert (n=2), dark gray chert (n=1), brown chert (n=1, heat-treated), and brownish-gray chert (n=1, cortical).

Heat spalls and FCR were recovered from STs and a Test Unit (TU) on site 41LR208, all between 0–60 cm bs. The STs produced four heat spalls (STs 28-2, 28-8, and 28-9, between 20–60 cm bs) and 46 FCR. The FCR had a total weight of 293.5 g and came from six STs (28-1, 28-2, 28-3, 28-7, 28-9, and 28-12). One heat spall and four FCR (24.7 g) were found in TU 6. In addition, five proveniences yielded charcoal including ST 28-2, Levels 1, 2, and 3; ST 28-7, Level 1; and ST 28-9, Level 1. The overall density of prehistoric artifacts and ecofacts is 8.81 artifacts per positive unit.

41LR211 (Field Site 34)

This site is located across the facility road and due north from Casey Cemetery. The dominant vegetation

consisted of mature hardwood trees. This site is approximately 10,595 m² in area. The surface visibility was estimated at five percent due to low undergrowth and leaf litter. It has an undulating surface with flat, low mounds and slightly lower, eroded areas between these mounds. It contains mostly shallow soils with a few pockets of deep sandy soils (less than 100 cm in depth). A total of 23 shovel tests were excavated, with six resulting in the recovery of prehistoric cultural remains. Moderate concentrations of iron concretions and pebbles were found consistently throughout the sandy loam. Military use and associated disturbances were confirmed through the discovery of a shell of a land mine on the surface near ST BB-19. This artifact probably dates to WWII era (Maj. Diltz, personal communication). BHT 1 was excavated at this site on December 14, 1999 for a geomorphological profile.

Artifacts

Four shovel tests at this site contained prehistoric chipped lithic artifacts (n=4) between 0–60 cm bs. The positive shovel tests occur on two separate knolls about 25 m apart.

The lithic artifacts include only debris from tool manufacture/maintenance. Four different raw materials are represented in the small artifact sample: coarse-grained quartzite (n=1, cortical), Ogallala quartzite (n=1, non-cortical and heat-treated), light yellow chert (n=1, cortical), and quartzitic sandstone (n=1, non-cortical). The gray quartzitic sandstone debris probably originated in the Atoka Formation in the Ouachita Mountains of southeast Oklahoma (see Banks 1990). This raw material would have been available in the Red River gravels.

Heat spalls were found between 20–60 cm bs in STs 34-8, 34-13, and BB-16. A single piece of fire-cracked rock came from ST 34-13, Level 3. The overall density of prehistoric artifacts is 1.33 per positive shovel test.

One historic artifact was observed on the surface—a handmade brick. The isolated artifact was insufficient to define a historic component on site.

41LR212 (Field Site 35)

This upland site (see Figure 8-10) included a small (15 m diameter) pimple mound just east of 41LR204. This site is approximately 3,006 m² in area. A tree-lined, abandoned county road separates the two sites. 41LR212 is also less than 100 m north and east of 41LR205. Two small trees and thick little bluestem make up the fall vegetation. An unnamed creek to the east of this site drains the surrounding landform towards Pat Mayse Lake to the north. The east-west running property fence is 36 meters from the site. A military foxhole is the dominant feature on this small site. It is in the center of the mound and disturbed approximately 10 percent of the site. The only surface visibility is the relatively bare but disturbed area around the foxhole. Observed surface artifacts included one gray chert flake, one red chert late-stage biface, and one red-gray quartzite flake. One prehistoric pottery sherd was collected from the foxhole back dirt. Twelve shovel tests were dug at this site, three of which contained prehistoric artifacts. Most of the STs encountered clay at less than 30 cm bs, with the exception of ST 35-3.

Artifacts

Two shovel tests on the crest of the knoll contained prehistoric chipped lithic and ceramic artifacts between 0–20 cm bs. The third positive ST (35-4) contained a piece of FCR.

The lithic artifacts include four pieces of lithic debris from the shovel tests and a biface from the site surface. The thin, ovoid biface preform is made from a heat-treated, coarse-grained quartzite, and is 47 x 33 x 8.0 mm in length, width, and thickness. Two of the three pieces of lithic debris are coarse-grained quartzite (50 percent heat-treated and 100 percent cortical), and the other is a grayish-brown chert from Red River gravels. The coarse-grained quartzite lithic debris from ST 35-3 (0–20 cm bs) is a greenish-gray color, and probably originated in the Atoka Formation in the Ouachita Mountains of southeast Oklahoma (see Banks 1990). This raw material would have been available in the Red River gravels.

The ceramics from the site consist of a plain body sherd from ST K-1 (0–20 cm bs) and a plain rim sherd

from the surface at ST 35-3. Both are tempered with grog and have thick body walls (8.7–9.4 mm). The rim is direct with a rounded lip, and is from a vessel that was fired in a reducing environment and cooled in a high oxygen environment. The plain body sherd is from a vessel that was oxidized during firing.

A total of five pieces of FCR weighing 5.8 g were collected from three STs (35-3, 35-4, and K-1) at 41LR212. Four of the FCR came from 0–20 cm bs, one piece was encountered at 20–40 cm bs. The overall density of all prehistoric artifacts is 3.66 per positive shovel test.

41LR213 (Field Site 37)

This prehistoric site is in Survey Area 12, in the northeast section of the property (see Figure 8-11). It is an upland site with large oak and pine dominating the vegetation. Very little undergrowth was encountered in the fall, however, leaf litter prevented any surface visibility. This landform extends to the southwest onto COE property, but the majority of the landform is within the project confines. A steeply sloping bank on the east and southeast sides of the landform overlooks a relatively large creek which drains to a tributary to Pat Mayse Lake. This site is approximately 12,849 m² in area. A total of 21 shovel tests were dug at this site, five of which contained prehistoric cultural materials. Soils were relatively shallow and the average depth to clay was between 20 cm and 50 cm bs. One Late Archaic dart point was recovered from ST 37-1 at 30 cm bs. Military use on this landform was confirmed by a black and orange metal sign (which read "25") marking this as a training area, and a military flashlight (UI 7) was found on the surface near ST FF-3.

Artifacts

Five shovel tests contained prehistoric lithic artifacts between 0–60 cm bs. The artifacts include seven pieces of lithic debris and a single Gary dart point from ST 37-1 (20–40 cm bs).

The Gary point is made from a gray chert raw material available in the Red River gravels. Its thickness (6.5 mm) and stem width (15.0 mm) are consistent with the Gary, *var. Camden* dart point form manufactured between ca. A.D. 200–700 along the Red River (cf. Schambach 1982, 1998). The point is 51 mm long with a maximum width of 36 mm.

The lithic debris is comprised of a coarse-grained quartzite (n=3, 67 percent cortical, 33 percent heat-treated), petrified wood (n=2, 50 percent cortical), a yellowish-gray chert (n=1), and a non-cortical and heat-treated novaculite piece. These raw materials are available in local upland and Red River gravels.

One large FCR (weighing 131.0 g) was recovered from 0–20 cm bs in ST 37-1. The overall density of all prehistoric materials is 1.50 per positive shovel test.

41LR214 (Field Site 38)

This site is situated on a terrace directly across a west-draining creek from 41LR213 (see Figure 8-12). The site is approximately 35,718 m² in area. Two natural springs are located just off the southwest boundary of the site. The COE property fence corner and fence limits access to approximately 10 percent of the landform that this site covers. Medium- to large-sized hardwood trees and riparian plants near the creek banks dominate the vegetation at this site. This site contains pockets of deep sandy soils and has an undulating surface. These deeper soils are encountered on pimple mounds that were the prime locations for shovel tests. Notable surface features include plow marks still visible on approximately 20 percent of the site's surface. These plow marks are located between densely spaced, moderate-sized hardwood trees indicating that the plowing activities occurred at least 40 years ago.

A total of 31 shovel tests were placed at the site, thirteen were positive with prehistoric artifacts. Depths to clay varied with shallow sandy soils, or those with less than 40 cm bs to clay, in 29 percent of the STs (KK-10a, MM-6, MM-6a, MM-6b, NN-10, NN-10a, NN-11, NN-13a, and 38-8); moderately deep sandy soils with clay between 40 cm and 60 cm bs in another 29 percent of the STs (II-8a, MM-6c, NN-13c, NN-13d, 38-1, 38-4, 38-7, 38-10, and 38-11); and deep sandy soils containing clay at 61 cm to 115 cm bs or deeper (i.e., clay was not encountered) in 42 percent

of the STs (II-8, JJ-9, JJ-10, KK-10, NN-13, 38-2, 38-3, 38-5, 38-6, 38-9, 38-12, 38-13, and 38-14).

Artifacts

Nine shovel tests on several different knolls and landforms contained prehistoric chipped lithic artifacts (n=20) between 20–100 cm bs. One hammerstone was collected from the surface near ST 38-5, on the northernmost knoll. Thirty-one percent of the artifacts recovered during the shovel testing are from ST 38-5, with much lower artifact densities across the remainder of the site. In addition to these nine STs, four (ST 38-2, ST 38-7, ST 38-12, ST MM-6c) contained only pieces of FCR and/or heat spalls, and in addition to lithic artifacts ST 38-5 yielded a single military bullet.

In addition to the hammerstone, 19 pieces of lithic debris, and a contracting stem dart point comprise the prehistoric artifact assemblage from the site. The hammerstone is made from a non-heat-treated coarse-grained quartzite cobble that is 60 x 48 x 36 mm in length, width, and thickness. The contracting stem dart point (ST KK-10, 20–40 cm) is a medial fragment, and is made from a coarse-grained quartzite. The broken point is 26 mm in width, 6 mm in thickness, and has a stem width of 15.0 mm; the blade thickness and stem width suggest the point fragment is a Gary, *var. Camden*, and dates to the Woodland period (cf. Schambach 1982, 1998).

The lithic debris is dominated by coarse-grained quartzite (n=16), which represents 84 percent of the debris sample. About 56 percent of the coarse-grained quartzite debris is cortical, and 68 percent is from heat-treated cobbles and pebbles. The other lithic debris includes novaculite (n=2), and yellow chert (n=1, cortical).

Eight heat spalls were excavated from STs 38-2, 38-5, and 38-13, distributed below surface from 0–40 cm, 60–80 cm, and 100–120 cm. Seven STs (38-12, 38-2, 38-7, KK-10, MM-6c, 38-5, and 38-14) yielded nine FCR weighing 132.9 g total, distributed between 0–100 cm bs. The overall density of prehistoric artifacts from the site is 2.92 per positive shovel test.

A single large glass bottle was recovered from the surface of the site. The medicine bottle has a screw-top and was made in Three Rivers, Texas. It was manufactured sometime after 1903, most likely between 1920 and 1930 (Anne A. Fox, personal communication). Given its isolated context, a historic component was not defined at the site.

41LR215 (Field Site 39)

This site is located to the west, across a permanent stream from 41LR214. The stream is supplemented by springs or seeps located on the east bank of the stream. These springs or seeps make this area a prime location for occupation in the past, both historically and prehistorically. The vegetation is moderately dense tree cover of oak and hickory with no large trees present on the west side of the creek. Very little ground cover on the majority of the site provided approximately 20 percent surface visibility, except along the creek where the vegetation is thick. This site is approximately 50,667 m² in area. 41LR215 is located in high and moderate probability survey areas and is bordered on the southwest by a high ridge. The majority of this ridge was surveyed previously by TXARNG (AGD 1993). A dry ravine borders the landform to the west. The nearest drainage is the spring-fed creek, which is also the east border of the site. These springs are due east from the site.

Seven STs contained prehistoric cultural materials, out of a total of 38 shovel tests excavated at this site. Small groups of positive STs were encountered on low "humps" (which are approximately 10 m² in area). These humps contain 40 to 60 cm of sandy soils, with no or very shallow sandy soils in between the humps. Plough furrows near the NE quadrant of the site were observed and clay is present at the surface. These observations indicate probable heavy erosion due to clearing and plowing activities. A cedar-post fence line with barbed wire was noted along the mid-slope of the landform. No obvious military disturbances were recorded.

Artifacts

Four shovel tests on four separate knolls contained prehistoric chipped lithic artifacts between 0–90 cm bs.

On the northern knoll, ST JJ-15 had a cortical piece of coarse-grained quartzite lithic debris between 40–60 cm bs. Shovel test LL-10 on the middle knoll contained three pieces of quartzite lithic debris, one found from 0–20 cm bs and the others between 80–90 cm bs. All three quartzite pieces are cortical and are from heat-treated cobbles or pebbles. On the southern knoll, ST 39-11 had two pieces of lithic debris between 0–60 cm bs. These pieces are of gray chert (cortical) and novaculite. The easternmost knoll had two pieces of novaculite lithic debris, both non-cortical, from ST MM-9, Level 4 (60–80 cm bs).

Two STs (JJ-15 and LL-9) yielded heat spalls between 20–60 cm bs, and one FCR weighing 1.3 g was recovered from LL-10 at 20–40 cm bs. The overall density of prehistoric artifacts is 1.83 per positive shovel test.

41LR216 (Field Site 40)

41LR216 is on the south end of the same landform as 41LR215. This site is approximately 13,363 m² in area. Pine, blackjack oak, white oak, hickory and two yucca plants make up the notable vegetation at this site. Surface visibility was estimated at five percent, mainly confined to areas where runoff from the higher slope has begun to cut small gullies. The creek is to the east of the site. A deeply cut ravine, just off of the south edge of this landform, provides the southern site boundary and allowed an inspection of the soil profile at this end of the landform. This ravine also separates the site from an isolated find at ST UU-12, across the ravine about 25 m away.

Seventeen shovel tests were dug, with five producing prehistoric artifacts. Shovel Test TT-12 contained a broken projectile point and two flakes. This small collection of lithic material, along with numerous negative shovel tests in the vicinity, would indicate a short-term hunting camp.

Artifacts

Four shovel tests at this site had prehistoric lithic artifacts between 0–60 cm bs. An additional shovel test, ST 40-8, contained three bullet slugs (0–40 cm bs), from military training exercises.

Five lithic artifacts are pieces of lithic debris, four of which are coarse-grained quartzite (50 percent cortical). The fifth piece of lithic debris is a cortical gray chert blade 42 mm in length, 19 mm in width, and 8.5 mm thick. A dart point blade and tip came from ST TT-12 (40–61 cm bs). It has been made on a non-heat-treated coarse-grained quartzite.

One heat spall from ST QQ-3, 20–40 cm bs, was recovered at 41LR216. The overall density of prehistoric artifacts is 1.40 per positive shovel test.

41LR217 (Field Site 41)

41LR217 is on the east side of the spring-fed drainage. 41LR214, 41LR215, and 41LR216 (FS 38, 39, and 40) are adjacent to this perennial creek. The creek is 20 m west of the 41LR217 site boundary and this riparian setting supports oak, cedar, and pine. These are mostly mature trees, and with the riverine undergrowth surface visibility was estimated at 10 percent. This small landform contains a 40 cm lens of the sandy loam. A natural tributary on the north, and the ravine to the south, were used as site boundaries. Based on the distribution of subsurface artifacts, this site is approximately 50,651 m² area.

Besides the nearby springs, another natural resource was noted in the creek bottom—a fine, gray clay deposit. This deposit was mapped and GPS points were collected here as well. The clay is consistent with the type of raw clay that Caddo potters use to make their pottery today (Bobby Gonzalez, personal communication). Erosion is evident at the site with small cuts draining this landform to the creek. Cultural materials were found in seven out of the 31 shovel tests excavated at this site. One of the sections of the landform which contained positive shovel tests (ST SS-13 and ST 41-1) has a cutbank facing the creek that clearly shows heavy erosion from the creek overflow. This part of the site is in danger of eroding further.

Historic or military features are present at this site as well. A reinforced (with iron rebar) concrete trough, 3.2 x 1.7 x 2 m, is located at the northwest edge of the site. This trough has a sloped ramp leading down into it from the east. Two cedar fence posts with attached

barbed wire are adjacent to this feature. Two possible interpretations for this feature are a military bunker or a possible livestock dipping tank.

Artifacts

Prehistoric lithic artifacts were recovered from five shovel tests at the site. They are from 0–60 cm bs. Three additional STs (QQ-6, VV-10, and XX-10) contained military bullets between 0–40 cm bs.

Shovel Test QQ-6 (0–20 cm bs) has a tested cobble of greenish-gray quartzite, probably from the Atoka Formation in the Ouachita Mountains and Red River gravels. It is 83 x 52 x 34 mm in length, width, and thickness. The four pieces of lithic debris include a cortical piece of brownish-gray chert, a dark gray decorticate flake of probable non-local origin, a non-heat-treated decorticate reddish-gray fine-grained quartzite flake, and a heat-treated and cortical piece of fine-grained quartzite, respectively. No FCR was recovered. The total prehistoric artifact density is 0.7 per positive shovel test.

41LR220 (Field Site 44)

This prehistoric site occupies a relatively flat ridge sloping to the west and to the east toward the COE boundary fence. The site is approximately 20,658 m² in area. Mixed deciduous trees (small and medium oaks) with 12–15 large, mature pine trees dominate the site. Other vegetation includes patches of pine saplings and very little undergrowth. Visibility was minimal due to the thick pine duff covering the surface. Deep, well-drained soils indicated a high site potential. Average thickness of the sandy mantle was between 60 and 100 cm. An unnamed tributary north of the site joins a larger unnamed tributary to the east of the site and drains to Pat Mayse Lake. The only visible disturbance at the site is along the boundary fence on the east edge of the site. There appears to have been a fence-line road at one time, this road is now out of use. A total of 19 shovel tests were excavated during two separate visits to the site. Eleven of the shovel tests excavated at this site contained prehistoric artifacts.

Artifacts

Prehistoric chipped lithic artifacts (n=17) were found in ten shovel tests in two different locales on the landform about 50 m apart. The northern locale had eight positive shovel tests with lithics found between 0–80 cm bs, and an artifact density of 1.8 per positive shovel test. There were two positive shovel tests in the southern locale, and artifacts were found from 0–60 cm bs there; the artifact density is 1.0 per positive shovel test. The eleventh positive ST (44-5) contains a single piece of FCR.

The northern locale had 15 pieces of lithic debris, one each of black Big Fork chert, a cortical brownish-gray chert, five Ogallala quartzite (cortical but not heat-treated), a non-heat-treated novaculite, and seven pieces of coarse-grained quartzite (33 percent cortical and heat-treated). One quartzite lithic debris from ST 44-1 (60–80 cm bs) has a "sugary" texture, common among the quartzites in Red River gravels in the Montague County, Texas area, and present in limited amounts in other prehistoric sites at Camp Maxey (Nickels et al. 1998:60). The two southern shovel tests had cortical pieces of gray chert and grayish-brown chert lithic debris.

Two pieces of FCR with a combined weight of 24.8 g were recovered from STs 44-1 and 44-5, between 40–60 cm bs. Two additional pieces came from ST Sweep 1 and Sweep 3, respectively. They were found between 40–80 cm bs and have a combined weight of 39.3 g. The overall density of prehistoric artifacts is 1.91 per positive shovel test.

41LR221 (Field Site 45)

41LR221 occupies a small finger ridge on the east of the unnamed creek in Survey Area 16. This creek drains to the north into Pat Mayse Lake. The site is located in a high probability area and is approximately 10,840 m² in area. This finger ridge landform is surrounded on three sides by a creek that makes a bend in its current channel. Erosion on these three sides has probably impacted the site, but to what extent could not be determined. Mixed pine, oak, and juniper trees and low riparian vegetation allowed approximately five percent surface visibility. Three positive shovel

tests out of 13 dug on site yielded prehistoric artifacts in moderately shallow soils (ranging from 25 cm to 87 cm to clay), and one ST (K-8) contained a military bullet slug.

Artifacts

Two shovel tests had prehistoric lithic artifacts between 20–60 cm bs. ST 45-1 (40–60 cm bs) had a piece of non-cortical and non-heat-treated coarse-grained quartzite lithic debris, and ST K-13c (20–40 cm bs) had a cortical piece of novaculite.

The third positive ST (L-14) from the site contained two FCR (38.9 g total weight) from 20–40 cm bs. The overall density of all prehistoric artifacts is 1.33 per positive shovel test.

41LR222 (Field Site 46)

This upland site contains large oak, pine, and mixed hardwoods with thick brush on the east and central portions of the site. The site is approximately 22,018 m² in area (see Figure 8-13). An unnamed drainage (the same creek that 41LR220 and 41LR221 are situated on) is west of this site. It was identified as a prehistoric site of unknown temporal designation. There were no obvious disturbances to the site. A broken piece of historic crockery was identified on the surface on the mid-sloping western edge of the site. However, no other historic artifacts were identified and therefore no historic component was defined at the site. A total of 18 shovel tests were excavated at this site, seven of which contained cultural materials. Soil depths of the sandy loam varied from less than 30 cm to 100 cm bs. Three military bullet slugs were recovered between 0–40 cm bs in STs B-23, C-20, and G-10.

Artifacts

Six shovel tests contained prehistoric lithic artifacts between 0–100 cm bs. The seventh positive ST (G-10) contained a military bullet.

The lithic artifacts are represented by an arrow point fragment (ST E-15, 60–80 cm bs) and seven pieces of lithic debris, 50 percent of which is chert. The arrow point has a broken stem, but it appears to have been corner-notched. It was made from an unidentified pinkish-red chert that has many white mineral inclusions. The arrow point has a 20 mm long blade, and is 15.5 x 3.8 mm in width and thickness. Stem width is 4.6 mm.

One cortical quartzite lithic debris is from ST B-23 (0–20 cm bs), and an additional coarse-grained cortical fragment is from ST C-20 (60–80 cm bs). The chert debris includes tan chert (n=1, cortical), gray chert (n=1, cortical), Big Fork black chert (n=1, cortical), dark gray chert (n=1), and brown chert (n=1, cortical). The prevalence of chert debris and the high proportion of cortical chert lithic debris (67 percent) suggests these materials were procured from nearby local gravel sources.

Five FCR weighing a total of 14.4 g were recovered at 41LR222 from two STs (E-15 and B-23, between 40–80 cm bs). The artifact density is 2.28 per positive shovel test.

41LR223 (Field Site 47)

This site is on a long and relatively wide upland finger ridge landform which dominates the terrain in Survey Area 15. This prehistoric site has unnamed drainages on the eastern and western flanks. The main landform runs north-northwest by south-southeast and slopes gently on the northern and southern sides. The area is heavily wooded with several large white oaks and various medium sized blackjack oak and hickory trees. This maturing forest contains little undergrowth. Surface visibility was zero percent due to heavy leaf litter. The site is approximately 35,142 m² in area. Shovel testing encountered deep sandy soils along the spine of the ridge (including ST D-10, ST D-8, ST 47-1, ST 47-7, and ST E-8), with more shallow soils encountered on the flanks of the landform. A total of 14 shovel tests were conducted, with eight yielding prehistoric cultural materials.

Artifacts

Five shovel tests had prehistoric chipped lithic artifacts, five pieces of lithic debris and a core, in deposits from 20–80 cm bs. Three additional positive STs

(D-10, E-8, and 47-4) contained only heat spalls and/or pieces of FCR. One of these (ST 47-4) also yielded carbonized nut shell fragments.

The coarse-grained quartzite core, from ST D-8 (60–80 cm bs), has a single platform of flake removals and is 63 x 58 x 40 mm in length, width, and thickness. The raw materials represented in the lithic debris include coarse-grained quartzite (n=1, cortical), Ogallala quartzite (n=1, cortical), yellow chert (n=1, cortical), novaculite (n=1, heat-treated), and a lustrous gray chert (n=1, heat-treated). Two small pieces of carbonized nutshell were recovered from ST 47-4, Level 4 (60–80 cm bs).

A total of 10 FCR weighing 59.9 g from four STs (47-1, E-8, D-10, and 47-4) were found between 20–100 cm bs at 41LR223. The overall density of prehistoric artifacts is 2.25 per positive shovel test.

41LR224 (Field Site 48)

41LR224 is on the northwest end of the same landform as 41LR223 (FS 47), separated by a 45 m gap. An unnamed drainage east of the property fence (COE) leads to Pat Mayse Lake. Shallow soils and negative shovel tests border the site on all sides. This upland setting contains mature blackjack oak, pine and oak saplings, and thick underbrush. Surface visibility was estimated between 0–15 percent, with some visibility in the open but disturbed areas of the site. These disturbances included rodent burrows and two tree falls, but no obvious military or historic use was noted. This site is approximately 6,198 m² in area.

A total of 13 shovel tests were dug at the site with five positive shovel tests resulting in the recovery of flakes, FCR, and a diagnostic projectile point (ST 48-1).

Artifacts

Four shovel tests on the crest of the landform contained prehistoric chipped lithic artifacts between 20–60 cm bs. The fifth positive ST (48-10) contained only FCR.

A contracting stem dart point of probable Late Archaic age is from ST 48-1. It has a flat base, a narrow stem (14.0 mm), and rectangular shoulders, and has been made on a coarse-grained and non-heat-treated quartzite. The blade has been broken by a lateral fracture. It was recovered at 45 cm bs at the contact zone with the clay. The other lithic artifacts from the site are lithic debris, namely a cortical piece of grayish-brown and dark gray chert from ST 48-7 (40–60 cm bs), and a heat-treated coarse-grained quartzite piece from ST G-4 (20–40 cm bs). The final specimen is a cortical quartzitic sandstone flake that probably originated in the Atoka Formation in the Ouachita Mountains of southeast Oklahoma (see Banks 1990). It may have been procured from Red River gravels.

Four FCR were recovered from two STs (48-1, 0–60 cm bs, and 48-10, 60–80 cm). The FCR had a total weight of 30.2 g. The overall density of prehistoric artifacts is 1.8 per positive shovel test.

41LR226 (Field Site 50)

This site sits on an upland landform in the north-central portion of the project area, in Survey Area 17, overlooking Pat Mayse Lake. The lake is less than one kilometer due west of the site. Mixed oak, juniper, and hickory trees with blackberry bushes and grape vines are the dominant vegetation. Surface visibility was zero percent during the late fall site visit. This site is approximately 27,450 m² in area (see Figure 8-14). Soil depths to clay varied between 40 and 87 cm bs. The old roadbed that was identified in 41LR225 (FS 49) is also present in the southwest corner of this site. Twenty-three shovel tests were dug on site, of these five contained prehistoric artifacts. In addition, a geomorphologic profile of a nearby cutbank, adjacent to 41LR225 and near the southwestern corner of 41LR226, was also described and may be relevant to the interpretation of the geomorphological history of the two sites.

Artifacts

Two shovel tests on the northwestern edge (STs 50-8 and A-28) and one along the southeast edge of the landform (ST E-28) contained prehistoric lithic and ceramic artifacts between 0–80 cm bs. The chipped lithic artifacts include four pieces of lithic debris. Two

of the lithic debris consist of coarse-grained quartzite, neither has been heat-treated and only one is corticated. One of the remaining lithic debris is a bipolar flake of gray chert, and the other is a red claystone/siltstone cortical flake.

There are five ceramic sherds in the artifact assemblage, four from ST A-28 (0–80 cm bs) and one from ST 50-8 (0–20 cm bs). Three are plain body sherds (ranging from 3.8–7.4 mm in thickness), one is a plain base sherd (10.2 mm in thickness), and the last sherd (ST 50-8, 0–20 cm bs) is a body sherd (4.4 mm in thickness) with a single engraved line on it which is part of an indeterminable design element. The engraved sherd indicates that the ceramics at this site are the product of a prehistoric Caddoan occupation, but it is impossible to be more specific about its temporal and/or cultural affiliation.

Four of the sherds are tempered with grog, and the other has grog and crushed hematite temper inclusions. The sherds are from vessels that were either oxidized during firing (n=1), incompletely oxidized during firing (n=2), or fired in a reducing environment but cooled in a high oxygen environment (n=2).

Two heat spalls from STs F-26 and 50-7, both from 0–20 cm bs, and four FCR from A-28, 40–80 cm bs were recovered. The FCR had a combined weight of 36.0 g. The overall density of prehistoric artifacts is 3.0 per positive shovel test.

41LR227 (Field Site 51)

This upland site is on a long, narrow finger ridge landform oriented north-south. It is in a high probability area in the northwest "panhandle" of Survey Area 17 and is approximately 17,329 m² in area. Moderately sloped drainage areas bound the site on the east and west. The COE fence cuts the landform off at the north and south ends. The fence at the south boundary makes a corner. The site probably extends north of the COE fence, and possibly extends across the southern COE fence as well. The vegetation on this site consists of mature trees such as mixed oaks, hickory, and a few pines. American Beauty and various briars make up the undergrowth. Pat Mayse Lake is approximately 0.5 km to the west. There are no obvious disturbances from military or historic use other than the road in the southwest corner of this site, and a small push-pile near the northern fence, probably resulting from fence construction.

Sixteen shovel tests and a 50-x-50-cm test unit were dug on site. Eight of the 16 shovel tests and the test unit were positive with prehistoric cultural materials, and revealed deep sandy soils on this landform (with the depth to clay ranging from 60 cm to 125+ cm bs).

Artifacts

Two shovel tests and the test unit on the crest of the landform contained relatively deeply buried prehistoric chipped lithic debris between 40–125 cm bs. The lithic debris includes coarse-grained quartzite (n=3, 33 percent heat-treated), novaculite (n=2, non-cortical and non-heat-treated), and a brownish-gray chert (n=1, non-cortical), and heat-treated non-cortical fine-grained quartzite (n=1).

Two heat spalls from 60–100 cm bs were recovered in the test unit (A-20). A total of 15 FCR weighing 326.0 g were also recovered from six STs (C-16, F-20, 51-1, 51-2, 51-3, and 51-7), between 20–100 cm bs. The overall density of prehistoric artifacts is 3.13 per positive unit.

41LR228 (Field Site 52)

This upland site is located on the point of a toeslope. It was designated based on six positive shovel tests (five positive for prehistoric material), with negative tests creating the boundary on the south. This site is approximately 11,014 m² in area. Medium- to large-sized hardwood trees are the main vegetation at this site with relatively little undergrowth. Leaf clutter on the surface prevented any visibility. An unnamed drainage is located to the north of this toeslope. No man-made disturbances were noted, however, erosion on the point and sides of the landform has removed an approximate 25 percent of the site.

A total of 15 shovel tests were dug at this site, of these five contained prehistoric cultural materials. Stream-rolled gravels were noted in several of the STs.

Artifacts

Two shovel tests (ST C-11, 40–60 cm bs, and ST 52-10, 40–60 cm bs) at the site had prehistoric chipped lithic artifacts. One flake is a non-cortical and non-heat-treated coarse-grained quartzite lithic debris. The other is a non-cortical Big Fork black chert with light gray inclusions.

One heat spall from ST 52-10 (20–40 cm bs) and nine FCR from four STs (F-12, H-15, 52-8, and 52-10) were collected from 41LR228. The FCR weighed a total of 97.4 g and was recovered from between 0–80 cm bs (the majority of which came from 40–80 cm bs). The overall density of prehistoric artifacts is 2.4 per positive shovel test.

41LR229 (Field Site 53)

This prehistoric site occupies a toeslope on the end of a finger ridge in the north-central portion of the facility. Mixed oak trees are the only noted vegetation at this site, and the leaf clutter created zero percent surface visibility. Shallow sandy soils with red clay observed at the surface mid-slope on the landform and a few pockets of 100+ cm of sandy loam characterize the soils at this site. This site is approximately 8,488 m² in area. A total of 11 shovel tests were excavated, with only two positive shovel tests.

Artifacts

Two widely separated shovel tests had prehistoric lithic artifacts between 0–60 cm bs, for an artifact density of 1.0 per positive shovel test. In the southern most shovel test (ST K-15, 0–20 cm bs), a medial blade fragment of a gray chert dart point was recovered, while the northern shovel test (ST H-22, 40–60 cm bs) had a cortical piece of reddish-brown chert lithic debris.

41LR230 (Field Site 54)

This prehistoric site is located on a terrace, at a bend in a small, unnamed creek. Medium-sized red and white oak, hickory, and other hardwood trees with moderate undergrowth of blackberry and other briars making up the riparian vegetation. The site is approximately 8,167 m² in area. The western property fence also serves as the site boundary on the west. The ridge south of the site was tested resulting in four negative shovel tests, thus creating a natural site boundary. One noted landform feature on this bench was a "pimple mound" adjacent to the creek. One positive shovel test (ST 54-6) was placed on this small mound. The meandering creek is eroding into the landform and site—it has created a cutbank, but has not resulted in any heavy erosion.

A total of 17 shovel tests were excavated at 41LR230 (FS 54). Eight STs were positive, one of which contained a military bullet. Deep sandy soils were noted on the terrace with shallow soils along the mid-slope of the ridge. This site has deep sandy soils (example: ST 54-7 went to 132 cm bs without encountering clay) and river gravel inclusions.

Artifacts

Seven shovel tests from three different locales on the landform contained prehistoric chipped lithic artifacts between 0–105 cm bs. The artifact density by locale is: 1.0 in the western locale (ST 54-6), 1.0 in the _southern locale (ST 54-10), and 1.50 in the northern locale (ST L-22, ST 54-1, ST 54-3, and ST 54-4).

The lithic artifacts include one tested cobble from the southern locale and nine pieces of lithic debris from the western and northern locales. The tested cobble is a non-heat-treated coarse-grained quartzite that has a single flake removal. The lithic debris includes Big Fork chert (n=1, cortical), dark brown chert (n=1), yellow chert (n=1), novaculite (n=1), tan chert (n=1), and coarse-grained quartzite (n=3, 100 percent cortical and zero percent heat-treated), and a single piece of light gray fine-grained non-heat-treated quartzite.

The proportion of quartzite in the lithic debris from the northern locale is only 17 percent , while the single lithic debris from the western locale is quartzite.

A total of 44.0 g of FCR was recovered from three STs (54-4, 54-7, and 54-9) between 60–130 cm bs. The overall density of prehistoric artifacts is 2.0 per positive shovel test.

41LR231 (Field Site 55)

This site occupies a narrow finger that juts into a marshy area in the north-central portion of the project area. This small landform was not shown on the topographic map (1984 series). It is characterized by deep sandy soils. The terrain includes open woods with small, medium, and mature oaks and no undergrowth. The "bog" which surrounds the site on three sides (east, south, and west) was mostly dry during the November site visit, but appears to hold water during wetter seasons. It contains thick stands of small scrub trees and briar with scattered large trees. This site is approximately 3,385 m² in area. There was no surface visibility due to leaf clutter and no obvious disturbances to the site. Five shovel tests, placed 30 m apart, covered the entire site, two of these contained prehistoric artifacts.

Three backhoe trenches for geomorphological profiles were excavated near this site, the boundaries of which were extended approximately 50 m into the bog due to the recovery of prehistoric artifacts in Test Unit 4 associated with BHT 10.

Artifacts

Prehistoric chipped lithic artifacts were recovered from two shovel tests and a 50-x-50-cm unit (TU 4) excavated along the profile of Backhoe Trench 10. The artifacts are from depths of 20–120 cm bs. Six pieces of lithic debris are from the TU 4 excavations, with debris found between 20–40 cm bs, 40–60 cm bs, and 100–120 cm bs.

The lithic debris (n=8) includes coarse-grained quartzite (n=4, 50 percent cortical and 67 percent heat-treated), Ogallala quartzite (n=1, cortical and heat-treated), novaculite (n=1, cortical), quartz (n=1, cortical), and brown chert (n=1, cortical). The proportion of quartzite in the small assemblage is 63 percent.

TU 4 also yielded two zones of FCR. Three FCR weighing 1.7 g total were recovered in the first level (0–20 cm bs) and two FCR weighing 0.9 g total were in the fifth level (80–100 cm bs). The overall density of prehistoric artifacts is 4.30 per excavation unit, including TU 4.

41LR232 (Field Site 56)

41LR232 is located near an unnamed drainage that runs perpendicular to the Camp Maxey property boundary fence. This site is approximately 5,717 m² in area. Vegetation is predominately oak, pine, hickory, briar, and American Beauty bushes. Disturbances in the form of two push-piles next to the boundary fence are probably from the construction of the fence. A total of 12 shovel tests were excavated on site. Of these, seven had prehistoric cultural materials. The STs were extended onto the lower alluvial terrace west of the drainage and onto two higher terraces south of the fence line. The site may extend along the same alluvial terrace north of the fence line onto COE property (see Figure 8-1). Deep sandy soils were encountered with depths to clay between 26 cm and 100 cm bs.

Artifacts

Four shovel tests had prehistoric chipped lithic artifacts. The artifacts were found from 0–60 cm bs.

There was a multiple platform core of gray chert or novaculite in ST 56-3 (40–60 cm bs). It measures 49 x 41 x 25 mm in length, width, and thickness. The lithic debris consists of coarse-grained quartzite (n=4) and Ogallala quartzite (n=1), and 20 percent of the lithic debris is cortical and/or heat-treated.

Two heat spalls were found in two different STs (A-14, 20–40 cm bs, and 56-5, 0–20 cm bs), and a total of three FCR weighing 22.3 g were found in two other STs (56-2, 60–80 cm bs, and 56-4, 40–60 cm bs). The overall density of prehistoric artifacts is 1.57 per positive shovel test.

41LR233 (Field Site 57)

This prehistoric site (see Figure 8-15) extends beyond the north end of a high probability survey area. It is located approximately 30 m from the northwest edge of the marshy area in the north-central portion of the facility. The terrain includes an open field to the north with dry grasses and a wooded area to the south with gentle to moderate slopes. This site is approximately 7,607 m² in area. The vegetation includes mixed hardwood trees and one large cedar tree. During the late fall site visit, surface visibility was estimated at zero percent in the wooded portion and five percent in the open, grassy areas. This upland site is about 50 m east of an unnamed drainage that was dry during the late fall. The datum was placed at the edge of the tree line. The only noted disturbance was an overgrown tank track or firebreak road at the north end of the site.

Twelve shovel tests were excavated, with five containing prehistoric materials. Deep sandy loam soils were encountered in the majority of the tests, with 10 STs reaching between 90 and 120 cm bs.

Artifacts

Both prehistoric chipped lithic and ceramic artifacts were present in three positive shovel tests at the site. The remaining two positive STs contained a single heat spall and a single piece of FCR. Two of the three positive shovel tests with chipped lithics are on the crest of the landform, including the one shovel test with prehistoric ceramics (ST 57-1, 20–40 cm bs), while the third is about 30 m away along the slope of the landform.

There are three pieces of lithic debris in the small assemblage. One is a cortical piece of coarse-grained quartzite, the second is a cortical and heat-treated piece of petrified wood, and the last piece is a non-cortical gray chert flake.

The single prehistoric ceramic sherd is a plain body (5.4 mm in thickness) tempered with grog. It is from a vessel that was fired in a reducing or low oxygen environment.

One heat spall and two FCR were recovered from three STs. The heat spall was found in ST 57-3, 100–120 cm bs, and a total of 16.2 g of FCR was recovered from 40–80 cm bs in STs T-11 and U-11. The overall density of prehistoric artifacts is 1.4 per positive shovel test.

41LR234 (Field Site 58)

41LR234 is located on a small terrace that slopes gently down to a north draining unnamed creek. The creek forms a natural boundary on the west and south of the site. The north boundary is a COE fence and the site probably extends to the north on COE property. This site is approximately 1,798 m² in area. Oak, cedar, Sassafras, and Dogwood trees are the noted vegetation types at this site with surface visibility estimated at zero percent in the fall survey. Three positive shovel tests yielded cultural materials out of eight dug at the site. Deep sandy soils with depth to clay of between 65 cm and 105 cm bs were encountered.

Artifacts

Three shovel tests at the southern tip of the landform contained prehistoric lithic debris and FCR between 20–60 cm bs. The lithics include three pieces of coarse-grained quartzite lithic debris (67 percent cortical, zero percent heat-treated).

One FCR from ST 58-1, 40–60 cm bs, was recovered. It weighs 1.4 g. The overall density of prehistoric artifacts is 1.33 per positive shovel test.

41LR236 (Field Site 60)

This site is on a long finger ridge that extends into the marshy area adjacent to 41LR233, 41LR231, and 41LR235. It is in a high probability survey area. Riparian vegetation dominates the surrounding marsh with mixed hardwoods and relatively little undergrowth on the site. This site is approximately 5,636 m² in area. No man-made disturbances were noted. A series of 10 shovel tests were excavated. Only two tests were positive, however deep sandy soils (100+ cm) were encountered in all STs.

Artifacts

Of the prehistoric material, only one chipped lithic and one heat spall was recovered. ST W-17, 60–80 cm bs, contained one heat-treated distal flake fragment of a fine-grained reddish-gray quartzite. The other prehistoric artifact, a heat spall, was found in ST 60-3, 20–40 cm bs. The overall density of prehistoric artifacts is 1.0 per positive shovel test.

41LR237 (Field Site 61)

41LR237 is located in Area 17 in a low probability survey area. It is situated mid-slope on a western terrace of an unnamed drainage. This drainage flows to the north-northwest into Pat Mayse Lake. This site is approximately 8,262 m² in area. The vegetation includes white oak, blackjack oak, with a few scattered pine and sumac trees. At the western edge of the site is an open grassy meadow. Surface visibility was zero percent due to leaf clutter. There were no visible signs of prior disturbances.

A total of 14 shovel tests were dug with three yielding prehistoric artifacts. Shovel testing revealed red clay at an average depth of between 30 cm and 60 cm bs.

Artifacts

Three shovel tests contained prehistoric lithic debris between 40–80 cm bs. The debris is comprised of a cortical piece of Ogallala quartzite, a cortical piece of a yellowish-gray chert, and a cortical piece of yellowish-tan chert. All of the material may be locally derived.

One piece of FCR was collected from ST U-17, 40–60 cm bs, as well. It weighed 24.5 g. The overall density of prehistoric artifacts is 1.33 per positive shovel test.

41LR238 (Field Site 62)

This site occupies a moderate probability survey area along the north side of a dry drainage. A series of small finger slopes extend into an unnamed drainage (see Figure 8-16). The upland vegetation at the site included mixed oak and pine with open patches of grass. Surface visibility was limited to five percent in the open grassy areas. This site is approximately 23,575 m² in area.

Shovel tests on original survey transects covered most of the landform. A total of 27 shovel tests were dug resulting in the discovery of relatively shallow soils (less than 50 cm to clay). Only five STs were positive and two of these contained only military bullet slugs. Despite the concentrated shovel testing effort, no other artifacts were recovered. The near absence of lithic debitage at this site is notable. Only minor disturbances from a tank track, or firebreak road, and the pattern of erosion along the drainage, which continues to impact the finger ridges, were observed.

Artifacts

Three shovel tests contained prehistoric artifacts between 0–60 cm bs. ST 62-8 (40–60 cm bs) had a distal fragment of a corner-notched dart point made of a dark grayish-brown chert available in the Red River gravels. The blade is 39 mm in length, 25 mm in width, and 7 mm in thickness; the stem width is 11.0 mm. Another shovel test (ST CC-6, 0–20 cm bs) contained a bifacial drill made of a local brown chert. The tool is 38 x 19 x 6 mm in length, width, and thickness, and the bifacially-chipped bit of the drill is 16 mm in length and 3 mm in thickness. The other prehistoric artifact is a large piece (47 x 38 x 29 mm in length, width, and thickness) of burned clay from ST CC-4 (20–40 cm bs). This may be a fragment of a hearth or cooking oven, however, no FCR was recovered from the STs. The site has a total artifact density of 1.0 per positive shovel test

The modern artifacts were military type bullet slugs (STs CC-7 and 62-7) and a single piece of unidentified metal of probable military provenience from ST CC-4.

41LR242 (Field Site 66)

This prehistoric site occupies the point of a long, relatively flat landform. It is approximately 40 m north of 41LR241 and is bordered on the north and west by the intermittent creek that separates these two sites. The recently cut road makes up the southern boundary of the landform and site. The landform is in a high

probability area, and the site is approximately 2,493 m² in area. The upland vegetation is predominately oak with Dogwood trees observed as well. There was no surface visibility due to the leaf debris.

Three positive shovel tests, out of a total of eight tests, recovered prehistoric cultural materials. Only one pocket of deep sands (100 cm) was encountered while the remaining STs hit clay at 40 cm or less.

Artifacts

Three shovel tests contained prehistoric chipped lithic debris between 0–80 cm. The majority of the artifacts came from ST 66-2 (0–24 cm bs).

Several different raw materials are represented in the lithic debris, including yellow chert (n=1, cortical), quartz (n=2), novaculite (n=2, 50 percent heat-treated), dark grayish-brown chert (n=1, cortical), Ogallala quartzite (n=3, 67 percent cortical and heat-treated), coarse-grained quartzite (n=2, 100 percent cortical and 50 percent heat-treated), yellowish-gray chert (n=1, cortical), and tan chert (n=1, cortical). The proportion of quartzite in the small lithic assemblage is 38 percent.

Two heat spalls (STs 66-1 and 66-2) and one FCR (ST 66-2) were collected from between 0–40 cm bs. The FCR weighed 1.1 g. The overall density of prehistoric artifacts is 5.33 per positive shovel test.

41LR243 (Field Site 67)

This site occupies a stubby toeslope overlooking an unnamed drainage. This terrace on the western bank of the creek is situated above a steep cutbank. The site was originally recorded as two separate field sites, but later connected through shovel testing efforts. Deciduous trees, mainly oak and Dogwoods, and bull nettle were the noted vegetation types on the east portion of the site, while an open grassy field characterizes the terrain on the western portion of the site. The site is approximately 19,243 m² in area.

A total of 20 STs were excavated. The eastern portion of the site was tested with eight STs, and six STs were conducted in the western portion. Six additional tests were placed in the central area to connect the site. Average depth to clay was between 80 and 140 cm. Ten STs contained prehistoric lithic debris, FCR, and/or heat spalls (the majority of the cultural material bearing STs contained FCR). A series of borrow pits, overgrown with vegetation, were found around positive ST HH-16. These pits may have compromised the integrity of the eastern half of the site. A tank track, or firebreak road, in the western half of the site impacted the site as well, equating to approximately 25 percent of the surface area showing disturbances.

Artifacts

Four separate shovel tests at the site contained prehistoric chipped lithic artifacts between 0–100 cm bs; 80 percent of the artifacts are from contexts below 60 cm bs. Four other shovel tests had five pieces of lithic debris of different raw materials: coarse-grained quartzite (n=1, cortical and non-heat-treated); quartz (n=1, cortical and heat-treated); yellowish-brown chert (n=1, cortical), Ogallala quartzite (n=1, cortical and heat-treated), and brown claystone/siltstone (n=1, cortical).

Three heat spalls and FCR were recovered at 41LR243. The heat spalls came from STs HH-16 (60–80 cm bs), FF-13 (20–40 cm bs), and 67-1 (80–100 cm bs). Nine STs (67-1, 67-2, 67-8, 67-10, 67-11, 67-13, FF-13, GG-12, and HH-16) yielded a total of 190.3 g of FCR. The FCR was distributed from 0–120 cm bs, with the majority of FCR from 60–120 cm bs. The overall density of prehistoric artifacts is 3.3 per positive shovel test.

41LR244 (Field Site 68)

This prehistoric site (see Figure 8-17) occupies a small finger ridge on the western edge of the same tributary that 41LR243 is on. This is a deep drainage (approximately 12 m below the landform) with heavy erosion cutting into the site. It drains to the west and ultimately into Pat Mayse Lake. The site is located approximately 200 m southwest of 41LR243 (FS 67). The terrace contains large Red oaks, medium-sized cedar, pine, and Dogwood trees, with blackberry and briar vines. To the north of this finger is an open field. Surface

visibility was zero percent during the fall survey due to leaf debris. Other disturbances include tank tracks (or a firebreak road) just off the site to the northeast, and a possible push-pile. This site was estimated at 4,592 m² in area. The eroding creek bank has destroyed an estimated 15 percent of the landform and site. A total of six shovel tests were excavated. Shovel testing resulted in three positive units.

Artifacts

Three shovel tests on the crest of the landform had prehistoric lithic and/or ceramic artifacts (n=5) in deposits from 0–67 cm in thickness. At least 60 percent of the artifacts are from deeper than 40 cm bs.

The single plain body sherd is from ST 68-1 (40–54 cm bs). The sherd has a sandy paste, with no apparent temper, and is 4.6 mm in thickness. The sherd is from a vessel that was fired in a reducing environment.

The four pieces of lithic debris are from ST 68-3 and ST GG-7. Raw materials represented in the debris include claystone/siltstone (n=2, 50 percent cortical), a lustrous brownish-red chert (n=1, cortical and heat-treated), and a dark gray chert (n=1, cortical). Although the lithic debris sample is quite small, the absence of quartzite lithic debris is notable considering its frequency at other prehistoric Camp Maxey sites.

One heat spall was found between 20–40 cm bs in ST 68-3. The overall density of prehistoric artifacts is 2.0 per positive shovel test.

41LR245 (Field Site 69)

This prehistoric site is situated on a terrace adjacent to an unnamed, intermittent drainage in a moderate and high probability survey area. The vegetation at the site included 3-5 large oaks, numerous small and medium-sized oaks, cedar, and Bois d'arc (Osage Orange) trees, with no undergrowth except for small patches of grass. Surface visibility was zero percent because of leaf debris. This site is approximately 18,229 m² in area. The COE property fence is 45 m west of the site and a rarely used maintenance road parallels it.

The lower terrace, overlooking the landform, and mid-slope of this terrace were tested with a total of 17 shovel tests, revealing pockets of deep sandy soils. Saturated sandy loam and a high density of sorted quartzite gravels were encountered in the shovel tests along the creek shelf. The mid-slope contained mainly shallow soils due to erosion. Nine shovel tests were positive with prehistoric materials. An additional shovel test (ST 69-3) yielded a single bullet from 0–20 cm bs.

Artifacts

Only three shovel tests contained prehistoric chipped lithic artifacts. The artifacts were found from 40–140 cm bs, and the recovery of a dart point between 120–140 cm bs in ST WW-12 suggests that deeply buried Archaic period archeological deposits may be present at the site.

The recovered dart point from ST WW-12 is a Wells type made from a heat-treated coarse-grained quartzite. The blade has a transverse fracture, and it has also been resharpened. The stem is ground and smoothed, and it is 22 mm in length and 16.0 mm in width. The blade width is 21 mm, and it is 8.0 mm thick.

The other lithic artifact consists of a cortical and heat-treated piece of coarse-grained quartzite lithic debris from ST 69-6 (40–60 cm bs), and a yellowish-brown cortical non-heated flake of local chert from ST VV-8 (80–100 cm bs).

Other cultural materials from 41LR245 included 11 heat spalls and eight pieces of FCR. The heat spalls came from six STs (VV-8, WW-11, WW-12, 69-2, 69-3, and 69-7) scattered unevenly between 0–135 cm bs. A total of 147.3 g of FCR were found in six STs (69-2, 69-3, VV-11, WW-10, WW-11, and WW-12). The FCR was distributed between 0–80 cm bs. The overall density of prehistoric artifacts is 2.44 per positive shovel test.

41LR246 (Field Site 70)

This site is located on a small terrace with the facility perimeter fence on its western boundary, an unnamed creek to the south and east, and an open field to the

north. This terrace is about three meters above the creek's floodplain. The vegetation includes mostly mature blackjack oak, oak saplings, and small cedar trees. Visibility was zero percent on the surface. Site 41LR245 is about 60 m due south across the creek. 41LR246 is approximately 3,175 m² in area. A disturbed borrow area is located in the low terrain between two low pimple mounds.

Seven shovel tests were placed at the site. Although six of these contained prehistoric cultural debris, the majority of the materials were FCR and heat spalls. Shovel tests on the slightly mounded areas of the site encountered deep soils (over 130 cm of sandy loam) while tests placed in the low areas between pimple mounds encountered relatively shallow soils (between 35 cm and 50 cm to clay).

Artifacts

Only a single shovel test at this site contained prehistoric chipped lithic artifacts. ST 70-2 (0–20 cm bs) had a cortical piece of Ogallala quartzite lithic debris. An additional shovel test (ST SS-0) contained a military bullet (0–20 cm bs).

Five STs contained FCR, and three STs contained heat spalls. The heat spalls were found between 0–20 cm, 40–60 cm, and 80–100 cm bs. A total of 55.8 g of FCR was found between 0–120 cm bs of STs 70-1, 70-2, TT-1, TT-2, and UU-2. The overall density of prehistoric artifacts is 3.40 per positive shovel test.

41LR247 (Field Site 71)

This site occupies a long, narrow ridge approximately 250 m long by 30–45 m wide. The majority of the landform was considered a moderate probability area with a small high probability area on a toeslope at the south end of the landform. This upland setting contained predominately oak trees and other hardwoods with little undergrowth. This site is approximately 17,902 m² in area. No obvious disturbances were observed, however, erosion along the drainage is apparent. A total of 19 shovel tests were dug at the site.

The original sweep of the area yielded seven positive shovel tests out of 13, and an additional six were placed to define site boundaries. In all, a total of nine STs were positive with prehistoric cultural materials. In general, the sandy loam soils are moderately deep averaging between 50 and 75 cm bs to clay, however, several pockets of deeper soils were encountered (in STs LL-15, LL-16, and LL-17).

Artifacts

Three separate shovel tests (ST LL-16, ST LL-17, and ST LL-20) on two different knolls had prehistoric chipped lithic artifacts in shallow (0–40 cm bs) archaeological deposits.

The lithics include two pieces of debris and an expedient flake tool. The debris includes one non-cortical piece of coarse-grained quartzite and one cortical and heat-treated piece of novaculite. The expedient flake tool (ST LL-17, 20–40 cm bs) has two used/worn edges on a cortical flake of yellow chert. The flake tool measures 22 x 11 x 3 mm in length, width, and thickness.

Five heat spalls from three STs (LL-24, 71-2, and 71-5) were found between 0–60 cm bs. A total of 74.0 g of FCR was found in four STs (LL-14, LL-16, LL-23, and LL-25) between 0–80 cm bs. The overall density of prehistoric artifacts is 1.33 per positive shovel test.

A military bullet was recovered from ST LL-25 (0–20 cm bs).

41LR249 (Field Site 73)

This prehistoric site occupies a small, prominent point of a finger ridge in a moderate probability area. This upland setting contained mixed oak trees and a small patch of pine saplings. Surface visibility was limited due to leaf debris. A small, unnamed creek drainage is east of the landform. The site is approximately 4,104 m² in area.

One cut cedar fence post and a probable historic road (very eroded and difficult to discern) were the only historic features in the area. The road is just off the site boundary and no historic component was assigned

to the site. Nine shovel tests were placed at the site with three encountering prehistoric deposits. Soils were relatively shallow with an average depth to clay between 30 cm and 75 cm bs.

Artifacts

One positive shovel test (ST RR-6) has a single piece of lithic debris found between 60–80 cm bs. The debris is a cortical piece of local brown chert.

Three FCR from three STs (RR-6, 73-1, and 73-2) were collected from 20–80 cm bs. The FCR weighed a total of 95.4 g. The overall density of prehistoric artifacts is 1.33 per positive shovel test.

41LR250 (Field Site 74)

This site is situated on the slope of a terrace in a moderate probability area and is approximately 11,762 m² in area. The site boundaries were established on the lower and mid-levels of the slope. The higher point on the landform was tested but no artifacts were encountered. Moderately dense tree growth included white oak, red oak, blackjack oak, Dogwood, and Eastern Red cedar, with grasses and briars growing in the open patches between the trees. Surface visibility was zero percent. A small, intermittent creek meanders around the landform on the south, west, and north sides. Moderate erosion on the sloping landform could cause sheet wash which may have affected the artifact distribution.

A total of 16 shovel tests were placed at 41LR250. Seven were positive with prehistoric materials. Several STs (SS-9, QQ-9, and 74-1) encountered high densities of artifacts. In general, deep sandy soils between 60 and 130 cm bs were recorded in the positive STs.

Artifacts

Two shovel tests at the site contained prehistoric chipped lithic artifacts between 0–120 cm bs. More than 90 percent of the artifacts were recovered from ST SS-9, to depths of 120 cm bs. A single military bullet was recovered from ST 74-1 (0–20 cm bs).

The 12 pieces of lithic debris are of several varieties of raw materials, including coarse-grained quartzite (n=2, 100 percent cortical and 50 percent heat-treated), petrified wood (n=1), Ogallala quartzite (n=2, 50 percent cortical and heat-treated), novaculite (n=1), reddish-gray chert (n=1, cortical), gray chert (n=1, cortical), light gray chert (n=1), dark gray chert (n=1), red chert (n=1, cortical), and brown chert (n=1, cortical). The proportion of quartzite lithic debris in the small sample is only 25 percent .

Eleven heat spalls and 28 FCR were collected from 41LR250, between 0–120 cm bs. The heat spalls were recovered from STs QQ-9, RR-11, and 74-8. The 28 pieces of FCR (total weight 134.2 g) came from five STs (QQ-9, RR-11, SS-9, 74-1, and 74-8). The overall density of prehistoric artifacts is 10.2 per positive shovel test.

41LR252 (Field Site 76)

41LR252 is a prehistoric site located north of 41LR137. These two sites are separated by a drainage. 41LR252 is situated on a gently sloped alluvial terrace within a moderate probability area. To the west is an intermittent creek running southeast-northwest which flows into the southern side of Pat Mayse Lake. Vegetation consisted of mixed oaks, Dogwood, Sassafras, and cedar with very little undergrowth. Surface visibility was poor due to thick leaf litter. This site is approximately 10,021 m² in area. No disturbances were observed. The remnants of a historic cedar post fence extends eastward from the property fence corner that is northwest of the site across the creek.

A total of eight shovel tests were placed on this landform. Four STs were positive with prehistoric cultural materials. Deep sandy soils, between 56 and 130 cm bs, characterize the site.

Artifacts

Three positive shovel tests contained prehistoric chipped lithic artifacts from 0–120 cm bs. The fourth positive shovel test contained a single FCR. About 36

percent of the chipped lithic artifacts are from contexts below 60 cm bs, suggesting the existence of buried archaeological deposits.

Among the lithic debris, a coarse-grained quartzite is most abundant, comprising 55 percent of the assemblage. Fifty percent of the coarse-grained quartzite lithic debris are cortical, and 33 percent are from heat-treated cobbles or pebbles. Other raw materials include Ogallala quartzite (n=2, 50 percent cortical and heat-treated), gray chert (n=1, cortical and heat-treated), dark brown chert (n=1), and a dark grayish-brown chert (n=1, cortical). The quartzite lithic debris amounts to 73 percent of the small artifact assemblage.

Two heat spalls from ST BBB-5 were found between 40–60 cm bs. Shovel tests BBB-5, BBB-3, and BBB-6 also contained a total of four pieces (131.0 g) of FCR from 60–120 cm bs. The overall density of prehistoric artifacts is 4.25 per positive shovel test.

41LR253 (Field Site 77)

This site is in a moderate probability area on a terrace. It is on the north side of a dry gully that leads to an unnamed creek. The site is approximately 33,761 m² in area. A 75 m gap separates 41LR137 from 41LR253. This gap was tested with two shovel tests, neither of which yielded artifacts. The upland vegetation consisted of medium sized scattered red, white, and blackjack oaks, with small sumac, conifers, and elms. Thick dead grass and leaf debris prevented any surface visibility. A two-track road on the north side of the site and erosion represented by the dry gully are the noted disturbances found at this site.

The excavation of 13 shovel tests resulted in four positive tests with prehistoric artifacts, and two with modern artifacts. Generally shallow soils, with depths ranging between 20 and 80 cm bs to red clay, characterize the sandy mantle at this site.

Artifacts

There were four shovel tests with prehistoric chipped lithic artifacts. One shovel test (ST N-7, 40–60 cm bs) had a polyhedral core of a lustrous, heat-treated brown chert with seven flake removals from the flat platform. The core is 35 x 45 x 19 mm in length, width, and thickness. The other shovel test (ST O-4, 0–20 cm bs) has three pieces of lithic debris, including coarse-grained quartzite (n=2, 50 percent cortical and heat-treated) and grayish-brown chert. One additional shovel test (ST N-10, 0–20 cm bs) yielded a single cortical yellow chert flake. The material is locally available.

Two STs (N-6 and N-7) yielded a total of four pieces (145.6 g) of FCR from 40–80 cm bs, most of which (three pieces at 142.0 g) came from ST N-7, 60–80 cm bs. The overall density of prehistoric artifacts is 2.25 per positive shovel test. Two shovel tests (STs O-7 and O-13) yielded military bullets from 0–20 cm bs.

41LR255 (Field Site 79)

This site is located on a moderate probability area bisected by a TXARNG base road and an unnamed creek. The road runs north-south and has disturbed a portion of the landform and site. A dry ravine was used as the western boundary and an unnamed creek for the eastern boundary of the site. The vegetation is predominately mixed hardwood trees. Leaf clutter prohibited surface visibility. On the eastern side of the site, a moderate slope leads down to the creek. This site is approximately 20,340 m² in area.

Fifteen shovel tests were dug on site, eight yielded prehistoric cultural materials. Soil depths ranged from 47 cm to 110 cm bs to red clay. Military artifacts on the site included a wash tub and trash can on the surface in the western side of the site, and a button found in one shovel test. It was felt that the light military presence on site did not warrant the classification of the site as multicomponent. The military button was encountered in Level 1 (0–20 cm bs) of ST Q-1.

Artifacts

Six different shovel tests on the landform contained prehistoric chipped lithic artifacts between 0–80 cm bs. Two additional positive STs contained only FCR. The thirteen pieces of lithic debris are dominated by quartzite (n=12). Only four of the specimens are

cortical but 62 percent are coarse-grained and 10 percent are from heat-treated cobbles/pebbles. The other lithic debris is a cortical piece of gray chert from ST Q-1 (40–60 cm bs).

Two heat spalls from ST Q-1, 60–80 cm bs, and 10 FCR were collected from this site. The FCR weighed 14.2 g total and was from STs Q-1, U-4, 79-1, 79-4, 79-5, 79-6, and 79-7, distributed from 0–100 cm bs. The overall density of prehistoric artifacts is 3.13 per positive shovel test.

41LR256 (Field Site 80)

This small prehistoric site contained a scattered deposit of artifacts and had been heavily disturbed by historic and/or military use. It is located in an open field bordered by an unnamed creek on the north and a historic fence line on the south and east sides. Disturbed areas include a large pit or stock pond, two tank tracks, a small pit, and generally irregular terrain resulting in an estimated 25 percent of the site left intact. The site is approximately 17,707 m² in area. A TXARNG road is about 90 m west of the site. The vegetation noted in the early winter survey included an open field of dry, dead little bluestem with small patches of sumac and brush. Estimated surface visibility was limited to five percent where the tank tracks had disturbed the ground surface. Thirteen shovel tests were placed at this site, with four yielding cultural materials. One of the shovel tests (ST A-8a, Level 2 [20–40 cm bs]), yielded a metal hook. The site was defined as containing only a prehistoric component because of the isolated nature of this find.

Artifacts

Two shovel tests (ST A-3 and ST A-5) at the site contained prehistoric chipped lithic artifacts. Two of these pieces of lithic debris came from ST A-5, 60–100 cm bs. These pieces are red and brown cherts, and both are cortical. ST A-3 contained the third specimen, a heat-treated flake of a fine-grained quartz.

Four FCR from two STs (A-3c and A-5) were recovered from 80–130 cm bs, with a total weight of 200.5 g. The overall density of prehistoric artifacts is 2.33 per positive shovel test.

41LR257 (Field Site 81)

This small prehistoric site is on the north terrace of an unnamed creek that drains into Pat Mayse Lake, approximately 700 m to the west. The site overlooks the creek, and the terrace slopes steeply down. This creek bank is the southern boundary of the site and is diverted through a culvert under the TXARNG facility road at the western boundary of the site. The site boundary on the north and east was determined by the presence of negative shovel tests. Scattered oak and pine trees are in the open woods along the creek bank, and various grasses and dry riparian vegetation were observed across the site. Surface visibility was zero percent due to the grass and leaf debris. Tank tracks, or a firebreak road, and a shallow gully cut through the open field on the north and central part of the site. 41LR257 is approximately 10,373 m² in area.

Deep, sandy soils were encountered in all nine shovel tests that were placed at the site. Five of these tests contained prehistoric cultural materials (FCR and chipped lithics). The depth to clay ranged from 80 cm to deeper than 120 cm bs. Military bullets were encountered in two of the STs (A-1 and A-2).

A piece of whiteware from ST A-2, Level 1 (0–20 cm bs) is the lone historic artifact from the site. Given that no other historic artifacts were noted on the surface or in shovel tests, no historic component was defined at the site. Nonetheless, historic usage in the immediate area is obvious due to the presence of a fence. This fence line, made by tacking barbed wire to a line of trees, runs north-south along the eastern border of the site.

Artifacts

One shovel test (ST A-2) had prehistoric chipped lithic debris between 0–40 cm bs. There were four pieces in the shovel test, one each of coarse-grained quartzite (cortical and heat-treated), Ogallala quartzite, brownish-red chert (cortical), and yellow claystone/siltstone (cortical). The remaining four positive STs contained pieces of FCR.

Nineteen FCR from five STs (A-1, A-2, A-3, B-1, and B-5, 0–100 cm bs) had a total weight of 155.0 g. The

overall density of prehistoric artifacts is 4.6 per positive shovel test.

41LR258 (Field Site 82)

This prehistoric site is on a high probability landform. This relatively large finger ridge has a toeslope that extends off the northwest point. The datum was placed on a large oak tree near the point where the toeslope juts off the main landform (see Figure 8-18). This upland landform has medium- and large-sized oak and hickory trees. Surface visibility in the wooded areas was zero percent due to the leaf debris, and was less than 10 percent in the open grassy areas. This site is approximately 50,903 m² in area. An open field to the south of the datum contained thick, dry grass with large clumps of sumac and brush. This field appears to have been moderately disturbed at some point in the past, and farther south of the field is a large, heavily disturbed area of artificial mounds. These mounds were used as target practice bunkers during and after WWII operations at Camp Maxey (Maj. Diltz, personal communication). Erosion along the creek banks, historic or military use of the open field, and the presence of the nearby bunkers impacted an estimated 50 percent of the landform.

This large site was tested with a total of 30 shovel tests. Prehistoric cultural materials were recovered from 21 shovel tests. The main concentration of positive shovel tests was along the northern and western edges of the landform.

Soils were generally deep with the average thickness of the sandy mantle at between 80 cm and 120 cm bs. Soil data from several STs indicate that the sandy loam is at least 140 cm thick, the extent to which a shovel test can be excavated under prime conditions.

Artifacts

Nineteen different shovel tests on the landform contained prehistoric lithic artifacts: four STs (A-6, A-7, A-10, and B-5) on the eastern part of the landform (with an artifact density of 1.0), four other STs (E-1, G-2, H-1, and I-2) at the southern end of the landform in an open field (with an artifact density of 1.33), and the remaining eleven STs on the northern and western part of the site. The prehistoric chipped lithic artifacts were found from 0–120 cm bs. The final two positive STs (I-2 and A-8) contain only a military bullet and a shotgun shell casing, respectively.

The lithic artifact assemblage includes one thick biface in the northern part of the site, and 26 pieces of lithic debris. The thick biface (ST D-9, 80–100 cm bs) is made from a non-heat-treated Ogallala quartzite, and is 69 x 52 x 18 mm in length, width, and thickness. Forty-five percent of the lithic debris is a coarse-grained quartzite (n=10), and 50 percent is cortical, and only 10 percent is from heat-treated cobbles or pebbles of raw material. Other raw material represented in the lithic debris includes gray chert (n=1), Ogallala quartzite (n=1), petrified wood (n=2, one cortical and heat-treated, one non-cortical and not heated), dark gray chert (n=1), red and yellow claystone/siltstone (n=3, 67 percent cortical), gray-brown chert (n=1), yellow chert (n=2), siliceous shale (n=2), novaculite (n=1, cortical), yellowish-gray chert (n=1, cortical), and quartz (n=1). The proportion of quartzite raw materials in the lithic debris is 50 percent.

Two heat spalls from STs A-16 and D-9, 20–40 cm bs were collected. Thirteen STs (A-6, A-9, A-10, A-12, A-15, B-7, B-8, C-10, C-8, C-9, D-9, E-1, and I-2) contained thirty-two FCR weighing 237.4 g. These FCR were distributed in all levels between 0–130 cm bs. The overall density of prehistoric artifacts is 2.9 per positive shovel test.

Military bullets and shotgun shell casings were recovered from three STs (H-1, I-2, and A-8). In two instances (ST A-8 and ST H-1), the bullets were recovered in Level 1 (0–20 cm bs). The specimen recovered from ST I-2 is from Level 5 (80–100 cm bs). It is likely this bullet fell in from above.

41LR259 (Field Site 83)

This prehistoric site was recorded on a moderate probability landform with an adjacent high probability peninsula at the northern tip. Two unnamed creeks join at a confluence just off the northern point of the landform, and eventually drain into Pat Mayse Lake

approximately 400 m to the north. A dry gully borders the site to the west (Figure 8-19). This upland landform contains mixed oaks, Dogwood trees, and a stand of pines. Little bluestem grasses and leaf clutter prohibited surface visibility. Military training in the area was documented. Hand grenade fragments were observed along the tank track road leading into this area and recovered in two shovel tests. Erosion along the eastern creek bank, which has a six to eight meter high cutbank that slumps at the base, is endangering the integrity of the already impacted site. The site is approximately 16,241 m² in area.

A total of 14 shovel tests were excavated at 41LR259, nine of which were positive with prehistoric artifacts. Depth to clay in the positive tests was at least 90 cm bs.

Artifacts

Five shovel tests had prehistoric chipped lithic and/or ceramic artifacts between 0–120 cm bs; 58 percent of the artifacts are from 80–120 cm bs. At least 55 percent of the artifacts were recovered from ST B-1. A single piece of freshwater mussel shell was also recovered from ST B-1 (20–40 cm bs). An additional positive ST (D-1) contained only a grenade fragment, and three others (ST C-1, ST B-2, and ST D-2) contained only FCR and/or heat spalls.

The two ceramic sherds were recovered from ST B-1 (20–40 cm bs) and ST E-2 (81–100 cm bs) on the crest of the landform. The first sherd (in two pieces) is a grog-tempered body sherd from a bottle; the bottle had been reduced during firing, but cooled in a high oxygen environment (cf. Teltser 1993:Figure 2G). The specimen from ST E-2 is a plain body sherd (8.9 mm in thickness) tempered with grog, and is from a vessel that was oxidized during firing.

The nine pieces of lithic debris are dominated by coarse-grained quartzite (44 percent), 75 percent of the quartzite pieces are non-cortical and non-heat-treated. The other lithic debris includes local brown chert (n=3, 100 percent cortical), brownish-gray chert (n=1), and dark gray chert (n=1, cortical).

Two heat spalls (from STs B-2 and E-1, 0–40 cm bs) and twenty-two FCR were collected from 41LR259 between 20–120 cm bs. The FCR came from six STs (B-2, C-1, C-2, D-2, E-1, and E-2) and weighed 319.5 g. The overall density of prehistoric artifacts is 4.0 per positive shovel test. Four STs (A-5, D-1, E-1, and E-2) contained military artifacts including grenade fragments and a .22 caliber bullet. All four artifacts came from Level 1 (0–20 cm bs) of their respective units.

41LR260 (Field Site 84)

This site was originally identified during the spring survey, and revisited and recorded in the fall/winter. This prehistoric site occupies a long finger ridge with a small ravine eroding into the landform (Figure 8-20). Another deeper ravine on the western edge of the landform and a sloping bank above an unnamed creek to the east were natural features that were used as site boundaries. The site is bordered on the north by an east-west running fence. This fence cut across the tip of the landform, leaving a portion (an estimated 10 percent) of the site on COE property. Site 41LR265 is approximately 40 m to the east, on the opposite side of the creek. This creek forms the eastern site boundary. Site 41LR260 is approximately 40,778 m² in area. The upland vegetation included oak and mixed hardwoods, with leaf clutter preventing any surface visibility. A small two-track road, an old road cut, and erosion of the terrace above the east drainage have impacted the site. An estimated 70 percent of the site is still intact.

Of the 15 shovel tests excavated at 41LR260, 11 contained prehistoric artifacts. Soil depths to clay ranged from 60 cm to over 120 cm bs.

Artifacts

Eleven shovel tests contained prehistoric chipped lithic and/or ceramic artifacts between 0–100 cm bs; about 64 percent of the artifacts are from 0–60 cm bs. Ten of the shovel tests were placed on a ridge just south of the COE property at Pat Mayse Lake, and the other is about 80–90 m southeast (ST D-26) near the base of the ridge.

The artifacts from the shovel testing include one prehistoric ceramic sherd, two cores, 16 FCR, 15 heat

spalls, and 58 pieces of lithic debris. The prehistoric ceramic sherd (ST 84-1, 40–60 cm bs) is a plain body sherd (7.7 mm in thickness) from a vessel that has been tempered with grog and crushed hematite, and was fired in a reducing environment.

The flake tool is an expedient tool (ST I-0, 40–60 cm bs) with a 20-mm long use-worn area on a non-cortical piece of black siliceous shale; the flake is 26 x 17 x 5 mm in length, width, and thickness.

Two cores are from ST 84-2 (40–60 cm bs) and ST H-2 (80-100 cm bs). The core from ST 84-2 is a single platform flake core of coarse-grained quartzite with four flake removals. This core is 82 x 48 x 28 mm in length, width, and thickness. The second specimen (from ST H-2) is a core fragment. The specimen is a multiple platform core of coarse-grained quartzite. The core measures 35 mm in maximum length, 27 mm in maximum width, and is 17 mm in maximum thickness.

A wide variety of raw materials are represented in the lithic debris, with coarse-grained quartzite being most common (n=25, 40 percent cortical and 52 percent heat-treated). Including Ogallala quartzite (n=4, 100 percent cortical and 25 percent heat-treated), the proportion of quartzite raw materials in the lithic debris is 50 percent. Also abundant are claystone/siltstone (n=6, 83 percent cortical) and novaculite (n=6, 33 percent cortical and 67 percent heat-treated). Less frequent raw materials in the lithic debris are red chert (n=3, 100 percent cortical), brown chert (n=2, 100 percent cortical), Big Fork chert (n=1), gray chert (n=5, 40 percent cortical), dark brown chert (n=2), petrified wood (n=1), grayish-red chert (n=1, cortical), brownish-gray chert (n=1, cortical), and yellowish-red chert (n=1, cortical).

Sixteen pieces of FCR and fifteen heat spalls were collected from this site. The heat spalls were from STs G-8, I-0, K-1, and off G-2 between 0–100 cm bs. The FCR had a total weight of 128.0 g and came from STs 84-1, 84-2, G-8, H-2, I-0, I-1, K-1, and off G-2 between 0–80 cm bs. The overall density of prehistoric artifacts is 8.36 per positive shovel test.

41LR261 (Field Site 85)

This prehistoric site is on an upland landform between two unnamed creeks that join off the northern point on the landform. This finger ridge slopes gently to the northern point, but has steep banks on both sides overlooking the two creeks. The majority of 41LR261 is in Survey Area 3, but the arbitrary boundary between Areas 2 and 3 cuts across the eastern edge of the site. The vegetation includes mixed hardwood trees with low scrub brush across the site. Visibility was zero percent on the surface. No obvious disturbances were recorded except for erosion, and deposition along the creek banks, which could account for an estimated 20 percent of the site being disturbed. 41LR261 is approximately 24,978 m² in area.

A total of seven shovel tests were dug, with prehistoric artifacts recovered from five. Soil depths varied in the shovel tests, with red clay between 35 cm and 90 cm bs.

Artifacts

All the prehistoric chipped lithic artifacts came from two STs, 85-1 and 00-12. The first was placed on the northern tip of the landform, while the second was near its southern end. The lithic artifacts occurred between 0–80 cm, and include two tested cobbles, and ten pieces of lithic debris. The three additional positive shovel tests contained FCR (ST C-21) and heat spalls (ST C-20), and a military bullet (ST 85-2).

The tested cobbles are from 60–80 cm bs. The larger cobble (50 x 28 x 26 mm in length, width, and thickness) is a brownish-gray chert and the smaller tested cobble (32 x 28 x 27 mm) is a brown chert; both raw materials are obviously from local gravel sources.

Among the lithic debris are pieces of coarse-grained quartzite (n=3, 33 percent cortical and 67 percent heat-treated), yellow or red claystone/siltstone (n=5, 50 percent cortical), gray-brown chert (n=1, non-cortical and not heated), and black Big Fork chert (n=1).

One heat spall from ST C-20, 0–20 cm bs, and four FCR (weighing 164.5 g) from STs C-21, 0–20 cm bs, and 85-1, 20–60 cm bs were collected from this site.

The overall density of prehistoric artifacts is 4.25 per positive shovel test.

41LR262 (Field Site 86)

This site is on a small finger ridge on an unnamed drainage. The bank of this intermittent creek forms the western boundary of the site, while the eastern boundary is a dry ravine. Mixed species of hardwood trees are the dominant vegetation and leaf clutter prevented any surface visibility during the winter site visit. An old road cut across the axis of the ridge and erosion along the edge of the creek and ravine have disturbed an estimated 15 percent of the site. This site is approximately 15,909 m² in area. A total of four shovel tests were dug, three of which contained prehistoric cultural materials.

Artifacts

Three shovel tests contained prehistoric lithic artifacts from 0–100 cm bs. Over 65 percent of the artifacts were found from 0–60 cm bs. Represented in the lithic artifacts are pieces of lithic debris and a tested nodule. The tested nodule of brown-gray chert was recovered from ST HH-10, Level 1 (0–20 cm bs). It measures 31 x 22 x 16 mm in maximum length, width, and thickness. The lithic assemblage includes debris of coarse-grained quartzite (n=6, 50 percent cortical and 33 percent heat-treated), grayish-brown chert (n=1, cortical), Ogallala quartzite (n=5, 20 percent cortical), claystone/siltstone (n=3, 100 percent cortical), gray chert (n=1), brownish-red chert (n=1, cortical), novaculite (n=1), and brown chert (n=3, 100 percent cortical). All the FCR is a coarse-grained quartzite.

Ten FCR from STs HH-10 and 86-1, 0–100 cm bs, had a combined weight of 128.3 g. The overall density of prehistoric artifacts is 10.66 per positive shovel test.

41LR266 (Field Site 90)

This prehistoric site is situated on a gentle upland toeslope (see Figure 8-21). Two dry ravines border the landform on the northwest and on the south and drain the area to Pat Mayse Lake. The COE property fence is approximately 60 m west of the site boundary. This site is approximately 38,780 m² in area. The vegetation includes an open grassy field with 25 percent surface visibility and a wooded area with hardwood trees. There was no surface visibility in the wooded area. An east-west running tree line was probably the edge of an old road. A firebreak road leads into the open grassy field from the north. It appears that the area was burned within the past few years: ST 90-4 contains an ashy lens in the top layer.

The site was first tested during the spring survey, then revisited during the winter to define the site boundaries and record it. A total of 15 shovel tests were dug, six of which contained prehistoric cultural materials. Depth to the clay was between 38 cm and 130 cm bs, with the majority of the tests encountering deep, sandy soils.

Artifacts

Five shovel tests on the landform contained prehistoric chipped lithic artifacts between 0–100 cm bs; about 85 percent of the artifacts were found from 0–80 cm bs. The sixth positive ST (90-1) contained only FCR and heat spalls. A total of nine unmodified debitage were recovered from 0–100 cm bs.

The lithic debris is represented by a variety of raw materials, with a coarse-grained quartzite being the most common (n=4, 100 percent non-cortical and 25 percent heat-treated), along with Ogallala quartzite (n=3, 33 percent cortical), red chert (n=1, 100 percent cortical), and petrified wood (n=1, 100 percent cortical). The proportion of quartzite raw materials in the lithic debris is 77 percent. These materials are available in either local upland gravels or in Red River gravel sources.

Two heat spalls and two FCR from one ST (90-1, 0–80 cm bs) were collected from this site. The FCR weighed a total of 36.6 g. The overall density of prehistoric artifacts is 2.17 per positive shovel test.

41LR267 (Field Site 91)

This site is in a high probability area on a long finger ridge oriented northwest-southeast in Area 11 on the west-central portion of the project area. It is bordered on the west by a ravine and on the east and north by

an unnamed creek. The datum was placed toward the northwest point of the landform. Medium-sized mixed hardwood trees make up the vegetation at the site. Leaf debris prevented any surface visibility during the winter site visit. There were no obvious signs of disturbance and the site integrity was estimated at 90 percent. The site is approximately 21,018 m² in area.

A total of nine shovel tests were placed at this site, five of the tests encountered prehistoric artifacts. The proportion of positive shovel tests indicates a potentially dense site. Two STs (CM-2 and KM-1) encountered shallow, sandy soils on the highest point of the ridge, however, the remainder of the tests encountered deep, sandy soils between 70 and 100 cm in thickness.

Artifacts

Prehistoric lithic artifacts were recovered from five different shovel tests on the landform between 0–100 cm bs, with 55 percent of the artifacts from 0–40 cm bs. The lithic artifacts include four pieces of lithic debris, an expedient flake tool, and five pieces of FCR.

The expedient tool is a unifacially worn or used cortical flake of dark grayish-brown chert. The used edge is 18 mm in length, and the flake is 25 x 35 x 10 mm in overall length, width, and thickness. The four pieces of lithic debris consist of coarse-grained quartzite (n=1, 100 percent cortical and 67 percent heat-treated), quartz (n=1, cortical and heat-treated), grayish-brown chert (n=1, cortical), and orangish-yellow chert (n=1, cortical) flakes. The FCR is from ST KM-1 (0–20 cm bs) and ST KM-2 (60–80 cm bs), and weighs a total of 15.8 g. The overall density of prehistoric artifacts is 2.0 per positive shovel test.

41LR268 (Field Site 92)

This prehistoric site is on a moderate probability landform with a ravine on the western boundary and the bank of an unnamed creek forming the eastern and northern boundaries (see Figure 8-22). This creek drains to the west into Pat Mayse Lake. The site is in Area 11, north of, and across the creek from, 41LR267. This upland setting consists of small and medium hardwoods with oak and pecan trees and very little undergrowth. The site is approximately 6,730 m² in area. Surface visibility was zero percent due to leaf clutter. On the north boundary of the site there is obvious erosion cutting into the landform from the creek. No other disturbances were observed.

Five shovel tests were dug during the spring and fall survey of the site. Four STs yielded prehistoric cultural materials. Depths to clay varied between 45 cm and 80 cm bs on the site. Two tests were conducted on the adjacent landforms across the areas of erosion, ST 92-5 to the west and ST 92-3 to the north.

Artifacts

Three shovel tests on the landform had prehistoric chipped lithic artifacts between 0–80 cm bs, but 87 percent of the artifacts are from 0–60 cm bs. The majority of the artifacts are from ST 92-4 at the northern end of the landform.

The lithic assemblage includes one dart point, a tested cobble, and five pieces of lithic debris. The dart point (ST 92-2, 30–40 cm bs) has a contracting stem, but the blade has been broken by a transverse fracture. It is made of a coarse-grained quartzite, and is 24 mm in width and 6.7 mm in thickness; the stem width is 12.1 mm. The thin blade and narrow stem width indicate the contracting stem dart point is a Gary, *var. Camden*, and dates to the Woodland period (cf. Schambach 1982, 1998). The tested cobble is an unheated coarse-grained quartzite specimen from ST 92-2 (40-60 cm bs). It has one flake removal and measures 56 x 46 x 31 mm in maximum length, width, and thickness.

The small lithic debris sample is dominated by coarse-grained quartzite (n=3, 67 percent cortical), along with Big Fork chert, green variety (n=1) and novaculite (n=1).

Two FCR were collected from ST JJ-19, 0–20 cm bs. The FCR weighs 48.2 g. A single heat spall came from ST 92-4, 0-20 cm bs. The overall density of prehistoric artifacts is 2.50 per positive shovel test.

41LR269 (Field Site 93)

The surface of the landform on which this site is located is undulating and the vegetation is thick and overgrown—the area appears to be disturbed. The vegetation types include small and medium hardwood tress, with sumac, small juniper trees, patches of grass and low brush across the site. Surface visibility was less than 10 percent. This site is approximately 14,964 m² in area. A possible old road, hot water heater base, and vitrified sewer pipe section were observed at this site. The shovel tests yielded no historic artifacts. Given the sparseness of historic artifacts, no historic component was defined at the site. The area of dense brush in the center of the landform could have been the site of a homestead or other structure, although no sign of any structural remains or features were located.

A total of six shovel tests were dug with depth to clay at an average of 60 cm bs, four STs contained cultural materials.

Artifacts

Four shovel tests had prehistoric chipped artifacts between 0–80 cm bs. The lithic artifact sample consists of six pieces of chipped lithic debris. The raw materials in the lithic debris are cortical pieces of red chert (n=1) and Ogallala quartzite (n=1), a non-cortical piece of coarse-grained quartzite from ST HHH-1, and an unidentified light grayish-red chert (n=1), a cortical piece of tan chert, and a cortical piece of reddish chert with tan inclusions.

Two pieces of FCR were recovered from ST 93-3, at 0–20 and 40–60 cm bs. The overall density of prehistoric artifacts is 2.0 per positive shovel test.

41LR271 (Field Site 95)

This site occupies a broad toeslope on the bend of an unnamed creek in Survey Area 23. The upland landform and adjacent terrace, that forms a shelf along the creek bank, form the site setting. This site is approximately 31,638 m² in area. Site 41LR259 is across the drainage and occupies a higher elevation landform to the south. The creek bends to the north along this landform. Moderately dense mixed small, medium, and large hardwood trees, cedar trees, and riparian vegetation along the creek banks make up the vegetation at this site. Leaf clutter prevented any surface visibility. Sheet erosion along the moderate slopes of the landform was obvious in several "bowl" shaped areas, and an estimated 75 percent of the site was intact.

Fifteen shovel tests were dug, seven of which contained prehistoric and military artifacts. Depths to the clay varied on this undulating site, and ranged from 35 cm to 135 cm bs. The depth of sandy loam in positive STs averaged 120 cm bs.

Artifacts

There were four shovel tests with prehistoric chipped lithic artifacts, one (ST 95-5) at the northern end of the landform, one (ST A-6) in the middle of the landform, and the other two (ST B-6 and ST C-5) at the southern end of the landform. The artifacts are from 0–120 cm bs, but 71 percent were found between 60–120 cm bs. Two of the remaining positive STs (C-3 and 95-3) contained military bullets, while the third (ST 95-1) yielded a heat spall.

The lithic artifacts include six pieces of lithic debris and a core fragment (ST A-6, 80–100 cm bs). The core fragment is a yellowish-gray chert and measures 22 x 17 x 6 mm in maximum length, width, and thickness. The lithic debris consists of four (50 percent cortical and 25 percent heated) coarse-grained quartzite flakes, a yellow chert (n=1), and a tan chert (cortical and not heated).

One quartzite FCR from ST A-6, 0–20 cm bs, weighing 10.0 g, and one heat spall (ST 95-1, 20–40 cm bs) were recovered. The overall density of prehistoric artifacts is 1.8 per positive shovel test. Three shovel tests (95-3, B-6, and C-3) contained a total of four military bullets between 0–60 cm bs. Three of the bullets came from 0–20 cm bs.

41LR274 (Field Site 98)

This prehistoric site is located on a low terrace on the south side of a bend on an unnamed creek in Survey

Area 26. The vegetation includes small, medium, and large hardwood trees. The datum was placed on a large oak tree about 15 m southwest of a partially filled in trench. Surface visibility was zero percent due to leaf debris, and the site is approximately 25,785 m² in area.

Disturbances include a large V-shaped, rectangular trench and small round foxholes indicating use of the area for military maneuvers, however, impact to the site from these military features is estimated at less than 10 percent. Erosion along the creek banks may have also destroyed some of the site. A strand of barbed wire was observed on the surface. A broken concrete slab was noted at the northeast edge of the site. It is probably associated with a WWII Camp Maxey structure.

A total of eight shovel tests were dug on site, of these four were positive. Numerous pockets of deeper sandy loam are visible on site. These pockets of deeper soils can be seen on the terrain as slightly raised areas, although not enough to be considered "pimple mounds." The depths to clay ranged from 79 cm to 120 cm bs in the positive tests, and 20 cm to 75 cm bs in the negative tests.

Artifacts

Four separate shovel tests contained prehistoric chipped lithic artifacts, with a total artifact density of 1.50 per positive shovel test. The artifacts consist of five pieces of lithic debris and a single FCR. Sixty percent of the lithic debris is a coarse-grained quartzite (33 percent cortical), along with a non-cortical piece of red chert and a creamy white chert (possibly Frisco chert) non-cortical piece. A single piece of FCR was collected from ST F-3 (80–100 cm bs), it weighed 9.4 g. This shovel test also yielded a shotgun shell casing from 20–40 cm bs.

41LR275 (Field Site 99)

This small prehistoric site is in a moderate probability area on the end of a finger ridge in Area 28. The landform is situated at the confluence of two unnamed creeks with a small gully leading into the confluence. This ridge contained small and medium hardwood trees with a few juniper trees. Leaf debris prevented any surface visibility. This site is approximately 19,017 m² in area.

Disturbances in the area include two linear ditches, which are the possible remnants of an old road. Historic use of the area was evident with barbed wire on the ground, a barbed wire fence to the south of the site, and a section of vitrified sewer pipe in the gully. Although historic material was observed in the immediate vicinity, no historic component was assigned to the site due to the lack of any structural or other features associated with historic occupation or special use of the landform.

Five shovel tests were excavated. Three (ST A-1, ST A-2, and ST C-3) were positive with prehistoric materials. ST A-1 also contained a fragment of vitrified sewer pipe in the first level, probably associated with the pipe found in the gully about 15 m from the shovel test. Soil depths in the positive tests ranged between 100 cm and 140 cm bs. More shallow soils were encountered on the upper part of the landform.

Artifacts

Two shovel tests at the eastern end of the landform contained prehistoric chipped lithic artifacts. ST C-3 had a cortical piece of novaculite lithic debris between 20–40 cm bs, and ST A-1 (20–40 cm bs) had a non-cortical and heat-treated piece if coarse-grained quartzite lithic debris.

One FCR from ST A-2, the third positive shovel test, was collected from 120–130 cm bs, it weighed 9.4 g. The overall density of prehistoric artifacts is 1.0 per positive shovel test.

41LR276 (Field Site 100)

This site consists of a very thin scatter of prehistoric lithic material. The site is located on the mid-slope of a finger ridge. Three similar landforms meet at this confluence of dry gullies and intermittent creeks. This terrace contained small and medium hardwood trees such as oak and hickory, with moderate undergrowth of briars and riparian vegetation. Surface visibility was

zero percent due to the leaf debris. This site is approximately 21,103 m² in area. The site was identified through two positive shovel tests out of fifteen placed on the landform.

Positive shovel tests (ST K-13 and ST M-19) contained flakes and FCR. The depth to clay in the positive tests was 76 cm, 100 cm, and 105 cm bs. Soils depths to clay varied widely between 20 cm and 95 cm bs in the negative shovel tests, the majority of which encountered clay at less than 60 cm bs.

Artifacts

One unmodified debitage from ST K-13, 40–60 cm bs, and one heat spall from ST M-19, 40–60 cm bs, were the only prehistoric artifacts collected at 41LR276. The flake is a yellowish-brown cortical chert of probable local origin. The overall density of prehistoric artifacts is 1.0 per positive shovel test.

41LR277 (Field Site 101)

This site was found in a low probability area on a small drainage with braided tributaries near the eastern perimeter fence in Area 29. The site is approximately 16,124 m² in area. It contains prehistoric cultural materials, possible WWII features, and modern Camp Maxey features. However, due to the nature of these features this site is being reported as a prehistoric site. A railroad track is just outside of the camp boundary parallel to the fence. This site includes a riparian setting with terraces on both sides of the creek. The vegetation consists of medium and large hardwoods including oak trees, and riparian vegetation such as briars. Surface visibility during the winter site recording visit was zero percent due to thick leaf debris.

A total of thirteen shovel tests were excavated. Deep sandy soils were encountered along the creek. Six STs were positive with prehistoric materials and were generally located on small rises on the landforms along both sides of the tributary. Soil depths to clay across the site ranged from 40 cm to 120 cm bs, with average depths between 50 cm and 60 cm bs. This site was recorded as a single site even though it spans both sides of the drainage. The decision to do so was based on the entire area being moderately disturbed by military Test Course stations and other military materials and features, such as foxholes, concertina wire, and metal trash cans. Also, the eastern bank of the drainage is bordered by the perimeter fence, cutting off the landform.

Artifacts

Three shovel tests at the northern and southern ends of the landform contained prehistoric chipped lithic artifacts between 0–40 cm bs. The lithic artifacts consist of three non-cortical pieces of coarse-grained lithic debris from ST C-6 (0–20 cm bs), ST A-2 (20–40 cm bs), and ST C-1 (20–40 cm bs). The remaining three positive shovel tests (ST A-4, ST C-3, and ST C-7) contained only pieces of FCR.

A total of 105.2 g of FCR was collected from four STs (A-4, C-3, C-6, and C-7, between 40–100 cm bs). The overall density of prehistoric artifacts is 2.67 per positive shovel test.

41LR278 (Field Site 102)

This site was defined after the fieldwork was completed based on a cluster of three positive shovel tests identified during post-field analysis of Area 6. The landform that 41LR278 occupies is bisected by the facility perimeter fence in Survey Area 6. The site probably extends onto COE land to the northwest. It is an upland landform with scattered medium sized hardwood trees, a thick patch of sumac, and open grass. This site is approximately 26,719 m² in area.

A total of 11 shovel tests were used to explore the landform. The four positive shovel tests occur in the northern part of the site near the perimeter fence. Soil depths were relatively shallow with clay between 17 cm and 80 cm bs. The positive tests ranged between 44 cm and 68 cm bs to clay.

Artifacts

Three separate shovel tests contained prehistoric chipped lithic artifacts from 0–80 cm bs. The three pieces of lithic debris include two coarse-grained

quartzite (50 percent cortical) and one cortical novaculite specimen.

Two STs (Q-4 and O-17, between 20–80 cm bs) contained four pieces of FCR weighing a total of 88.7 g. The overall density of prehistoric artifacts is 1.75 per positive shovel test.

41LR280 (Field Site 104)

This site also was defined during post-field analysis of shovel test data. The site is on the central portion of a long upland ridge-line that is bisected by the western facility fence in Survey Area 10. The vegetation on this upland ridge consists of open grassland with little bluestem dominating the site. Patches of sumac bushes were also identified during the spring survey, and hardwood trees line the creek that forms the northeastern boundary of the landform. This site is approximately 18,918 m² in area.

A total of three shovel tests were dug on the east side of the property fence on this landform. Two of the shovel tests produced prehistoric artifacts. The positive shovel tests are located near the property fence along the highest contour of the ridge. A two-track road was noted on the COE side of this fence heading north and ruts in the landform lead down to the creek.

Artifacts

A single shovel test (ST I-37) yielded a cortical piece of dark brown chert between 20–40 cm bs. The only other artifact, a heat spall, was recovered from ST J-60, the second positive ST, and comes from 0–20 cm bs. The overall density of prehistoric artifacts is 1.0 per positive shovel test.

Revisited Sites

Two archaeological sites were revisited during the 1999 Camp Maxey survey. Site 41LR137 was originally recorded by Corbin (1992), while site 41LR168 was recorded by Nickels et al. (1998). In both cases, additional reconnaissance and shovel testing in the vicinity of the sites resulted in the extension of the original site boundaries.

41LR137

41LR137 was originally recorded as a 60 x 15 meter quarry/camp locality by Corbin (1992:7). The site is located at the eastern end of a long northwest trending landform that extends toward Pat Mayse Lake in Survey Area 17. It was a site that was identified as having some potential to be nominated to the National Register of Historic Places although some portions of it have been, and were to be, disturbed by an existing road and the construction of a raw water line for the City of Paris, Texas. The CAR work consisted of surveying and shovel testing the entire landform associated with the site (Figure 8-23). As a result of this work site boundaries have been extended to incorporate the entire landform. It is likely that the quarry designation of the site proposed by Corbin (1992) represents only a segment of the overall site.

In its present form 41LR137 occupies a long northwest-southeast oriented finger ridge. The northwest one-third of the landform is in a high probability survey area. The upland terrain contains mixed hardwood forest dominated by mature oak trees. Surface visibility was zero percent due to leaf debris. Two unnamed drainages border the landform on the east and west. To the east is an intermittent creek with a steep bank, and to the west is a larger permanent creek. These two creeks join at a fork just off the north tip of the landform that is on COE property, and drain into Pat Mayse Lake. The landform broadens to the southeast and is about 60 m wide near the base road that cuts across the southeast tip of the site. The site datum was established about 30 m west of the TXARNG road. This improved gravel TXARNG base road has a concrete monitor station with a vented shaft on the southeast end of this landform. The site is approximately 54,199 m² in area. A total of 34 shovel tests were excavated with 23 tests yielding prehistoric artifacts. Average depth to clay in the positive tests was between 60 cm and 100 cm bs and ranged between 30 cm and 111 cm in the negative tests.

Artifacts

Nineteen shovel tests contained prehistoric chipped lithic and/or ceramic artifacts between 0–120 cm bs. About 68 percent of the artifacts, including the one

ceramic sherd, were found between 40–80 cm bs, suggesting that the site contains substantial buried archeological deposits. The highest densities of artifacts were found in three shovel tests at the southeastern edge of the landform (STs DDD-7, DDD-8, and DDD-10). Five additional positive shovel tests (CCC-3, CCC-6, CCC-7, DDD-8, and DDD-16) contained only heat spalls and/or FCR.

The artifact assemblage from the shovel testing includes one ceramic sherd, 32 pieces of lithic debris, one tested cobble, a core, and a core fragment. The ceramic sherd is from ST DDD-18 (40–60 cm bs). It is an everted rim jar with a rounded lip that has neck-banding on the rim and vertical incised lines on the body. This form of Nash Neck Banded appears to date from ca. A.D. 1300-1450 (see Perino 1994:28), when Nash Neck Banded jars commonly had incised lines on the vessel bodies and rounded to globular jar shapes. The jar rim (5.6 mm in thickness) has grog temper, and is from a vessel that was incompletely oxidized during firing.

The tested cobble (ST DDD-19, 0–20 cm) is a piece of petrified wood with one flake removal; the cobble is 70 x 60 x 43 mm in length, width, and thickness. The core (ST DDD-17, 60-80 cm bs) is a fire-cracked fine-grained Ogallala quartzite pebble with five flake removals. It measures 60 x 33 x 21 mm in length, width, and thickness. The core fragment (ST DDD-8, 80–100 cm bs) is a piece of brown chert with eight flake removals; the specimen is 34 x 33 x 17 mm in length, width, and thickness.

Among the lithic debris, coarse-grained quartzite raw material is most common (n=15), comprising 47 percent of the sample. About 65 percent of the quartzite lithic debris are cortical, and 35 percent are from heat-treated cobbles and pebbles. Cherts and novaculite make up the remainder of the lithic debris, a relatively high percentage compared with other Camp Maxey prehistoric sites. There are three pieces of novaculite lithic debris, as well as brown chert (n=3), brownish-red and gray chert (n=1, cortical), yellow chert (n=4, 75 percent non-cortical), yellowish-gray chert (n=2, cortical), dark gray chert (n=1, cortical), grayish-brown chert (n=1, cortical), dark grayish-brown chert (n=1), and brown to dark brown chert (n=1, cortical). The frequency of cortical pieces in the chert lithic debris (50 percent) suggests that these materials are available locally in upland gravels and in the Red River gravels a few miles north of the site.

41LR137 also yielded eight heat spalls and 322.5 g of FCR. The heat spalls were found in four STs (CCC-5, CCC-6, DDD-1, and DDD-7) between 0–80 cm bs. A total of 322.5 g of FCR from 11 STs (M-4, CCC-6, DDD-1, DDD-4, DDD-6, DDD-7, DDD-8, DDD-10, DDD-16, DDD-18, and DDD-21) were also recovered between 0–120 cm bs. However, the majority of the FCR was recovered between 40–100 cm bs, with 17 pieces coming from one level (80–100 cm bs) of ST DDD-8. Eight military bullets were found in five shovel tests (DDD-10, DDD-13, DDD-16, DDD-17, and M-4). Five of these are from 0–20 cm bs, one is from 20–40 cm bs, and the final specimen is from 40–60 cm bs. A single piece of charcoal was recovered from ST DDD-6 at a depth of between 80–100 cm bs. The overall density of prehistoric artifacts is 3.73 per positive shovel test.

41LR168

This site was previously recorded (Nickels et al. 1998:69), but was found to be considerably larger during our testing efforts. Additional shovel testing and surface collections revealed prehistoric cultural resources extending south along the large finger ridge landform (Figure 8-24). 41LR168 occupies a large, upland ridge. The northwestern third of this landform extends onto COE property. The southwestern site boundary is just north of 41LR208, and is separated by a small low-lying drainage. This site is approximately 73,325 m² in area. The majority of the site is an open field with little bluestem and Gay Feathers. A stand of persimmon, pecan, and white oak trees is on the eastern edge of the site. Surface visibility was zero percent in the field, but a tank track, or firebreak road, that runs around the landform allowed 20 percent visibility along it. Several prehistoric artifacts were recovered from the tank track. Three pits are located in the south-central area of the site, they are presumed to have been used in tank maneuvers. The pits are of uniform dimension and large enough to conceal a tank at ground level (this type of concealment

feature was confirmed by Maj. Diltz, personal communication).

During the survey and site recording, 40 shovel tests were placed on this landform and several pimple mounds on the western and northwestern edge of the site. Most of the shovel tests reached red clay at a depth of 50 cm bs or above. However, several pockets of deeper sandy soils were encountered, revealing red clay between 70 cm and 90 cm bs. Seven of the 40 STs were positive with prehistoric artifacts.

Artifacts

Surface artifacts were noted from the "tank track" locale where the soil had been exposed in a 6-x-9-m area leaving a concentration of lithics. Only diagnostics were collected, however, a total of 3 gray quartzite flakes, 3 FCR, 2 petrified wood cores, 2 yellowish-brown quartzite flakes, 6 red quartzite flakes, and 3 red chert flakes were observed on the surface.

Six separate shovel tests had prehistoric chipped lithic artifacts between 0–40 cm bs. Three of the shovel tests (Sweep 1, 2, and 5) are at the western end of the landform, along with two lithic tools from the surface (UI-4 and UI-5), while two others (ST 31-1 and ST A-6) are on a rise about 120 m to the east, and ST F-1 is located on the northwest edge of the site. The seventh positive ST (Sweep 12) yielded a heat spall.

The surface artifacts include a Kent dart point and a bifacial tool fragment, probably the midsection of a dart point. The Kent point is made on heat-treated Ogallala quartzite, and has a narrow square stem with rectangular barbs. It is 40 x 20 x 8 mm in length, width, and thickness, and has a 11.5 mm stem width. The tool fragment (UI-5) has bifacially worked and retouched edges, and is also made on heat-treated Ogallala quartzite. It is 24 mm in width and 9 mm in thickness.

The lithic artifacts from shovel testing consist of nine pieces of lithic debris: six coarse-grained quartzite (67 percent cortical and zero percent heat-treated), one novaculite (non-cortical and heat-pocked), one grayish-brown chert (cortical), and a non-cortical whitish-orange chert piece of unidentified source from ST 31-1, 0–20 cm bs. One of the coarse-grained quartzite pieces is a greenish-gray color, and probably originated in the Atoka Formation in the Ouachita Mountains of southeast Oklahoma (see Banks 1990). This raw material would have been available in the Red River gravels. No FCR was recovered from the shovel tests. The overall artifact density is 1.43 per positive shovel test.

Chapter 9: Multicomponent Sites

Anthony S. Lyle, Timothy K. Perttula, and Anne A. Fox

Introduction

A total of 17 sites containing both prehistoric and historic artifacts were identified and documented during the 1999 archaeological survey of Camp Maxey. In addition, one site previously recorded by TXARNG archaeologists was also revisited and more extensively shovel tested. The locations of the multicomponent (i.e., prehistoric-historic) sites within the Camp Maxey project area are shown in Figure 8-1. The number of shovel tests excavated on each of these sites ranges from 3 to 46, with some dug in the process of site discovery and additional shovel tests excavated during site definition efforts. The total number of STs excavated on each site and the number of positive STs is presented in Table 9-1. Site maps showing the distribution of the STs and the general physical characteristics of the prehistoric and multicomponent sites recommended for further work are presented in the Map Supplement, Figures 9-1 through 9-7. The great majority of the prehistoric artifacts consist of pieces of lithic debris derived from the manufacture and maintenance of stone tools, but five sites had dart points or point fragments (41LR187, 41LR190, 41LR225, 41LR254, and 41LR170), three had arrow points and arrow point fragments (41LR186, 41LR225, and 41LR170), and prehistoric Caddoan ceramic sherds were present on three sites (41LR186, 41LR187, and 41LR170). All three of the sites with Caddoan ceramics also yielded projectile points.

Laboratory Analyses

All prehistoric artifacts recovered from these multicomponent sites were analyzed using the methods described earlier in Chapter 8. All historic artifacts encountered in shovel tests were retained for analysis. In addition, selected temporal diagnostic artifacts were surface collected and returned to CAR for analysis and description. The laboratory analyses of historic artifacts focused almost exclusively on

Table 9-1. Total Number of Shovel Tests and Positive Shovel Tests Excavated at each Multicomponent Site

Permanent Site No.	Field Site No.	Total STs	Positive STs	Figure No.
41LR181	FS 1	8	4	
41LR186	FS 6	46	40	9-1
41LR187	FS 7	17	17	9-2
41LR190	FS 10	20	15	9-3
41LR191	FS 11	17	8	
41LR193	FS 13	13	5	
41LR197	FS 17	8	6	
41LR202	FS 22	26	10	9-4
41LR225	FS 49	24	13	9-5
41LR240	FS 64	18	6	
41LR248	FS 72	13	4	
41LR254	FS 78	15	10	9-6
41LR263	FS 87	5	3	
41LR264	FS 88	6	5	
41LR265	FS 89	7	5	
41LR273	FS 97	10	3	
41LR279	FS 103	2	2	
41LR170		38	20	9-7

temporally diagnostic items. Anne A. Fox of CAR carried out the analyses and provided the artifact descriptions. For a catalog of prehistoric artifacts recovered from the multicomponent sites recommended for further work at Camp Maxey see Appendix D.

Site Descriptions

41LR181 (Field Site 1)

This site is located in the north-central portion of the project area at the edge of a moderate probability area. During survey, a single shovel test yielded prehistoric artifacts (i.e., heat spalls). However, only two of seven additional shovel tests excavated during the site boundary definition yielded additional prehistoric materials. The prehistoric component appears to be very sparse. The remnants of a filled-in well or cistern, remnants of a barbed wire fence tacked to several large trees, and a portion of a road which crosses the drainage on the west border of the site form part of a probable historic house site. The drainage that borders the site to the west, north, and northeast contains historic debris and a dump location with metal, glass, and ceramic artifacts. The site is approximately 6,121 m² in area. Four of the eight shovel tests dug on site were positive out.

Prehistoric Artifacts

Only one shovel test (ST 1-6) contained prehistoric chipped lithic artifacts. Two other positive shovel tests (ST ZZ-6 and ST 1-2) contained a heat spall and FCR, respectively. The artifacts consist of four pieces of lithic debris found between 0–40 cm bs. Raw materials represented in the lithic debris include coarse-grained quartzite (n=1, cortical), red chert (n=1, cortical), brown chert (n=1, cortical), and petrified wood (n=1).

One FCR was recovered in ST 1-2 (20–40 cm bs), weighing 5.9 g. Two heat spalls were also recovered, one from ST ZZ-6 (20–40 cm bs), and the other from ST 1-6 (0–20 cm bs). The overall density of prehistoric artifacts is 2.33 per positive shovel test.

Historic Artifacts

All four of the positive STs dug at the site contained historic artifacts (n=9). The artifacts were found between 0–60 cm bs. Historic artifacts from the site include one sherd from a bowl with a repoussé design and blue-painted scalloped rim that, along with an undecorated whiteware sherd, probably dates to the first half of the twentieth century. A deposit in the nearby gully appears to be debris left from the construction and later repairs of the house. Among the debris are paint cans, an electric light fixture, and a hoop from what was probably a barrel of nails. Also present in the dump were fragments of brown, aqua, and milk glass from the early- to middle-twentieth century.

41LR186 (Field Site 6)

This site is located in the north-central portion of the project area (see Figure 9-1) in a moderate probability zone in Survey Area 2. It is bordered on the west and north by the property fence. 41LR186 is approximately 76,262 m² in area. This site appears to be one of the richest artifact-bearing sites found during survey. Caddo ceramics and lithic artifacts were collected from the surface, and a total of 40 out of 46 shovel tests yielded cultural materials. Two additional 50-x-50-cm test units (6-A and TU 3) also yielded prehistoric cultural remains. Ten of the 38 shovel test units contained ceramics. Cultural materials extended to a depth of 120 cm bs. The concentration of artifacts indicates the presence of a probable Caddoan hamlet. A thin surface scatter of historic artifacts also indicates the presence of a historic component at this location.

Prehistoric Artifacts

Extensive shovel testing at this large site recovered prehistoric lithic and ceramic artifacts from 40 positive shovel tests and two 50-x-50-cm units, one of which (TU 3) was excavated along the profile of BHT 4. The four additional shovel tests (ST 22, ST 29, ST 35, and ST 42) contained only FCR and heat spalls. Eleven prehistoric ceramic sherds were collected from the surface in the vicinity of ST 32 on the central part of the

landform. Overall, a total of 40 prehistoric ceramics were recovered from 11 proveniences on the site.

Of the 40 positive shovel tests, 90 percent contained chipped lithic artifacts; only 27 percent of these shovel tests had prehistoric ceramics, and these were concentrated in two areas in the central (n=7 shovel tests with ceramics) and southern (n=3 shovel tests with ceramics) parts of the site. Ten of the eleven STs with ceramics also contained chipped lithic artifacts. About 38 percent of the artifacts were concentrated in the 40–60 cm bs level, particularly the prehistoric ceramics (i.e., 57 percent of the ceramics were from 40–60 cm bs), with the 20–40 cm (19 percent of the artifacts) and 60–80 cm (20 percent of the artifacts) levels also containing relatively high proportions of prehistoric artifacts. The excavation of TU 3 in BHT 4 indicates that prehistoric lithic artifacts were present to at least 120 cm bs, while prehistoric ceramics were recovered to depths of 80 cm bs in the shovel testing. The artifact density is 108–116 per square meter in the hand excavation units. The highest densities of prehistoric artifacts occurred in ST 31, ST 32, ST 33, ST 37, ST 85, ST 89, ST 91, and ST 94. These shovel tests cluster in three different areas, from north to south along the landform. The northernmost cluster contains only prehistoric lithic artifacts, the central cluster of high artifact density shovel tests (>1000 m^2 in area) contained most of the prehistoric ceramics, while the southernmost and small cluster (15 m in diameter) also contained ceramics along with a pit feature that was identified in ST 92.

The prehistoric chipped and battered lithic artifacts include one arrow point fragment, a bifacial drill, two expedient flake tools, two biface fragments, a hammerstone fragment, one core, and 131 pieces of lithic debris. The arrow point (ST 31, 0–20 cm bs) is a small stem fragment (2.4 mm in thickness) made of a heat-treated coarse-grained quartzite; it is from the central cluster of high-density shovel tests. The bifacial drill (ST 86, 40–60 cm bs) is on an ovoid piece (32 x 17 x 6 mm in length, width, and thickness) of novaculite that has been bifacially retouched. The drill bit is 8 mm in length and width and 3 mm in thickness. The first expedient tool (from 30–40 cm bs in the 50-x-50-cm unit in the central cluster) is on a non-cortical piece of Big Fork black chert, and has use-wear along one edge of the flake; the tool is 27 x 18 x 2 mm in length, width, and thickness. The second expedient flake tool, from ST 83 (80–100 cm bs) in the central cluster, is a non-cortical piece of grayish-brown chert lithic debris with use-wear along one edge (30 mm). It measures 38 x 20 x 5 mm in length, width, and thickness. A biface fragment of brown chert, 7.9 mm in thickness, is from ST 82 (60–80 cm bs), and ST 94 (60–76 cm bs) had a bifacial tool edge fragment of Big Fork black chert. The small hammerstone fragment of coarse-grained quartzite came from ST 91 (60–80 cm bs) in the southern cluster. A small nodular core of grayish-yellow chert, with three flake removal scars, may represent an early reduction stage biface manufacture failure. It came from ST 33 (60–80 cm bs).

A very diverse raw material assemblage is represented in the lithic debris. Coarse-grained quartzite is the single most abundant raw material type (n=52, 65 percent cortical and 50 percent heat-treated), accounting for 39 percent of the sample. Along with Ogallala quartzite (n=11, 33 percent cortical and heat-treated), the proportion of quartzite raw materials in the sample is 48 percent. Other common raw materials in the lithic debris include novaculite (n=14, 29 percent cortical and 14 percent heat-treated), and various colors of chert (n=39, 43 percent cortical), The cherts include gray chert (n=14, 28 percent cortical), red chert (n=10, 70 percent cortical), and brown chert (n=7, 71 percent cortical), dark brown chert (n=4), Big Fork black chert (n=3, 33 percent cortical), and white chert (n=1, possibly Frisco chert). Less common raw materials include petrified wood (n=5, 60 percent cortical), quartz (n=4, 75 percent cortical), chalcedony (n=2, 100 percent cortical), and claystone/siltstone (n=4, 50 percent cortical).

Including the artifacts from the surface, there are 40 ceramic sherds. The ceramic sherds were most abundant in ST 32 (n=11), ST 19 (n=7), ST 33 (n=5), ST 85 (n=4), and ST 89 (n=4), all from the central part of the landform. The density of ceramics in the positive shovel tests is 0.82, and 4.0 per square meter in the one 50-x-50-cm unit in the central site area.

The 40 sherds include 31 plain body sherds, a plain rim, three engraved, two incised, one pinched, one incised-punctated, and one punctated sherd. The plain/decorated sherd ratio is 3.88. About 87 percent of the

sherds have been tempered with grog (or crushed sherds), 5 percent have grit temper, and 8 percent have bone temper. Among the grog-tempered sherds, several also have additional temper inclusions, including bone (n=6) and hematite (n=1). One other sherd, with grog-bone temper, also has a sandy paste. The proportion of ceramic sherds with some amount of crushed and burned bone temper is 23 percent.

The sherds are from coiled, well-made vessels, with a mean body wall thickness of 6.5 mm (range 3.3–10.2 mm). About 20 percent of the sherds are relatively thick (>8.7 mm in body wall thickness), and include six plain body sherds (probably Williams Plain, see Schambach 1998), one pinched body sherd, and a fingernail punctated body sherd (both of these are from vessels that were incompletely oxidized during firing); many of these are from the surface around ST 32 on the central part of the landform and are tempered with grog or grog-bone. The majority of the sherds are from vessels that have been fired in a reducing environment (67 percent), with most of these then having been cooled in a high oxygen environment (see Teltser 1993). The thinner decorated sherds are all from vessels fired in a reducing environment.

Among the few decorated sherds, the engraved wares (n=3) are most common. One (ST 85, 40–60 cm bs) has only a single engraved line, while the two from ST 32 have diagonal engraved lines (40–60 cm bs; from a carinated bowl) and multiple curvilinear engraved lines (20–40 cm bs), respectively; both of these sherds have bone temper, with the former also having grog as a tempering inclusion. The two incised sherds (both from ST 32, 40–60 cm bs) have parallel and vertical decorative elements, and both are tempered with grog. There is a curvilinear and horizontal incised and zoned punctated sherd (probably Crockett Curvilinear Incised) from ST 19 (60–80 cm bs) on the southern part of the landform, and it is tempered with grog. Another grog-tempered sherd (ST 92, 40–51 cm bs) from the southern part of the landform has a thick (8.9 mm) pinched body, and there is a thick (10.2 mm) fingernail punctated body sherd (grog-tempered) from the surface collection around ST 19. The one plain rim (ST 33, 40–60 cm bs) has a direct rim and a rounded lip and has been tempered with grog. It is 4.6 mm thick. Overall, the few decorated sherds are consistent with a pre-A.D. 1300 Caddoan component, and the combination of bone tempering, along with several thicker grog-tempered sherds with decoration, suggests the Caddoan occupation here may have occurred in the ca. A.D. 900–1100 interval.

A total of 24 heat spalls were recovered from 19 shovel tests (STs 19, 21, 24, 29, 31, 32, 33, 34, 37, 39, 40, 47, 48, 49, 50, 83, 87, 88, and 94). Ninety-five percent of the heat spalls were scattered through levels 1–4 with 54 percent between 0–40 cm bs (Levels 1 and 2).

A total of 70 pieces of FCR were collected from 41LR186. Eighteen STs and two TUs contained FCR (STs 19, 21, 22, 32, 33, 35, 40, 42, 43, 46, 48, 49, 51, 83, 84, 85, 87, 89, and TUs 3 and 6-A). The breakdown of FCR by shovel test and level for this and subsequently discussed sites recommended for further work can be seen in Appendix D. In the shovel tests, a total of 38 pieces of FCR were recovered with a total weight of 621.8 g distributed from 0–120 cm, the majority (62 percent) of which were found between 60–100 cm. In the two test units, TU 6-A had 11 FCR from 100–120 cm with a weight of 17.9 grams and TU 3 contained 21 FCR weighing a total of 85 g, distributed from 20–120 cm. The overall density of all prehistoric artifacts is 6.54 per positive unit.

Historic Artifacts

Two shovel tests (ST 50 and ST 51) yielded historic artifacts from 0–40 cm bs and 0–20 cm bs, respectively. The small collection consists of a brown bottle glass fragment ST 50 (20–40 cm bs) and three pieces of whiteware plate fragments. These artifacts suggest the historic component at the site dates to the first half of the twentieth century.

41LR187 (Field Site 7)

This multicomponent site is located immediately east of 41LR186 (FS 6) on a long finger ridge (Figure 9-2). The site stretches across a moderate and a high probability area. This site is approximately 25,839 m² in area. A total of 17 shovel tests were excavated on site, with all 17 yielding cultural materials. Of these, sixteen contained prehistoric materials. The deposits contain a possible midden, and buried prehistoric remains including lithic debitage and Caddoan ceramics.

Prehistoric cultural materials extend to a depth of at least 100 cm bs. A number of historic artifacts were also recovered at this site.

Prehistoric Artifacts

There were 16 shovel tests with prehistoric chipped lithic and/or ceramic artifacts, with 84 percent of the artifacts found from 0–60 cm bs, including 87 percent of the ceramic sherds and 80 percent of the lithic artifacts. The chipped lithic and ceramic artifact density is 6.37 per positive shovel test, and ST 5 (n=14), ST 7 (n=12), ST 14 (n=25), ST 16 (n=20), and ST 96 (n=13) had the most artifacts. More than 93 percent of the positive shovel tests contained prehistoric lithic artifacts compared to 47 percent with prehistoric ceramic sherds; 40 percent of the positive shovel tests had both prehistoric lithic and ceramic artifacts.

The lithic artifacts are comprised of a proximal dart point fragment, a biface fragment, an expedient flake tool, an end scraper, three cores, and 55 pieces of lithic debris. The lithics were most abundant in ST 16 (n=9), ST 14 (n=8), ST 5 (n=7), and ST 17 (n=4). The dart point fragment from ST 16 (0–20 cm bs) is a small contracting stem with a rounded base. It is made of coarse-grained quartzite. It may represent a Gary dart point fragment. The medial or distal biface fragment is of heat-treated quartzite. A corticated flake blank was used in its manufacture. The fragment broke in manufacture along an imbedded fracture line. The expedient flake tool has use-wear along one edge of a non-cortical gray chert flake (ST 4, 60–70 cm bs); the tool is 25 x 19 x 7 mm in length, width, and thickness. Shovel Test 4 (40–60 cm bs) also had an end scraper (18 x 14 x 8 mm in length, width, and thickness) made from a cortical flake of yellowish-gray chert.

The three cores are from ST 16, 20–40 cm (n=1), ST 15, 40–63 cm (n=1), and ST 9, 20–30 cm (n=1). The cores from STs 15 and 16 are single platform specimens. The first single platform core (ST 16, 20–40 cm bs) is Big Fork chert (27 x 23 x 14 mm in length, width, and thickness). The second specimen (ST 15, 40–63 cm) is a pyramidal polyhedral core on a heat-treated coarse-grained quartzite cobble that measures 28 x 31 x 23 mm in length, width, and thickness. The third core is also a single platform core on local coarse-grained quartzite. A total of five flakes have been removed from around the margins of the pebble using an unprepared platform surface.

Coarse-grained quartzite debitage constitutes one of the most abundant raw materials in the collection (n=23, 41%; 52 percent cortical and 39 percent heat-treated). Other relatively frequent raw materials in the lithic debris are gray chert (n=6, 50 percent cortical) and red chert (n=6, 83 percent cortical). The remaining lithic debris includes poor quality petrified wood (n=2, 100 percent cortical) and quartz (n=1), as well as novaculite (n=3, 33 percent heat-treated) and claystone/siltstone (n=3, 33 percent cortical), and various colored cherts: yellow (n=3, 66 percent cortical), brown (n=4, 50 percent cortical), Big Fork (n=3), and dark gray (n=1).

The 46 ceramic sherds from shovel testing constitute the largest ceramic assemblage from any single Camp Maxey II archaeological site, and ST 14 (n=15), ST 7 (n=7), ST 96 (n=7), and ST 5 (n=5), have the largest number of sherds. The ceramic sherd density is 2.9 per positive shovel test. The plain/decorated sherd ratio is 4.1.

More than 95 percent of the ceramic sherds are tempered with grog, and one red-slipped sherd has bone temper. Another 16 percent of the grog-tempered sherds also have bone temper inclusions, and two other sherds (4.5 percent) also have grit temper. The overall proportion of sherds with bone temper is 17 percent, slightly lower than 41LR186 (see above). Like the ceramics from 41LR186, the sherds from 41LR187 are from well-made and coiled vessels, with a mean body wall thickness of 6.7 mm (range of 3.1–11.2 mm); the flat base sherds range from 11.2 to 13.9 mm in thickness.

Most of the sherds are from vessels that have been fired in an oxidizing environment (59 percent), including sherds from vessels that were incompletely oxidized during firing. The proportion of sherds from vessels fired in a reducing environment is only 41 percent, compared to 67 percent at the nearby, but probably slightly earlier, site of 41LR186 (FS 6) (see above). Among the decorated sherds, 63 percent are from vessels fired in an oxidizing environment. The

two plain rims (ST 14, 60–71 cm bs), however, are from two different vessels that were fired in a reducing environment.

The nine decorated sherds include four red-slipped, one engraved, one parallel brushed, two punctated, and one incised sherd. The red-slipped body and base sherds have a hematite-rich clay slip only on the exterior surface; two are tempered with grog (ST 5, 40–60 cm bs and ST 7, 20–40 cm bs), one with grog-bone (ST 96, 20–40 cm bs), and the other with bone (ST 3, 20–40 cm bs). These sherds are probably from several different plain red-slipped bowls, although the presence of plain red-slipped rims precludes a definitive determination. Plain red-slipped and grog-tempered ceramics are relatively abundant in Middle Caddoan times in much of Northeast Texas, including the middle reaches of the Red River basin (Perttula 1997).

The engraved sherd (FS 5, 60–80 cm bs), also grog-tempered, has only a single indeterminate engraved line. The parallel brushed sherd from ST 4 (0–20 cm bs) may be from an imported vessel from the lower Sulphur River basin or the middle and lower Big Cypress Creek basin because brushed ceramic vessels (tempered with grog) of any kind are virtually unknown in the middle Red River basin during the prehistoric era. Brushed vessels and sherds are quite common, however, in parts of the Sulphur River and Big Cypress Creek basins, well to the southeast of Camp Maxey.

The two punctated sherds (ST 7, 60–70 cm bs and ST 14, 40–60 cm bs) have tool punctated rows, probably on the body of jars. Both sherds are tempered with grog and bone, are from vessels incompletely oxidized during firing, and range in thickness from 5.9–6.4 mm.

The one incised body sherd (ST 14, 40–60 cm bs) has at least three parallel incised lines. It is tempered with grog, and its thin body walls (5.1 mm) suggest it is probably from a small bowl.

Thirteen heat spalls were recovered from between 0–80 cm bs in six shovel tests (STs 5, 7, 14, 17, 95, and 96). A total of thirty-four FCR with a total weight of 391.1 g were recovered between 0–100 cm bs in eleven different STs (2, 4, 5, 7, 10, 14, 15, 16, 17, 95, and 96). The overall density of all prehistoric materials is 11.60 per positive shovel test.

Historic Artifacts

Historic artifacts were recovered from five shovel tests (STs 1, 3, 5, 9, and 11) excavated on site. An additional shovel test (ST 4) yielded a military bullet from 0–20 cm bs. The historic artifacts were recovered from a depth of between 0–40 cm bs. Artifacts noted on this site include sherds of whiteware and clear glass. The whiteware probably indicates occupation during the first half of the twentieth century. Clear bottle glass, when found on or near the surface, indicates the 1930s or later (Kendrick 1967:24). Finally, a total of seven animal bone fragments were recovered from three STs (7, 14, and 96). The bones came from Level 1 (n=2), Level 2 (n=3), and Level 3 (n=2). The small fragments are heavily leached and poorly preserved.

41LR190 (Field Site 10)

This site is located within a low probability setting in the north-central portion of the survey area (see Figure 9-3) bordering a moderate probability area. It is approximately 22,715 m² in area. Historic cultural materials are scattered on the surface along an old northeast running county road. These materials are indicative of a probable historic house site. Fifteen of the twenty STs dug on site contained cultural materials. Prehistoric materials were present in 14 of the shovel tests and extended to a depth of at least 80 cm bs.

Prehistoric Artifacts

Ten shovel tests had prehistoric lithic debris between 0–80 cm bs. Approximately 70 percent of the lithic debris is from 0–40 cm bs.

Two dart points were recovered from surface contexts, one at ST H-7 and the other southwest of ST G-6. The first dart point (UI-6) is a contracting stem Gary, *var. Camden* made from a heat-treated coarse-grained quartzite; the tip has been snapped off. It is 29 mm in width, 6.1 mm in thickness, and has a 15.2 mm stem width. The second dart point (UI-5), probably of Late

Archaic age, has a broad expanding stem and rectangular shoulders with minimal barbs. It is also made of a heat-treated coarse-grained quartzite, and measures 48 x 30.5 x 9.4 mm in length, width, and thickness; the stem width is 21 mm.

The 30 pieces of lithic debris from the shovel testing are dominated by coarse-grained quartzite (n=16, 75 percent cortical and 56 percent heat-treated) that comprises 53 percent of the site sample. Ogallala quartzite (n=7, 29 percent cortical and 71 percent heat-treated) represents another 23 percent of the lithic debris. Together, the coarse-grained and fine-grained quartzite amount to 77 percent of the assemblage. The other lithic debris includes novaculite (n=3, 33 percent cortical), tan chert (n=1, cortical), red chert (n=1, cortical), grayish-red chert (n=1), light gray chert (n=1), and an unidentified white chert (n=1).

A total of 18 FCR weighing 389.6 g were recovered from eight shovel tests (STs 10-1, 10-9, 10-10, 10-11, B-9, D-9, E-8, and G-6) at 41LR190. Seven heat spalls were also recovered from six shovel tests (STs 10-5, 10-6, 10-9, 10-10, D-10, and G-6). The majority of these cultural materials were found between 0–60 cm bs, with only one heat spall found between 60–80 cm bs. The total prehistoric artifact density is 5.00 per positive shovel test, if the two surface finds are excluded.

Historic Artifacts

A total of 26 historic artifacts were recovered from six shovel tests (STs D-10, 10-2, 10-3, 10-4, 10-6, and 10-11). These artifacts were distributed between 0–60 cm bs. They include bottle and window glass fragments (n=8), wire nails (n=3), a brick fragment (n=1), European ceramics (n=9), and unidentified metal fragments (n=5).

Some of the artifacts recovered can be helpful in estimating the dates of occupation of this site. Wire nails and undecorated white earthenware can generally be securely dated to the post-1900 period on Texas farm sites. Fragments of thin rusted metal cans probably represent the 1920s to 1930s when the modern "open top" sanitary can was first in use (*The Encyclopedia Americana* Volume V 1957:511). The glass fragments include olive green wine bottle glass, clear glass that could date to the 1930s, and part of the base of a brown snuff bottle—an interesting glimpse into the life of the occupants of the site. An anomaly on this location consists of two sherds of white earthenware, one with a hand painted design and one with a transfer pattern, which were made in England during the first half of the nineteenth century and would probably have come to Texas before the Civil War. These appear to be the only traces, so far recovered during this project, of the first settlers on Camp Maxey during the 1840s.

41LR191 (Field Site 11)

This site overlooks a small drainage in the east-central portion of the project area in Survey Area 1. The site is approximately 3,148 m² in area. It is located within a moderate probability area. Eight of the 17 shovel tests excavated in the site yielded cultural materials. Prehistoric materials dominate the small collection, although historic artifacts are also present. A sparse scatter of historic artifacts is present on the surface. Cultural materials extended to a depth of 120 cm bs.

Prehistoric Artifacts

Four shovel tests contained prehistoric chipped lithic debris between 0–120 cm bs; more than 70 percent of the artifacts were from below 40 cm bs. Two additional shovel tests (ST 11-3 and ST RR-6) contained a single piece of FCR and a heat spall, respectively. A coarse-grained quartzite (n=3, 100 percent heat-treated) is the most abundant raw material represented in the lithic debris, representing 43 percent of the small sample, followed by dark brown chert (n=4), yellow claystone/siltstone (n=1, cortical), novaculite (n=1, heat-treated), and gray chert (n=1, cortical).

Six heat spalls were found in three shovel tests (STs 11-1, 11-14, and RR-6) widely distributed between 0–120 cm bs. A total of 14 FCR, weighing 102.3 g, were recovered between 0–100 cm bs in five shovel tests (STs 11-1, 11-3, 11-4, 11-8, and 11-14). The overall density of all prehistoric artifacts is 5.17 per positive shovel test.

Historic Artifacts

Historic artifacts were recovered from two shovel tests (STs 11-6 and 11-11). They consist of one fragment of purple glass (ST 11-6, 40–60 cm bs), a piece of clear glass (ST 11-11, 0–20 cm bs), and a piece of whiteware (ST 11-11, 0–20 cm bs). Although few in number, these artifacts suggest that the historic component of the site dates to the first half of the twentieth century.

41LR193 (Field Site 13)

This site is within a high probability area in the east-central portion of the survey area. It is bordered by the facility boundary fence on the north and east sides and it is likely that the site limits extend in both directions along the tip of the small finger-ridge on the other side of the fence. This site is approximately 12,500 m² in area. A sparse surface scatter of historic and prehistoric artifacts and a small number of prehistoric specimens recovered in five positive shovel tests out of thirteen, constitute the materials observed and/or recovered on site. The majority of the prehistoric materials were concentrated along the western edge of the small finger-ridge. The prehistoric materials extended only to 60 cm bs.

Prehistoric Artifacts

Four widely separated shovel tests (STs KK-12, KK-13, 13-4, and 13-5) had chipped lithic debris (n=4) from 20–60 cm bs. One additional positive shovel test (KK-11) contained only heat spalls. All four lithic debris are non-cortical pieces of chert, including red chert (n=1), yellowish-brown chert (n=1), dark brown chert (n=1), and gray chert (n=1).

Three STs (KK-11, KK-12, and KK-13) contained nine heat spalls from 20–60 cm bs. Two FCR were recovered from KK-13 between 20–60 cm bs. The prehistoric artifact density is 2.0 per positive shovel test.

Historic Artifacts

Although a sparse scatter of historic artifacts was observed on the surface, no diagnostic artifacts were noted and none of the artifacts were collected. Nonetheless, the presence of the scatter justifies the classification of the site as multicomponent.

41LR197 (Field Site 17)

The property fence bisects this site on its northern and eastern edges. The area was designated as a high probability location and the site is approximately 6,704 m² in size. It is located near the tip of a broad finger ridge overlooking a moderate-size drainage in Survey Area 1. The main portion of the site may be located farther out on the ridge, on COE property. Therefore, it is likely that the prehistoric cultural deposits recovered from six of the eight shovel tests excavated in the site represent only the southwestern margin of the site. Sparse cultural materials, including charcoal, were found to extend to a depth of at least 120 cm bs.

Prehistoric Artifacts

Five shovel tests contained prehistoric chipped lithic debris (n=8) between 0–120 cm bs, and 63 percent were from depths greater than 40 cm bs. The sixth positive ST (17-7) contained only FCR. The lithic debris is dominated by coarse-grained quartzite (n=5, 60 percent cortical and 40 percent heat-treated)—including one reddish-white piece with a "sugary" texture that is thought to be common in Red River gravels in the Montague County area—along with Ogallala quartzite (n=1, cortical), quartz (n=1, cortical), and red chert (n=1, cortical). The proportion of quartzite is 75 percent of the lithic debris.

One heat spall was found in ST 17-4 at 60–80 cm bs, and three FCR, with a combined weight of 27.9 g, were found in two STs (ST 17-4 at 80–100 cm bs, and ST 17-7 at 60–80 cm bs). The overall prehistoric artifact density is 2.16 per positive shovel test.

Historic Artifacts

In addition to the prehistoric component, also present on the site is a surface dump of historic materials. No historic artifacts were collected from this dump. The location of the site adjacent to what appears to be an old county road suggests that the historic homestead

associated with the dump may be on COE property near this location.

41LR202 (Field Site 22)

This large, semicircular site (see Figure 9-4) is located in the north-central portion of the project area in Survey Area 2. It is approximately 51,390 m² in area. The site surrounds a heavily overgrown marsh and is situated in a high probability area. A total of 26 shovel tests were excavated around the marsh. A test unit (TU 2) associated with Backhoe Trench 3 was also excavated. The BHT provided two geomorphologic profiles, and cultural materials were recovered from the test unit. Most of the ten positive shovel tests were located along the west and north sides of the marsh. Nine of the ten positive shovel tests yielded prehistoric materials to a depth of 100 cm bs. The saturated condition of the deposits at this depth near the immediate edge of the marsh prevented the excavation of the shovel tests to greater depths.

Prehistoric Artifacts

Eight different shovel tests had prehistoric chipped lithic artifacts between 0–120 cm bs; 67 percent of the artifacts were from 0–60 cm bs. The ninth positive ST (J-10) yielded only FCR. Lithic debris was also recovered from 0–20 cm bs in TU 2 adjacent to BHT 3.

The prehistoric chipped lithic artifacts consist of 15 pieces of lithic debris. Coarse-grained quartzite (n=4, 40 percent cortical and heat-treated) is the most common raw material in the lithic debris, along with claystone/siltstone (n=2, 100 percent cortical), and a variety of cherts. The different colored cherts are brown (n=1, cortical), dark gray (n=1), black or Big Fork (n=1), gray (n=2), dark red (n=1), yellow (n=1), reddish-gray (n=1), and grayish-brown (n=1, cortical). The proportion of quartzite in the lithic debris is 27 percent.

Three STs (Bog 3, 25 and R-2) yielded five heat spalls in Levels 2, 4, and 5 (20–100 cm bs). FCR was recovered from three STs and TU 2. In the STs, a total of 13 FCR, weighing 108.5 g, were found between 0–100 cm bs. In TU 2, a total of six quartzite FCR, weighing 83.1 g, were found between 20–60 cm bs, suggesting a fire-cracked rock feature may be in the vicinity of the excavation unit.

In addition to these prehistoric artifacts, seven pieces of animal bone were recovered from two shovel tests (STs S-0 and 60) ranging between 0–80 cm bs in depth. Seventy-one percent of the bones (n=5) came from below 40 cm bs. Finally, a single piece of charcoal was recovered from Level 6 (100–120 cm bs) in ST 25. The prehistoric artifact density is 4.27 per positive unit.

Historic Artifacts

A total of 19 historic artifacts were recovered from two shovel tests (STs O-9 and 60). Of these, 94 percent come from 0–40 cm bs, a single European ceramic came from Level 3 (ST 60, 40–60 cm bs). The artifacts consist of European ceramics (n=2), glass (n=4), nails (n=6), an eyelet, unidentified metal objects (n=5), and a shotgun shell (WESTERN FIELD No. 12). The European ceramics consist of two whitewares, while four of the nails are cut nails.

The historic artifacts from this site appear to represent a deposit that spans the late-nineteenth century to the early-twentieth century. The presence of cut nails pushes the probable date back before 1900. The thin rusted metal fragments, probably from tin cans, and two sherds of undecorated whiteware suggest that the site was occupied into the early-twentieth century.

41LR225 (Field Site 49)

This multicomponent site (Archaic, Caddo, historic, and WWII) is in the north-central section of the facility. The site (see Figure 9-5) occupies the majority of the landform in the far northwestern edge of Survey Area 17 (the western "panhandle" at the northern property boundary). Pat Mayse Lake is visible west of the site. This site is approximately 27,450 m² in area. Hickory, blackjack oak, Bois d'arc (Osage Orange), pine, and other mixed oaks along with large grape vine, an Iris patch, and patches of thick undergrowth including sumac and oak saplings make up the mixed

vegetation community of this site. Surface visibility was zero percent due to heavy leaf litter. Two ravines, one draining to the north and one draining to the south, were used as natural site boundaries. This natural boundary separates 41LR225 (FS 49) from 41LR226 (FS 50), to the east.

Historic features and materials in the southwest quadrant include three vehicle bodies with the frames, fenders, bumpers, springs, and other various identifiable parts observed on the surface. It could not be determined if these vehicles were military or civilian models. A historic cistern, or well, and earthen stock pond were also identified and mapped. Remnants of an old fence-line were noted with some cedar posts and barbed wire still present. Several oak trees were also found with barbed wire stapled to them. A brick pile, several metal scrap piles, metal pots and pans, and ceramic tile were observed on the surface. An old road and possible house foundation are also present at this site. The historic occupation(s) heavily impacted the southwest quadrant of the site with several mounded "push-piles" possibly created when WWII base activities bulldozed historic structures.

A total of 24 shovel tests were dug at the site. Of these, 13 produced prehistoric and/or historic cultural materials. Deeply buried soils and a high percentage of positive shovel tests indicate that this site was heavily used through the prehistoric period.

A geomorphological profile was described in the ravine at the southeastern boundary of the site.

Prehistoric Artifacts

Eleven shovel tests produced prehistoric materials. Of these, nine had prehistoric chipped lithic artifacts between 0–100 cm bs—seven of the positive tests were in a group at the northern end of the landform, and two other positive shovel tests (ST E-47 and ST E-43) were in and near a disturbed area 45 m to the south near an old cistern and stock tank. The remaining two positive STs (E-41 and 49-1) produced only FCR. Seventy-eight percent of the artifacts were from 40–100 cm bs. Three shovel tests on the northern part of the site (ST 49-3, ST 49-5, and ST 49-6) had prehistoric artifacts in deposits more than 80–100 cm in depth.

The 27 chipped lithic artifacts from the site include 22 pieces of lithic debris, one core fragment, a retouched flake tool, two dart points, and an arrow point. The Alba arrow point (ST 49-3, 0–20 cm bs) has a slightly expanding stem and a flat base, rectangular barbs, and is unifacially retouched. It is made from non-heat-treated coarse-grained quartzite, and is 27 x 14 x 2.5 mm in length, width, and thickness; the stem width is 5.0 mm. The first dart point is from the northern end of the landform (ST C-41, 40–60 cm bs), and is a Gary, *var. LeFlore* made from non-heat-treated grayish-green quartzite that originated in the Atoka Formation in the Ouachita Mountains. This Late Archaic to Woodland-age dart point (see Schambach 1982, 1998) is 45 x 26 x 7.4 mm in length, width, and thickness, and has a 19 mm stem width. The second dart, also a contracting stem form, is from ST E-43 (51 cm bs) at the southern part of the site. It is made from a dark gray siliceous shale. It is 58 x 27.5 x 10 mm in length, width, and thickness, and the stem width is 19.0 mm. The thickness (exaggerated because of a knot of raw material on the blade that was not removed during manufacture) and stem width of this point suggest it is also a Gary, *var. LeFlore* specimen.

ST 49-5 (80–100 cm) had a yellow cortical claystone/siltstone expedient flake tool with a 13 mm long retouched and worn/used area along one edge. The flake tool itself is 35 x 23 x 8 mm in length, width, and thickness. The single tested cobble recovered from the site was from ST 49-3, 80-100 cm bs. It is a grayish-brown chert pebble, probably from Red River gravels, with a single flake removal.

A variety of lithic raw materials are represented in the lithic debris, dominated by coarse-grained quartzite (n=14; 63 percent). About 80 percent of the quartzite lithic debris are cortical and 50 percent are from heat-treated cobbles and pebbles. Other raw materials include dark gray chert (n=1), novaculite (n=2, 50 percent heat-treated), claystone/siltstone (n=1, cortical), gray chert (n=1, cortical), red chert (n=1, cortical), quartz (n=1, cortical), and petrified wood (n=1, cortical and petrified wood).

A total of 19 FCR came from seven separate STs (49-1, 49-3, 59-6, C-42, A-41, E-41, and E-43). The FCR weighed a total of 243.4 g, and was recovered between

0–100 cm bs. In addition, four heat spalls from three STs (49-1, 49-3, and 49-6) were also recovered. The density of prehistoric artifacts in the shovel testing is 4.54 per positive shovel test.

Historic Artifacts

Historic artifacts (n=15) were recovered from five shovel tests (D-41, D-43, E-41, E-42, and 49-1). The artifacts consist of fence staples (n=2), unidentified metal objects (n=2), glass fragments (n=8), wire fragments (n=2), and a wire nail. None of the historic artifacts recovered from this site represent a date of earlier than the first World War. The presence of brown and clear glass fragments and several old truck bodies on the site suggest that it was abandoned sometime in the 1930s.

41LR240 (Field Site 64)

This multicomponent site is located on the east slope of an upland ridge. This landform runs predominately north-south in Survey Area 18. Open woods on the eastern slope of the ridge have mixed oak, Red cedar, Dogwood, Live oak, and Sassafras trees. An Iris bed was also recorded. Surface visibility was zero percent due to leaf debris (up to 6 inches deep) and patches of grass. This site is approximately 18,553 m² in area.

Historic features and the general setting indicate this was probably a homestead site. These features included a partially filled in cistern and an east-west running abandoned road with the remains of a barbed wire fence tacked to several of the trees that line the edge of the ruts. The datum was placed on the crest of the landform on one of the trees along the side of the road. At some point in the past, a series of stepped terrace features were created following the ridgeline. This could not be confirmed through shovel testing, but are subtle yet distinct features on this site.

A total of 18 shovel tests were dug at this site, of these six were positive. Prehistoric cultural remains were recovered from five shovel tests (STs C-3, H-10, H-11, 64-5, and 64-9) scattered across the site, with the main concentration of prehistoric artifacts coming from the south end of the site. Most STs encountered deep sandy soils between 60 and 120 cm bs.

Prehistoric Artifacts

Five shovel tests at the site contained prehistoric chipped lithic debris between 20–120 cm bs; 75 percent of the lithic debris is from contexts below 60 cm bs, indicating a deeply buried archaeological deposit. The prehistoric artifact density, including FCR and heat spalls, is 2.40 per positive shovel test.

The seven pieces of lithic debris include coarse-grained quartzite (n=3) and brown (n=2), gray (n=1), and grayish-brown (n=1) chert. The proportion of chert lithic debris in the small sample is 50 percent. All of the chert lithic debris are cortical pieces, while 66 percent of the coarse-grained quartzite debris are non-cortical, and none are from heat-treated cobbles or pebbles.

One heat spall (ST C-3, 80–100 cm bs) and four FCR from two STs (H-11 and 64-9) were recovered. The FCR weighed a total of 51.5 g, and these cultural materials came from between 60 and 130 cm bs.

Historic Artifacts

Historic artifacts found on the surface include a large piece of stoneware crockery with a depressed handle, a rusted out metal pot, and a clear glass medicine bottle (sketched but not collected). One shovel test (ST D-6) hit a historic burn pit with glass and metal debris. No additional historic artifacts were recovered from other shovel tests. The historic artifacts recovered from the shovel test consist of four pieces of glass fragments, eight unidentified metal object fragments, and a piece of mortar. These artifacts were distributed from 20–80 cm bs, perhaps indicating heavy disturbance of deposits.

The presence of a stoneware vessel would suggest an early 1900 date, but the possibility of it surviving for a comparatively long time in the household plus the presence of numerous tin can fragments pushes the date of occupation into the 1920s–1930s time period. A clear glass medicine bottle made by the Pierce Glass

Company sometime between 1905 and 1917 (Toulouse 1971:271) confirms this estimate. Since medicine bottles at the time were not necessarily discarded the moment the first contents were finished, this does not contradict the 1920s–1930s date.

41LR248 (Field Site 72)

This multicomponent site was found in an upland setting in a moderate probability area in Survey Area 17. It appears that the majority of the potential prehistoric site lies west of the perimeter fence on COE property, due to the orientation of the landform. The site boundary on the north was determined based on negative shovel tests and a low "ditch" that divides the high and moderate probability areas. An unnamed drainage to the east of the landform leads to Pat Mayse Lake. Scattered oak and small pine trees and thick, knee-high grasses made up the late fall vegetation. The estimated one percent surface visibility was limited to small patches of bare soil near the fence. Noted disturbances include the road cut along the southern edge of the landform, the modern fence post holes, and erosion along the drainage. This area was possibly the edge of a historic plowed field, although no plow marks were observed. This site is approximately 13,971 m² in area.

A total of 13 shovel tests were conducted at the site, four of which contained prehistoric materials and one of these (ST 72-6) contained mixed historic and prehistoric artifacts. A quartzite flake was observed on the surface next to ST QQ-0. Several shovel tests contained mottled and disturbed soils on the east-southeast boundary. The only observable historic features consist of barbed wire tacked to several oak trees and an old road cut.

Prehistoric Artifacts

Three shovel tests had a small amount of prehistoric chipped lithic artifacts from 40–80 cm bs. The fourth positive ST (72-4) with prehistoric materials contained a heat spall and a piece of FCR. The six pieces of lithic debris are quartzite (n=4, 100 percent cortical and 50 percent heat-treated), novaculite (n=1), and a reddish-gray burned chert (decorticate).

Five FCR were recovered from four STs (RR-1, QQ-0, 72-4, and 72-6) between 0–60 cm bs. The FCR weighed 80.3 g total. The prehistoric artifact density is 3.75 per positive shovel test.

Historic Artifacts

A single unidentifiable piece of bottle glass was recovered from Level 2 (20–40 cm bs) of ST 72-6.

41LR254 (Field Site 78)

This site is on an upland landform with a high probability point on the western end and a moderate probability finger ridge extending to the east in Survey Area 19 (see Figure 9-6). The site extends along the terrace of a creek bank that creates a natural boundary on the north and west, to the top of the ridge where it is bordered by eroded gullies on the southeast and southwest. Two unnamed creeks join at the northwest point of the site and eventually drain to Pat Mayse Lake. A gravel TXARNG facility road is west of this confluence. The vegetation includes mixed oak trees with patches of small sumac on the upland ridge, and thick riparian undergrowth of briars along the creek terrace. Surface visibility was zero percent on both landforms due to leaf debris. This site is approximately 39,532 m² in area.

Historic materials observed on the surface include barbed wire and an ironstone plate with a maker's mark (collected). A total of 15 shovel tests were dug at the site, 10 of which contained cultural materials. Of these, eight contained only prehistoric deposits. Deep sandy loam deposits characterize the soils on the upland ridge and along the terrace near the creek.

Prehistoric Artifacts

Six shovel tests had prehistoric chipped lithic artifacts from 20–80 cm bs. Three of the shovel tests (STs P-3, P-9, and ST P-11) were on the central portion of the upland ridge, and the other three were on knolls at the north end of the site, lying near the intersection of several intermittent tributaries. The sample of chipped lithic artifacts from the ridge consists of two cores and five pieces of lithic debris. The larger of the cores

(60 x 38 x 34 mm) is of heat-treated fine-grained quartzite. It has 14 flake removals. The second core is of light brown novaculite and measures 40 x 29 x 24 mm, in maximum length, width, and thickness. It has eight flake removals. Three of the lithic debris are non-cortical novaculite, the fourth is a cortical non-heated reddish-brown chert, and the last specimen is a gray brown cortical piece of local chert.

On the knolls, ST P-4 (60–80 cm bs) recovered a straight-stemmed dart point—probably a Late Archaic Yarbrough form—made from a non-heat-treated coarse-grained quartzite. It is 44 mm in length, 26 mm in width, 9.2 mm in thickness, and has a 16.0 mm stem width. Also from the knolls are ten pieces of lithic debris: quartzite (n=3, 33 percent cortical and 100 percent heat-treated), Ogallala quartzite (n=5, 1 cortical, 4 non-cortical and 100 percent heat-treated), red claystone/siltstone (n=1, cortical), and gray chert (n=1, cortical).

Four heat spalls from four STs (P-4, P-5, P-2, and P-13, 20–60 cm bs) and 87.7 g (12 pieces) of FCR from STs P-4, P-9, and P-13, distributed between 0–100 cm bs, were recovered at 41LR254. The overall prehistoric artifact density is 4.25 artifacts per positive ST.

Historic Artifacts

Two historic artifacts were recovered, an ironstone plate bottom and a stoneware rim sherd. The ironstone plate bottom was collected (from the surface) because of the maker's mark present in its center. Unfortunately, while it is likely that the plate was made and used during the late-nineteenth century, it was not possible to identify the maker of the ware due to the lack of clarity of the mark. The rim sherd came from ST P-7, 0–20 cm bs. In addition to these artifacts, four military bullets were recovered from three shovel tests (STs P-2, P-12, and P-13). Three were from 0–20 cm bs and one was from 20–40 cm bs.

41LR263 (Field Site 87)

This multicomponent site is located on a small hillock landform. It is north of 41LR262 by about 30 m, and the two sites are separated by a narrow gully. An unnamed drainage approximately 45 m west of the site is the closest water source. This site is approximately 8,585 m² in area. The upland terrain contains mixed hardwood trees with thick grass and little undergrowth. The surface visibility was estimated at zero percent. A large lightning struck tree lies across the site.

This small site was tested with five shovel tests. Three contained prehistoric artifacts, and one of these (ST T-12) also contained historic materials. Soil depths ranged from 60 to 90 cm bs to red clay.

Prehistoric Artifacts

One shovel test, ST GG-8, contained prehistoric chipped lithic artifacts from 0–80 cm bs. The other two positive STs (FF-10 and A-24) yielded only heat spalls and FCR. The lithic artifacts include five pieces of lithic debris, including coarse-grained quartzite (n=2, 50 percent cortical), claystone/siltstone (n=1, cortical), chalcedony (n=1), and dark gray chert (n=1).

Two heat spalls (from STs A-24 and FF-10, 0–20 cm bs) and three FCR (STs A-24 and GG-8, 0–20 cm bs) were collected from 41LR263. The FCR weighed 26.3 g total. The density of prehistoric artifacts is 3.33 per positive shovel test.

Historic Artifacts

A total of six historic artifacts were recovered from one shovel test (ST T-12). Two glass fragments and two European ceramics come from Level 2 (0–20 cm bs). A square machine cut nail and a wire nail were recovered from Level 2 (20–40 cm bs) of the same shovel test. Two ceramics are whitewares dating to the early-twentieth century, but were too small to type.

One of the two glass fragments is a mason jar lid liner while the other is a bottle fragment. The presence of wire and cut nails represent a time span of up to 100 years. However, their use is known to overlap during the end of the nineteenth century and the first three decades of the twentieth century in rural areas of Texas.

41LR264 (Field Site 88)

This site is on a small toeslope north of 41LR263. It is about 200 m west of the main TXARNG road in Survey Area 2. During the winter site visit the terrain was open with thick dead grass, low sumac trees, and three or four lone hardwood trees. Surface visibility was zero percent. This site is approximately 8,242 m² in area.

A total of six shovel tests were dug here in the spring and winter site visits, two contained prehistoric cultural materials and three others contained historic or modern materials. It was designated as a multicomponent site because historic and prehistoric artifacts were recovered from two shovel tests (88-2 and 88-3). However, no other historic features or artifacts were observed. The depth to clay in the STs varied between 42 and 100 cm bs.

Prehistoric Artifacts

There were two shovel tests (DD-6 and 88-1) with prehistoric lithic artifacts from this site, and the artifact density is 1.50 per positive shovel test. A single piece of prehistoric lithic debris came from ST 88-1 (20–40 cm bs), a bipolar and cortical flake of red chert. The other shovel test (ST DD-6, 0–20 cm bs) had a cortical piece of brownish-gray chert and a cortical piece of non-heat-treated Ogallala quartzite. There was no FCR collected from 41LR265.

Historic Artifacts

A total of three historic artifacts were collected from three STs (EE-6, 88-2, and 88-3) on the site. The artifacts came from 0–20 cm bs. They consist of a wire nail, a small clear glass bottle neck fragment, and a small fragment of an ironstone ware. These artifacts suggest an early-twentieth century date for the historic component present at the site.

41LR265 (Field Site 89)

This multicomponent site is on a landform that happened to be in three different Survey Areas (2, 3, and 5). The site is approximately 23,373 m² in area. It is in an upland setting with thick dead grass, dense sumac and briar, and scattered pine and oak trees. Surface visibility was estimated at zero percent. An unnamed creek is approximately 50 m west of the site boundary. An abandoned road, possibly an old county road named “Boggy Road” (Chapter 3) runs north-south along the eastern boundary of the site.

Historic features and surface artifacts were observed and recorded. In the central area of the landform was an area of thick brush and undergrowth, indicating a disturbed and overgrown area. A slightly raised, earthen platform approximately 5 m² in size was found in this heavy brush. It was interpreted as a foundation for a historic structure. Historic artifacts scattered in the immediate vicinity included several pieces of roofing tin, brick/tile fragments, two tin pails, a blue can, an enamel coated coffee pot (adjacent to ST 89-1), and scattered metal and glass debris. A partially filled-in depression was found to the south of the foundation, and is possibly the remnants of a cistern. A short abandoned road leads up the landform from the county road and could have been a driveway to the historic site.

Seven shovel tests were dug and five encountered cultural materials. The shovel tests indicated the presence of buried historic and prehistoric artifacts. The soil depths to clay varied between 80 and 110 cm bs.

Prehistoric Artifacts

Four separate shovel tests had prehistoric chipped lithic artifacts between 0–100 cm bs, and 57 percent of the artifacts were recovered from 20–60 cm bs. An additional positive shovel test (A-27) yielded only FCR. The lithic artifacts include six pieces of lithic debris and a core fragment (ST 89-1, 80–100 cm).

The core fragment is a greenish-gray coarse-grained quartzite that originates in the Atoka Formation in the Ouachita Mountains, and also available in the Red River gravels. It was recovered in ST 89-1, Level 5 (80–100 cm bs). The lithic debris consists of a cortical piece of coarse-grained quartzite, two pieces of Ogallala quartzite (50 percent cortical and heat-treated), a non-cortical piece of gray chert, a cortical

piece of gray chert, and a cortical piece of dark yellowish-red local chert.

One heat spall from ST A-25, 60–80 cm bs, and three FCR from three STs (A-25, 60–80 cm bs, A-27, 0–20 cm bs, and 89-1, 40–60 cm bs), were collected. The FCR weighed 32.5 g. The prehistoric artifact density is 2.2 per positive shovel test.

Historic Artifacts

A total of five historic artifacts were collected from four shovel tests (STs EE-10, A-25, A-27, and 89-2). A combination of clear bottle glass, a canning jar lid liner, a wire nail, a European whiteware, and a bolt make up the collection. These artifacts were distributed from 0–40 cm bs. Neither the artifacts collected nor those noted on the surface suggest that the historic occupation is older than the first half of the twentieth century.

41LR273 (Field Site 97)

This multicomponent site is located in the park-like area on the eastern shore of Lamar Lake in Survey Area 25. The site is approximately 25,255 m² in area. Historic features are present and prehistoric artifacts were recovered in shovel tests. This area is currently used for recreation, and the location has been impacted by WWII operations. It is a small peninsula on the shore of Lamar Lake and contains mowed grass along the shoreline, a gravel and dirt road and parking area, and wooded vegetation on the western half of the site. The dam on Lamar Lake is due south of this peninsula. Less than 25 percent of the site was estimated to be intact, with heavily used recreation areas and concrete foundations for WWII buildings accounting for some of the destruction of the prehistoric component.

Ten shovel tests were placed here to define the prehistoric site boundaries. Cultural materials were recovered from three STs (D-1, E-1 and F-2), one of these contained only historic materials.

Prehistoric Artifacts

Two shovel tests (STs E-1 and F-2) have relatively shallow archeological deposits (0–60 cm bs) with prehistoric lithic artifacts. The artifact density is 1.50 per positive shovel test. Two pieces of lithic debris were recovered in the shovel testing, both are coarse-grained quartzite (100 percent cortical). A piece of FCR was recovered from ST F-2, 20–40 cm bs.

Historic Artifacts

Historic/modern materials were found in Level 1 of ST D-1. A total of 16 artifacts were recovered consisting of 13 bottle glass fragments of clear (n=8), brown (n=1), aqua (greenish tinted; n=3), and purple (n=1) colors, two wire nails, and a .30 caliber bullet casing marked "T W 4 3." The predominance of clear glass fragments, wire nails, and the modern casing suggest an early-twentieth century, or later, affiliation for the historic component of the site.

41LR279 (Field Site 103)

This site was assigned during post-field analysis of shovel test data. The site is on the toeslope of a ridge in Survey Area 3. This ridge is split by a small gully on the western face of the landform. The landform is intersected by the western facility fence, and at least one-third of the landform is on COE property to the west of the fence. Vegetation in this upland area consisted of mixed hardwood trees, and patches of grass and low undergrowth in the open areas. The site is approximately 20,002 m² in area. A historic dump was located in the narrow gully that formed the southern site boundary.

Two shovel tests (STs AA-14, and AA-17) were dug at this site and cultural materials were identified in both. Soil depths averaged about 60 cm bs to clay.

Prehistoric Artifacts

Both shovel tests at the site yielded prehistoric chipped lithic artifacts between 0–80 cm bs, and two pieces of

lithic debris were found on the surface. The density of all prehistoric artifacts, including FCR, is 5.33 per positive shovel test, and 73 percent of the artifacts are from 0–40 cm bs.

The 13 pieces of lithic debris include chert and quartzite raw materials, with coarse-grained quartzite (n=4, 25 percent cortical and 50 percent heat-treated) the most abundant. Other raw materials represented in the lithic debris include Ogallala quartzite (n=1, cortical and heat-treated), red chert (n=1, cortical), claystone/siltstone (n=1), yellowish-brown chert (n=1, cortical), reddish-brown chert (n=2), novaculite (n=1, heat-treated), dark brown chert (n=1), and yellow chert (n=1).

In addition, two FCR from ST AA-17 and one from the surface were also collected. The excavated specimens come from between 0–40 cm bs. The FCR weighed a total of 50.7 g.

Historic Artifacts

The historic dump contained artifacts from the mid-twentieth century. There were whiteware sherds from cups and plates and one sherd from a porcelain cup. A fragment of pressed glass with a diamond design is probably part of a serving bowl. A six-ounce Grapette bottle with a label stating it required a one cent deposit was made sometime after 1939 in Camden, Arkansas. Also present were crown bottle caps that would have appeared in this area after the end of prohibition in 1933 (Vaughan 1997:217).

Revisited Sites

One multicomponent archaeological site was revisited during the 1999 Camp Maxey survey. Site 41LR170 was originally recorded by Shellie Prewitt (TXARNG 1992). Additional reconnaissance and shovel testing in the vicinity of the site resulted in the extension of the original site boundary. A catalog of artifacts recovered from both sets of testing are presented in Appendix D.

41LR170

The portion of the site within the TXARNG property is approximately 16,631 m² in area, with the total site size estimated at 30,968 m² based on maps compiled from TXARNG and CAR projects (see Figure 9-7). Within the TXARNG property, this site is moderately wooded with oak and hardwoods and the terrain rises gently to the north and west. Outside of the TXARNG property fence, it is more heavily wooded and the terrain begins to drop off to the west towards Pat Mayse Lake. Surface visibility was limited by dense grass and ground cover. Areas along the fence, and a tank track that loops through the site, provided the best surface visibility. The terrain rises to the north of the perimeter fence and is slightly higher along this fence. Minor disturbances include the tank track and post holes for the fence.

The site was identified and recorded by TXARNG archaeologists. The majority of their original shovel testing efforts took place west and north of the perimeter fence in this area, on COE property. CAR-UTSA surveyors did not place a datum at the site because at the time of the survey it was not known where the original datum had been placed. TXARNG personnel dug a total of 20 shovel tests on site. An additional 14 shovel tests were excavated by CAR-UTSA during the Camp Maxey survey.

The CAR-UTSA survey included the odd shaped survey area extending northwest from the west-central extent of the project boundary. CAR-UTSA testing at 41LR170 consisted of shovel testing along east-west running transects from the road to the fence line in Survey Area 6. CAR-UTSA shovel testing revealed prehistoric cultural resources along the northern and western perimeter fence in this area. A Caddo ceramic sherd was noted on the surface near the western fence in the vicinity of ST B-17, but was not collected at the time. Unfortunately, it could not be relocated upon a second visit to the site.

The artifact descriptions for CAR-UTSA and TXARNG investigations were done separately for 41LR170. The artifacts collected and analyzed by the CAR-UTSA survey are described first, followed by descriptions of artifacts from TXARNG investigations.

Prehistoric Artifacts: CAR-UTSA

Ten of the 14 shovel tests from the CAR-UTSA investigations contained prehistoric lithic and/or ceramic artifacts between 0–120 cm bs; a single piece of lithic debris was also collected from the surface by ST E-14. About 38 percent of the artifacts—including two arrow points and the single ceramic sherd—were from 0–20 cm bs, with another 53 percent of the artifacts found between 40–100 cm bs; two arrow points were also found between these depths, along with a Dalton point (see below). Two pieces of FCR and three heat spalls were also recovered from four STs (5, B-17, C-16, and D-17). They were distributed from 0-80 cm bs. The five pieces weigh less than 25 g.

Forty-one percent of the prehistoric artifacts recovered by CAR-UTSA came from ST 5 and ST 6 in the northwestern corner of the site on TXARNG property. The prehistoric artifacts from 41LR170 include one sherd, three arrow points, an arrow point preform, a nutting stone, a lanceolate Dalton point, an edge modified flake, 30 pieces of lithic debris, and two cores. The one ceramic sherd from the CAR-UTSA work is a plain grog-tempered body sherd from ST 7 (0–20 cm bs). It is from a relatively thin-walled vessel (6.6 mm in thickness) that was fired in a reducing environment, but cooled in high oxygen conditions.

Three arrow points and have been recovered from 41LR170 during the course of the Camp Maxey II archeological survey conducted by CAR. The first point, from ST 6 (41 cm bs), is a novaculite fragment that has been unifacially retouched, and has rectangular barbs and serrated blades. It is missing the stem and tip, but appears to have been corner-notched. The point is 11.5 mm wide and 3 mm thick, with a 6.4 mm stem width. The second point is a corner-notched fragment of Ogallala quartzite from ST A-14 (40–60 cm bs). The third arrow point, from ST 5 (0–20 cm bs), is made of yellowish-brown chert and is 14 x 8 x 3 mm in length, width, and thickness. It is made on a small flake blank and both the stem and blade are only marginally retouched to produce its shape. It is an expanding stem, slightly convex based point with a moderately shouldered blade. The ovoid arrow point preform, from ST 5 (0-20 cm bs), is made of brown chert and is 18 x 12 x 4.3 mm in length, width, and thickness. The corner notched points probably date to the Early Caddoan period (ca. A.D. 900-1100).

A Dalton point was found in ST 6 (60–80 cm bs), attesting to the Late Paleoindian use of this landform. The intermediate stage point (cf. Wyckoff 1999:Figure 7a-e), made from a piece of stream-rolled and cortical claystone/siltstone, has edge grinding, a concave base, and an impact fracture on the blade. The area of the impact fracture also evidences heat-pocking. The manufacture of the Dalton point on a water worn cobble is consistent with Dalton biface manufacturing strategies documented in eastern Oklahoma and the Ouachita Mountains, but contrasts with the "flake-derived Dalton biface manufacture reported…for northeastern Arkansas" (Wyckoff 1999:50). A small corticate yellow chert flake fragment has a series of five small flake removals along its edge. It may represent a manufacture failed tool fragment. It was recovered on the surface, in the location of ST E-14.

The two cores are from ST A-13 (0–20 cm bs and 80–100 cm bs). The first is a core fragment of brown to dark brown chert, and the second core (ST A-13, 80–100 cm) is bipolar; the small pebble measures 54 x 32 x 24 mm in length, width, and thickness.

Fifty percent of the lithic debris from 41LR170 is quartzite, including a coarse-grained quartzite (n=10, 50 percent cortical and heat-treated) and a fine-grained Ogallala quartzite (n=5, 40 percent cortical and 60 percent heat-treated). Other common raw materials in the lithic debris are a locally available grayish-brown chert (n=4, 100 percent cortical), brown chert (n=3, 100 percent cortical), novaculite (n=2, 50 percent heat-treated), grayish-yellow chert (n=3, 100 percent cortical), red chert (n=2, 100 percent cortical), and gray chert (n=1, cortical).

A nutting stone was recovered from Level 3 (40–60 cm bs) of ST A-14. The specimen is of ferruginous sandstone and has shallow pits on both faces. The larger of the ovate pits measures approximately 85 x 70 mm, while the smaller is about 60 x 45 mm. Both pits are relatively shallow (8–10 mm). Overall, the specimen measures 165 x 140 x 50 mm in maximum length, width, and thickness.

The total density for prehistoric artifacts recovered by CAR testing is 4.50 per positive shovel test.

Historic Artifacts: CAR-UTSA

A total of three shovel tests, including two with prehistoric items, yielded a total of 10 historic and military artifacts. These artifacts consist of a brick fragment from ST off-A-14 (0–35 cm bs), a wire nail (ST A-14, 0–20 cm bs), a fragment of clear flat glass and an aqua bottle rim fragment (ST B-17, 0–20 cm bs), and five cartridge casings with markings of "DEN 43" (n=2), "SL 43" (n=2), and "W.R.A. 44" (n=1).

Prehistoric Artifacts: TXARNG

Ten of the twenty shovel tests at 41LR170 contained prehistoric and/or historic artifacts and cover an area 130 m north-south by 25–55 m east-west in the northwestern corner of Texas Army National Guard (TXARNG) property at Camp Maxey, and also extend onto property owned by the Tulsa District of the U.S. Army Corps of Engineers (COE) at Pat Mayse Lake. The density of prehistoric artifacts at 41LR170 is 6.1 per positive shovel test; one shovel test (ST 15, 0–20 cm bs) had a single piece of twentieth-century bottle glass. Seventy-four percent of the prehistoric artifacts, and 90 percent of the prehistoric ceramics, came from ST 7, ST 10, ST 12, and ST 15 in the west-central part of the site, primarily on COE property. About 90 percent of the prehistoric artifacts were from 0–60 cm bs, including all the lithic tools, lithic debris, and FCR, but only 75 percent of the ceramic sherds. The remainder of the ceramic sherds were from 60–80 cm bs in ST 7 (n=4) and ST 10 (n=2 of 4), suggesting that deeply buried Caddoan archeological deposits—probably pit features—are present on TXARNG property.

The prehistoric artifact assemblage includes 25 pieces of lithic debris, three tools, ten FCR, and 21 plain or decorated ceramic sherds. Lithic debris and sherds were most common in ST 12 on COE property, tools were most common in ST 10 on TXARNG property (60 percent of the tools are on TXARNG property), and FCR was present in STs 7, 8, 12,15, and 17 on COE property.

The three tools include two dart point fragments and an arrow point. One of the dart point fragments (ST 4-1, 0–20 cm bs) is a 9.7 mm thick piece of novaculite with sharp and edge-retouched margins. The degree of retouch and morphology of the specimen suggest that the dart point may have been close to being finished before it was broken. The break morphology indicates that it was broken in manufacture. The second dart point fragment is a distal tip from ST 10 (0–20 cm bs). It is made from a gray chert, probably collected from the Red River gravels, and is 6.9 mm in thickness. It may have been broken post-depositionally. The arrow point (ST 13, 20–30 cm bs) is an Alba, made of a local dark reddish-brown chert. It is 21.8 mm in length, 10.5 mm in width, and 2.8 mm in thickness; its stem width is 7.1 mm.

The lithic debris comprises 25 flakes, flake fragments, or chips. The lithic debris recovered by TXARNG archaeologists from 41LR170 is dominated (52 percent) by local and Red River chert and other fine-grained siliceous materials (i.e., chalcedony, novaculite, and claystone/siltstone); these comprise 56 percent of the lithic debris. They include yellow chert (n=1), reddish-gray chert (n=1, cortical), dark grayish-brown chert (n=1), red chert (n=3, 67 percent cortical), brown chert (n=2, 50 percent cortical), chalcedony (n=1), novaculite (n=2, 50 percent cortical), gray chert (n=1), and claystone/siltstone (n=1). None of the cherts or other fine-grained siliceous materials have been heat-treated. Fine-grained (n=2) and coarse-grained (n=8) quartzite account for 40 percent of the lithic debris, followed by petrified wood (n=1 or 3.7 percent) and quartz (n=1 or 3.7 percent). Fifty percent of the coarse-grained quartzite lithic debris has been heat-treated, probably to improve its knappability. About 60 percent of the lithic debris is cortical, suggesting an emphasis at 41LR170 on the initial reduction of local pebbles and cobbles for tool manufacture, rather than tool maintenance or refurbishing.

A total of seven pieces of FCR were recovered from five STs (7, 8, 12, 15, and 17). All are pieces of coarse-grained quartzite and come from (0–60 cm bs). The small pieces weigh less than 80 g.

All of the prehistoric ceramic sherds have been tempered with grog; two (8 percent) also have a sandy

paste. Three sherds have decorations, one sherd is a plain rim, there are 16 plain body sherds, and four plain base sherds. The prevalence of grog-tempered ceramics at 41LR170 indicates that the occupation predates ca. A.D. 1300, while the decorated sherds suggest the Caddoan occupation took place between ca. A.D. 900-1300.

One decorated rim sherd (ST 8, 40–60 cm bs) has a horizontal incised element on the rim; it is probably from a bowl (3.6 mm wall thickness). The rim is direct or vertical, with a flat lip. The second decorated rim (ST 12, 40–60 cm bs) appears to be from a carinated bowl that has at least four diagonal engraved lines; the rim (5.4 mm in thickness) is direct with a rounded lip. Similar decorated sherds have been found in Early and Middle Caddoan contexts in the middle reaches of the Red River and Sulphur River basins in Northeast Texas (see Perttula 1997). This sherd also has a sandy paste. The third decorated sherd (ST 17, 20–40 cm bs) has diagonally opposed incised lines. It is tempered with grog, and has thick body walls (9.2 mm).

The plain rim is from ST 10 (0–20 cm bs). It is direct with a flat lip, and has thin walls (4.4 mm). The plain body sherds average 7.98 mm in thickness (sd=2.14 mm). Several plain grog-tempered sherds are more than 9.2 mm in thickness, however, including one sherd from ST 10 (20–40 cm bs), one sherd from ST 12 (20–40 mm bs), and two sherds from ST 7 (60–70 cm bs). These may be from Williams Plain bowls and jars, which were manufactured and used between ca. A.D. 700-1300 in this part of the Caddoan area. The grog-tempered base sherds are also thick (12.9±0.1 mm); the grog-tempered sandy paste base sherd is only 7.7 mm in thickness.

In the TXARNG shovel test investigations, the artifact density was slightly higher at 5.610 artifacts per positive shovel test, but again the prehistoric materials were concentrated in the northwestern corner of the TXARNG property, although also extending approximately 20 m west onto the U.S. Army Corps of Engineers, Tulsa District property at Pat Mayse Lake. The TXARNG investigations recovered a much higher density of ceramics (1.9 per positive shovel test and in 60 percent of the positive shovel tests compared to 0.1 per positive shovel test and 10 percent of the positive shovel tests in the CAR-UTSA work), and the ceramics were common to at least approximately 80 cm bs. The TXARNG work also recovered daub in three shovel tests between 20–60 cm bs, suggesting the presence of a Caddoan structure.

Chapter 10: Historic Sites

Anne A. Fox and Anthony S. Lyle

Introduction

A total of ten historic sites were identified and documented during the Camp Maxey II survey. In addition, two sites previously identified by Nickels et al. (1998), and one site previously recorded by TXARNG archaeologists were revisited. These were originally identified during a survey of firebreak roads and fall within the areas that were more intensively surveyed and tested during the current project. A few other historic features, mostly cistern or well features, had been previously recorded and are incorporated in the following site descriptions where applicable. While some of the sites reported in this chapter contain single prehistoric artifacts, it was felt that the isolated nature of these finds does not warrant, nor does it allow, the systematic definition of prehistoric components at these sites. Finally, a total of five isolated finds have been recovered from surface collections. These finds are described at the end of this chapter.

Two of the historic sites had no shovel tests excavated in them because they were disturbed and were located in low site probability areas. The number of shovel tests excavated in the remaining seven sites ranges from 3 to 11, with most dug in the process of site discovery and a few excavated during site definition efforts. The total number of STs excavated on each site and the number of positive STs is presented in Table 10-1. Given that none of these heavily disturbed sites have been recommended for further work, no site maps are included in the present report.

Laboratory Analyses

Given that only potentially diagnostic surface artifacts were recovered during survey, and historic artifact densities were low in shovel tests, a relatively small number of historic artifacts were returned to the lab for analysis. Laboratory analyses focused almost exclusively on potentially temporally diagnostic items recovered during survey. Anne A. Fox of CAR carried out the analyses and provided the artifact descriptions. The locations of the historic sites within the Camp Maxey project area are shown in Figure 8-1.

Table 10-1. Total Number of Shovel Tests and Positive Shovel Tests Excavated at each Historic Site

Permanent Site No.	Field Site No.	Total STs	Positive STs
41LR198	FS 18	0	0
41LR199	FS 19	0	0
41LR209	FS 30	9	6
41LR210	FS 32	5	3
41LR218	FS 42	6	1
41LR219	FS 43	10	2
41LR239	FS 63	3	3
41LR241	FS 65	11	6
41LR270	FS 94	4	2
41LR272	FS 96	9	2
41LR148		3	2
41LR171		6	1
41LR173		4	3

Site Descriptions

41LR198 (Field Site 18)

This upland site is located just east of, and on the main dirt road that runs north-south through the project area at the boundary between Survey Areas 1 and 2. It contains a small (3 x 4 m) rectangular depression with historic materials scattered around it and on the road. The location may represent a former homestead, and the site was estimated to be 1,881 m² in area. No diagnostic artifacts were collected from the site, and no shovel tests were excavated.

41LR199 (Field Site 19)

This historic site is located approximately 50 meters south of 41LR198 and it is bisected by the same north-south running dirt facility road. The site consists of a large but sparse scatter of historic materials including purple glass, unidentified metal, a bolt, and ceramic materials consisting of whiteware. The notable feature associated with this site is the remnants of a small wooden bridge on the abandoned county road. This feature consists of two parallel rows, of three wooden posts each, on either side of a ditch, with several old planks and hardware. This bridge was observed in a low area on the former county road immediately east of, and paralleling, the main north-south running dirt facility road. The only artifacts collected from the site were three pieces of window glass, as well as one half of a silver-plated woman's belt buckle. No shovel tests were dug because the artifacts were concentrated on the existing road.

41LR209 (Field Site 30)

This upland site contains the remains of a probable historic house site, and a lone prehistoric artifact from a shovel test. The site occupies an upland hill, on the highest contour at the boundary between Survey Areas 9 and 10. This site is approximately 7,770 m² in area. An east-west running firebreak road cuts through the site. An overgrown road leading from a nearby historic, tree-lined road was identified as a possible driveway for the presumed house site. The vegetation also hints at historic use of the site with a cactus patch, a small grove of wild plum trees, a large pecan tree, Black Locust and other small and medium pecan trees, and several American Beauty bushes. Six very large white oak trees (estimated to be greater than 75 years old) are aligned around a small, flat, open area at the center of the landform. This open area was approximately 15 m² and is presumed to be the location of a historic homestead. The site was tested with nine shovel tests. A total of six STs contained cultural materials. Prehistoric materials were limited to a single ST (G-13), that also contained historic items. The historic materials from the site included two fence nails, ceramic sherds, a rifle cartridge, and amber glass fragments. Red clay was reached at 43 cm bs. ST 30-1 contained 5 wire nails, 10 pieces of clear glass, 10 historic ceramics, a small piece of flagstone or rough concrete, and charcoal. Red clay was reached at 30 cm bs.

Other surface features include three or four "foxholes" set at regular intervals along the perimeter of the landform. One of these, near ST 30-5, could have been a pit associated with the historic occupation of the site, however no cistern or well features were defined. This is the possible house site for members of the Bass family who recently visited the area (Maj. Michael Diltz, personnel communication).

Prehistoric Artifact

The sole prehistoric artifact from this site is a non-cortical piece of gray chert lithic debris from ST G-13 (0–20 cm bs). The piece has been heat spalled as a result of exposure to fire. Given that only a single isolated prehistoric artifact was encountered on site, a prehistoric component was not defined.

Historic Artifacts

Sherds of undecorated white earthenware, one porcelain sherd, and one fragment of Bristol-glazed stoneware date the occupation of the site to post-1890 (Greer 1981). Wire nails, transparent aqua glass, molded amber glass, clear glass, and a fragment of concrete tend to push the date past the 1920s and into the 1930s, when the use of concrete became popular on Texas

farms. Additional artifacts include a near complete molded glass cruet, or small serving pitcher, and a possible glass applicator from a medicine container. An estimated date of 1900 to 1940 would be possible for this occupation.

41LR210 (Field Site 32)

This historic site is in close proximity to 41LR209, and shares the same general upland landform in Survey Area 10. The site is approximately 11,159 m² in area. Large oaks and scattered hardwoods with moderate undergrowth make up the general vegetation. Surface visibility was estimated at 10 percent during the early fall survey visit. A total of five shovel tests were excavated in an attempt to locate the remains of a house foundation or historic artifact concentrations (such as a trash midden). Three of these STs located historic artifacts, and all five encountered generally shallow soils with an average depth to clay at about 40 cm bs. ST 32-3 contained 12 ceramic sherds, 27 pieces of glass, two buttons, animal bone, scrap metal, and ten burned fragments of hand-made brick. This probably represents the remains of a historic trash midden, or the location of the house site.

As has been reported of other historic sites in the project area, the Army bulldozed house structures when the base was first put into use. 41LR210 was no exception, this site appears to have been heavily disturbed by activities consistent with bulldozing, making it difficult to identify the remains of foundations or other structure placements. One notable feature that was identified was a brick and concrete-lined cistern or well. Due to the close proximity, this site may have been occupied by the same family, or related members, as 41LR209.

Historic Artifacts

White earthenware and ironstone ceramic sherds, combined with a sherd of porcelain decorated with a decalcomania design, date this collection to between about 1895 and the 1920s. Stoneware with a Bristol glaze on the exterior and an Albany slip on the interior was made from about 1890 to 1915 (Greer 1981). Two metal buttons appear to be similar to ones published in mail order catalogs of the 1890s to the 1920s. Clear, brown, and transparent aqua glass are present on most 1920s to 1940s sites. Taking all of this into consideration, an occupation date between 1895 and the 1930s is probable. Therefore, this site dates slightly earlier than 41LR209.

41LR218 (Field Site 42)

This historic site, located in Survey Area 12, consists of two surface scatters and an earthen dam with a man-made drainage ditch leading into it from the east. This V-shaped dam was approximately 65 m across at the widest point and about 1.5 m in height at its center. It could have been used as a stock or holding tank. This site is approximately 11,309 m² in area. Probable military use in the area has destroyed and/or removed any historic buildings or other perishable structures. Artifacts from the surface concentrations were described, but not collected. Six shovel tests were dug at the site revealing very shallow soils (from surface clays to less than 25 cm of clay loam) and no subsurface historic artifacts. However, one piece of lithic debitage was recovered (see below for description) from one of the shovel tests.

Surface Artifact Concentrations

Concentration 1: pitted stone, bottle glass, purple glass, white glass, green glass, brick fragments, whiteware, stoneware, ironware, wash basin, hand-held smoke or dummy grenade, porcelain mason jar cap, iron "burner plate" for a historic stove labeled "*Stover MFG patent Dec. 1922,"* numerous perfume bottles, numerous glass ware, and rusty cans.

Concentration 2: whiteware, ironware, brown bottle glass, whiteware with maker's mark, *Norris* perfume bottle, wine bottle, historic cans, numerous perfume bottles, numerous glass ware, as well as rusty cans.

Dispersed Historic Artifacts

Ceramic sherds from a white earthenware plate and a stoneware crock with a Bristol glaze date the occupation of this site to between 1890 and ca. 1920. Other useful dates can be derived from several glass bottles

with datable maker's marks. These include a clear medicine bottle with a mark indicating OBEAR-NESTER GLASS CO., since 1894 (Toulouse 1971:373); a brown ointment jar from American Glass Works, 1908-35 (Toulouse 1971:23); and a brown medicine screw top from Owens-Illinois Glass Co., 1929-54 (Toulouse 1971:403). Eight other bottles recovered were made after the invention of the automatic bottle machine in 1903. A zinc canning jar lid with a porcelain lining labeled "BOYD'S CAP FOR MASON JAR" would have been intended for jars made by the Mason Fruit Jar Company, 1885-1900 (Toulouse 1971:343). The number of clear glass bottles on this site would tend to indicate that most of the bottles were deposited after 1930 (Kendrick 1967:24).

A single pitted stone (203 x 123 x 73 mm) was collected from the surface of the site. One side of the sandstone cobble has three distinct pits or depressions along the central axis of the stone; the pits measure 24, 25, and 47 mm in diameter, and range from 2–5 mm in depth. The 47 mm pit is in the center of the stone, with the smaller pits above and below it. The other side of the cobble has a large pit or depression in its center. This pit measures 36 mm in diameter and is 3 mm in depth. An inverted cone shaped depression appears to have been chiseled into one lateral edge. The top of the cone is 23 m in diameter, while the bottom is 10 mm wide, the cone is 41 mm deep. There is no definitive evidence that the specimen is prehistoric, and the cone-shaped modification along the edge suggests some type of historic use.

Prehistoric Artifact

A single prehistoric artifact, a flake, was recovered from ST CCC-8, 0–20 cm bs. It is a tertiary, fine-grained specimen with reddish-pink and light tan mottling. A single flake scar is apparent on its dorsal surface. It appears to have formed along an imbedded fracture line. Lacking other clearly prehistoric artifacts, it is possible that the flake was naturally produced rather than the result of human action.

41LR219 (Field Site 43)

This historic site is situated on an upland landform in Survey Area 14 with small to medium-sized oaks, small pines, small sumac, with ground cover including goldenrod, and little bluestem. Estimated surface visibility was relatively high at 30 percent. This site is approximately 11,294 m² in area. Two ravines flank the landform to the north and south and join east of the site. The ravines appear to carry substantial water during periods of rain, but were dry at the time of the site visit. Historic and/or military land modifications to the site include two military foxholes, remnants of a historic fence line, and a possible foundation of a historic structure. Ten shovel tests were excavated at this site, of these, only two produced historic artifacts.

Artifacts

Two shovel tests (43-1 and 43-2) yielded historic artifacts (n=12) between 0–60 cm bs. Of these, eleven are glass fragments and the remaining piece is a fence staple. The majority (92 percent) of the artifacts are from above 40 cm bs. In addition to these buried historic artifacts, additional historic items were noted in a surface concentration. The surface historic artifacts consist of: 1 pipe driven into the ground, sticking up about 8 inches above the surface; 1 "eye rod" driven into ground, sticking up about 10 inches above the surface; 1 piece of blue bottle glass; 2 pieces of historic (cream?) ware with a flower pattern (a cup or bowl); 2 pieces of ceramic plate; 1 bottle with "5" on the base; 1 bottle with "—" on the bottom; 1 jar with "7" on base; 1 jar without base; 1 piece of sheet metal (approximately 2 x 5 inches); 1 piece sheet metal partially buried; 3 bottles (sketched in field).

This small artifact concentration does not contain any clearly diagnostic pieces. However, the presence of a whiteware cup or bowl and plate, a bottle marked "Groves Tasteless Chill tonic" and the maker's mark of the OBEAR-NESTER GLASS CO., since 1894 (Toulouse 1971:373), and a clear bottle with grooved vertical decoration marked "American Glass Works, 1908" (Toulouse 1971:23) suggest an early twentieth-century date.

41LR239 (Field Site 63)

This historic site is located on an upland ridge in Survey Area 18. The vegetation is dominated by large oak (cf. red oak) trees, with cedar and Dogwood trees present as well. Several of the oak trees were estimated to be at least 100 years old. The site is approximately 5,010 m² in area. An intermittent creek is approximately 30 m east of the site and the Powderly Road is approximately 40 m south of this site. An alignment of trees, leading down to the intermittent creek, borders the site to the east. Surface visibility on the site was zero percent due to leaf debris.

The site was littered with partially buried tin and iron scraps. One notable artifact was a wrought-iron bed frame with ornamental connections on the headboard. Three shovel tests were dug to determine soil characteristics and the presence or absence of subsurface deposits.

Historic Artifacts

Historic materials were recovered in all three of the STs. The materials were distributed between 0–60 cm bs. The recovered historic materials included: nails, coal or tar, metal fragments, window glass, a rifle shell casing, and bullet slugs. A military mortar shell was observed on the surface near ST 63-1. The artifacts recovered from this site are not useful for specifically dating its occupation. The presence of an ornamental iron bed frame and sheets of tin and iron would suggest a 1920s date.

41LR241 (Field Site 65)

41LR241 may be a multicomponent site, due to the presence of mixed artifacts located on the recently graded road that bisects the site. However, no prehistoric artifacts were recovered in good context to establish a prehistoric occupation. This upland setting in Survey Area 17 is heavily wooded with oak and other hardwood species. Dogwood, poison ivy, blackberry vines, and briar add to the vegetation in the immediate area. Leaf litter limited surface visibility across the site. An unnamed intermittent creek separates 41LR241 from 41LR242, and is approximately 20 m east of the site datum. This site is approximately 7,800 m² in area. A large portion of the site has recently been impacted from grading a facility road. Prehistoric and historic artifacts were observed in this road cut. An estimated 0.5 to 1.0 m of soil was removed during the recent road cut.

Historic artifacts were found on the southern half of the site along with FCR. A cistern, fence posts, a metal basin, and a metal drum used as a "burn can" with charred debris in it were observed on the surface. A syrup bottle was found on the southern locale of the site. A field sketch was made, but the bottle was not collected.

A total of 11 shovel tests were excavated on this site, six contained cultural materials, including a fence staple, barbed wire, and whiteware sherds. Sandy soils were determined to be moderately deep, between 50 cm and 120 cm bs. The only possible prehistoric artifacts recovered from STs were two pieces of FCR (STs II-16 and 65-3). Although artifacts noted in the road cut included five additional pieces of FCR and a tertiary quartzite flake, the presence of only FCR in the shovel tests did not warrant the definition of a prehistoric component at the site.

Historic Artifacts

This site appears to have been occupied during the latter part of the 1920s and 1930s. The presence of a clear glass screw top jar and a syrup bottle with the mark of the Knox Glass Co. of Mississippi, which had to have been made between 1932 and 1953 (Toulouse 1971:271) confirm this estimate.

41LR270 (Field Site 94)

This site contains a historic dump located at the head of a dry ravine in Survey Area 19. This dump contained various historic materials. Shovel tests on the adjacent landform also revealed buried historic debris, and the nearby site 41LR269 was recorded as a possible site of a historic homestead. The presence of non-local vegetation, an ornamental cactus and a small rose bush, and nearby location of 41LR269, warranted this as a single component historic site. 41LR270 is

approximately 12,847 m² in area. A total of four shovel tests were dug on the site to search for buried materials. Two positive shovel tests had bullet slugs that were probably from a .45 caliber handgun, which has been the standard military issue side arm since before WWII. This site is north and east of the WWII handgun range.

Artifacts Observed on Surface

The artifacts observed on the surface included a *Dr Pepper* bottle with name on base, a cobalt blue "Noxema" jar fragment, window glass pane fragments, white milk jar fragments ("PLATONITE"), a square brown glass bottle/jar, one rectangular, possible cologne bottle with the numbers "…344" on the base, with ribbed edges and a seam in the glass, and one canning jar with a logo on base.

41LR272 (Field Site 96)

This historic site was probably used during the WWII period of Camp Maxey, or possibly even before then. It contains multiple rusted truck parts and unidentified metal scattered across an upland landform in Survey Area 23. The vegetation consisted of medium and large hardwood and cedar trees, with patches of dense undergrowth and open grasses. Estimated surface visibility was five percent. This site is approximately 20,789 m² in area, and it overlooks an unnamed creek situated to the north and west. This creek drains to Pat Mayse Lake. A total of nine shovel tests were dug in the site to ascertain the depth of the cultural materials at the site. Of these, two (STs E-4 and F-5) contained shallowly buried historic or modern materials between 0–20 cm bs. In general, soils were shallow along the higher contour of the landform, with high concentrations of gravels at mid-slope and moderately deep sandy loam along the terrace on the northeast of the site.

Historic Artifacts

The historic materials found in the shovel tests included window glass and metal scraps. A "Cities Service" motor oil can, three "Ball Perfect Mason" jars, one 55 gallon drum, two wash tubs, and various oil cans were observed on the surface, but not collected.

Previously Identified Sites

Three additional historic sites were revisited during the current survey. One of the sites (41LR148) was recorded in 1997 by archaeologists from the Cultural Resource Management Office of the Adjutant General's Department of the TXARNG. The two other sites had been recorded by CAR archaeologists in 1998 (Nickels et al. 1998).

41LR148 (Field Site 36)

This site, located in Survey Area 9, was previously recorded with the presence of a historic cistern dating to pre-WWII occupation. The brick and mortar construction cistern was filled in with soil in the summer of 1997. This information was not available to our 1999 survey crew and the site was recorded as a new field site. Subsequent information allowed our new data to be added to the site description.

This historic site occupies a west-facing finger ridge on the same general upland landform as 41LR204 and 41LR212. It is approximately 90 m west of an old tree-lined county road and contains a possible "driveway" to the homestead site. The nearest drainage is a creek that was dry in late September. This creek drains the landform to the west—leading to Visor Creek. This site is approximately 12,224 m² in area. The site was identified by the presence of surface artifacts including a painted crockery sherd, crockery rim, a metal four-pronged fork, and a ceramic with a maker's mark. Three shovel tests were excavated on site, of these two STs yielded glass, historic ceramics, and burned rock. The average depth to clay was 32 cm bs.

Historic Artifacts

Two shovel tests (STs 36-1 and 36-2) yielded three buried historic artifacts at a depth of 0–20 cm bs. In addition, six historic artifacts were recovered from the surface. The artifacts consist of glass (n=1), European ceramics (n=7), and a fork.

Several artifacts in this collection can be securely dated, which helps to determine the probable date of occupation of the site. An ironstone sherd with the

maker's mark "CHARKES MEAKIN – HANLEY" is dated by Godden (1971:77) as being made between 1883 and 1889. A number of fragments of a stoneware crock with a Bristol glaze and a hand painted number "3" indicating it held three gallons can be dated after 1890 (Greer 1981), and a clear glass jar with a screw top probably dates to about 1920 (Kendrick 1967:24). A stamped metal fork with four tines resembles, but is not identical to, those issued by the U.S. Army and may be a later arrival on the site, as it was found on the surface. Taking into consideration that the ironstone vessel and the crock could have lasted a number of years before being broken, a date of ca. 1900 to 1930 for the occupation is possible.

41LR171

This site was first identified and reported by Nickels et al. (1998) as an "ephemeral surface scatter" of historic materials along a two-track roadbed in Survey Area 4. It was considered to be a "good place for a homesite" (Nickels et al. 1998). The site occupies an upland ridge and contains pine tree cover with grass and leaf debris preventing any surface visibility, except where a few bare patches exist along the old roadbed. A total of six shovel tests were excavated on site to define the depth of the deposits and more precisely delimit overall site size. One positive shovel test yielded historic materials in the upper 20 cm of deposits. Nickels et al. (1998:87) noted glass and brick fragments and old iron stove parts.

Historic artifacts recovered during the current work included a fragment of a gold banded bone china cup of a type popular around the turn of the century, wire nails which would not have been used in this area until after 1900, and clear bottle glass which might date the site as late as 1933 (Kendrick 1967:24). These artifacts could expand the occupation date into the 1930s, but do not substantially change the estimate from the late nineteenth to the early twentieth century as suggested by Nickels et al. (1998:87).

41RL173

This site was originally recorded by Nickels et al. (1998) as an "…ephemeral scatter of glass and ceramics" and was considered a "historic trash dump, or related to a structure in the area." It is in an open field on an upland ridge and contains dense vegetation along an old road in Survey Area 2. It is bordered on the east by a wooded area along the unnamed creek that drains the low-lying, bog-like geographical feature in this area. This creek drains to the southwest to Pat Mayse Lake. A total of four shovel tests were excavated in the site. Of these, three contained historic cultural materials and one piece of FCR.

Artifacts

Historic artifacts recovered in the upper 60 cm of deposits include a tack, a shoe eyelet, a whiteware sherd, and a single piece of FCR weighing 8.2 g. The FCR was in the top 20 cm of ST LL-1 (the same provenience as the stoneware sherd) and given its isolated nature, it is not considered to indicate a discrete prehistoric occupation. The historic deposits extend to a depth of 40–60 cm bs, where some of the glass and nails, the whiteware, and the shoe eyelet were recovered. The additional artifacts from this site could bear out the estimate by Nickels et al. (1998:88) that the site was occupied during the late nineteenth or early twentieth century. A stoneware crock bottom sherd could have been made anytime from post 1860 to 1915 (Greer 1981) and due to its robust construction, the crock could have lasted many years before it was broken and discarded. Wire nails and brown and clear glass bottle fragments would represent the early twentieth century. The early twentieth century is probably the more accurate estimate based on the artifacts.

Rich Hill (41LR181, 41LR182, 41LR183, 41LR184, 41LR185, and 41LR190 – FS 1, 2, 3, 4, 5, and 10)

Information on the historic community of Rich Hill was available only after the pedestrian survey was complete (see Chapter 3). The rural nature of these communities makes identifying boundaries very difficult, especially when adding the post-abandonment history of these sites (i.e., heavy military impact). Within the probable boundaries of the vacated Rich Hill community, our survey identified and recorded six sites with historic components (41LR181,

41LR182, 41LR183, 41LR184, 41LR185, and 41LR190), two historic sites (41LR198 and 41LR199), and a small number of isolated finds. The six multicomponent sites with historic components are described in Chapter 9 of this volume. Using survey methods which included aerial photography, a small number of abandoned historic roads and the remnants of three bridges were also identified.

Historic Artifacts

Within the general area of Rich Hill, historic artifacts recovered from the surface reflect the life of the inhabitants during the early 1900s. The presence of numerous whiteware sherds and purple bottle glass were noted from various dumps and scatters in the area. Farmsteads occupied in the first quarter century of the 1900s contain numerous sherds of simple, undecorated whitewares. Bottle glass found on the surface of such sites has often been colored purple by exposure to sun (Kendrick 1967:24).

Sites 41LR188 and 41LR189, described above, were probably also within the Rich Hill settlement. The previously noted and interesting surface find from 41LR189 is the half of a woman's silver-plated belt buckle. Similar buckles are illustrated in the 1897 Sears, Roebuck Catalogue (Israel 1968:432).

Isolated Historic Artifacts

A portion of a handmade brick suggests the presence of a brick kiln somewhere not too far away. An average-sized farmhouse with two chimneys and set on brick piers would have required a maximum of 5,000 bricks (Fox et al. 1980:59). One or two families could have molded and fired enough bricks for several houses in one firing of a kiln.

One of the tin cans collected from a dump in this area is of the "open top" or "sanitary" type that was generally accepted by the 1920s (Busch 1981:98). A glass bottle stopper is of the type used in "Worcestershire Sauce" or other such flavorings in the early 1900s. From the same general vicinity, two other interesting artifacts were recovered. One is a "scale beam" which originally would have had two "poises" or counterweights. The metal scale was found on the surface and is nearly intact. It was slightly bent and is of course rusted, but still retained two metal attachments, one to hang it with and one to hang the object being weighed. This scale is approximately 81 cm in length (or about 30 inches) and is stamped with "P, S, & W Co." The 1902 Sears, Roebuck Catalogue, No. 111 lists five sizes of scale beams that could weigh 250, 400, 600, 1000, or 1200 lbs. (Amory 1986:564). This scale was probably used to weigh cotton bales and/or other agricultural produce. One final artifact recovered from the Rich Hill vicinity was a cup-shaped metal cap that came from the axle of a 1909 to 1911 Model A Ford.

Conclusion

Most of the archaeological investigations of military sites in Texas have involved U.S. Army posts that comprised the Western Line of Defense across the state in the mid-nineteenth century (Fox 1983:269). Many of these are now State Historic Parks. However, less attention has been paid to military training camps that were later established in connection with permanent bases. A survey of Camp Bullis northwest of San Antonio was conducted by CAR in 1977 (Gerstle et al. 1978). This survey brought to the attention of the archaeological community how much historic, as well as prehistoric, information was present on a large area of land that had been occupied for years before the Army gradually acquired it between 1906 and 1941 (Gerstle et al. 1978:257–301). Although the actual houses and barns of early settlers had been bulldozed when the area was taken over, a great amount of historical information was still present for examination.

The Camp Maxey project has reaffirmed that there is still important information on and under the surface of a military camp. Much of this information greatly contributes to the unrecorded history of an area that might otherwise never have been preserved.

Chapter 11: Synthesis of the Prehistoric Archaeological Record from the Camp Maxey Surveys

Timothy K. Perttula

The Temporal Record

Based on the recovery of diagnostic stone tools and plain and decorated ceramic sherds from several prehistoric sites and isolated finds in the Camp Maxey I (see Nickels et al. 1998:79) and Camp Maxey II archaeological surveys, these lands in the uplands of the Sanders Creek basin were used intermittently from Late Paleoindian through Late Caddoan times, from ca. 8500 B.C. to A.D. 1600. However, much of the archaeological evidence indicates that the Camp Maxey area was utilized most often from ca. 1000 B.C. to A.D. 1300, with very little use after ca. A.D. 1300 by the Caddoan peoples of the middle Red River basin.

Nevertheless, the sample of diagnostic artifacts is small from the archaeological survey, and only 33 sites and four isolated finds across more than 5,000 acres have temporal information. Consequently, the patterns discerned in the archaeological data must be considered tentative, until supplemented by information obtained from radiocarbon dates from selected sites and more temporal diagnostics from excavated contexts.

Fifteen sites have dart points and dart point tips (Figure 11-1 [all Chapter 11 figures are located in Map Supplement]), including a Late Paleoindian Dalton point from 41LR170, a possible Early or Middle Archaic Wells point from 41LR245, a Middle to Late Archaic Yarbrough point from 41LR254, and two other fragmentary points (straight-stemmed and corner-notched examples from 41LR208 and 41LR238, respectively) that may be indicative of Late Archaic use and discard at Camp Maxey. The remainder of the sites with dart points have contracting stem forms of the Gary type, including the Gary, *var. LeFlore* (made between ca. 2400–1700 B.P., according to Schambach 1982, 1998) and the Gary, *var. Camden* (dating from ca. 1700–1200 B.P., again following Schambach 1982, 1998).

At least two of the Camp Maxey sites appear to have plain ceramics from Woodland period occupations (41LR204 and 41LR212). The sites are situated next to one another along Visor Creek (Figure 11-2), and are probably part of a single temporally and culturally related Woodland period component.

Camp Maxey II sites with ceramics and/or Gary dart points are common, as 14 sites may have possible Woodland period components (42 percent of the 33 sites in the Camp Maxey I and II survey areas with temporal diagnostics); an isolated ceramic sherd find in Area 17 may also date to the Woodland period. The proportion of possible residential to non-residential sites of Woodland period age is 1:6.

Thirteen sites may have Late Archaic components (39 percent), compared to 15 different sites (45 percent) with Early and/or Middle Caddoan components (see below). Further highlighting the differences in the temporal intensity of land use at Camp Maxey, the four possible sites with Middle Archaic, Early Archaic, or Late Paleoindian components comprise only 12 percent of the sample of sites with temporal diagnostics.

There are 15 archaeological sites with Early and/or Middle Caddoan components, marked by the recovery of low numbers of ceramic sherds and/or stemmed arrow points; there is also an isolated arrow point from Area 2. This suggests an increased overall use of the landscape after ca. A.D. 900, until ca. A.D. 1300, either for permanent settlement or for hunting activities from communities along Sanders Creek or the Red River. Two other sites (41LR155 and 41LR251) contain an arrow point and a decorated sherd that suggest a very limited Caddoan use of the Camp Maxey lands between ca. A.D. 1300–1600.

The number of sherds recovered in shovel testing at 41LR152, 41LR157, 41LR186, and 41LR187 (and perhaps 41LR226) suggest these Early and/or Middle Caddoan sites were residential in nature; 41LR186 also contains a pit feature, further hinting at its residential character. The presence of arrow points, the low number of sherds, or the absence of sherds at the remainder of the Early to Middle Caddoan sites suggests these may be campsites of Caddoan hunters. Residential sites 41LR152 and 41LR187 appear to have been occupied during the Middle Caddoan period (ca. A.D. 1100–1300), a time when there was a peak in settlement along the Red River and its major tributaries (see Nickels et al. 1998:19). Sites 41LR157 and 41LR186 may have been occupied during the Early Caddoan period (ca. A.D. 900–1100). The ratio of residential to non-residential sites during the Early and Middle Caddoan periods is 1:2.75. This ratio indicates that residential sites of Early to Middle Caddoan age are more than twice as common as Woodland period residential sites. Neither of the two Late Caddoan components appear to be residential in nature, based on the available shovel testing information.

The Spatial Record

The first measure of spatial differences in the Camp Maxey archaeological record is the density of artifacts at the prehistoric sites as measured by the average number of artifacts per positive shovel test. Most of the prehistoric sites at Camp Maxey (n=69), including the Camp Maxey I area, have shovel test densities that range from only 1–2.50 artifacts per positive shovel test. About 30 percent of the sites, however, have densities greater than 3.00 artifacts per shovel test (Figure 11-3).

Most of these sites occur in four clusters that are concentrated in the northern and east-central part of the Camp Maxey II survey area (see Figure 11-3), with another two sites in the western part of the survey area along and near Visor Creek. The other high artifact density site is 41LR170 in the northwestern part of the survey area. These clusters are on prominent landforms above second and third-order streams that drain northwards into the Sanders Creek valley.

Ten of the high density archaeological sites have temporal diagnostics, and the following possible components can be identified at them (with several of the sites having multiple components): 1 Late Paleoindian (41LR170), 4 Late Archaic (41LR187, 41LR190, 41LR208, and 41LR225), 4 Woodland (41LR187, 41LR190, 41LR204, and 41LR225), and 6 Early to Middle Caddoan (41LR186, 41LR187, 41LR225, 41LR226, 41LR260, and 41LR157 from Camp Maxey I). The remaining 15 high density sites are dominated by quartzite lithic debris at nine of the high density sites (41LR184, 41LR196, 41LR200, 41LR227, 41LR252, 41LR261, 41LR262, 41LR162, and 41LR163) and their use likely dates to the Late Archaic and Woodland periods (see discussion below concerning temporal changes in lithic raw materials). High artifact density sites where Red River cherts and local cherts occur in considerable numbers include 41LR200, 41LR242, 41LR250, 41LR261, 41LR262, 41LR263, 41LR266, and 41LR279. These sites and/or components at multiple component sites probably date to the Early and Middle Caddoan periods.

The one Late Paleoindian component occurs at 41LR170. This is a high artifact density site with high proportions of quartzite and local chert raw materials as well as ceramics. It sits on a high upland landform near where Visor Creek enters the Sanders Creek valley.

The Archaic sites and/or components are distributed along the three principal streams that drain northward into Sanders Creek, and three (41LR186, 41LR187, and 41LR226) are situated on prominent upland ridges overlooking the confluence of two of the secondary streams with Sanders Creek. Several others are near the headwaters of secondary streams, while the distribution of prehistoric sites with quartzite lithic debris (see Figure 11-4) suggests that the latter setting was a common location choice during Archaic times. Possible Woodland period components are found in basically the same landform and stream settings as the Archaic sites, with the juxtaposition between settlements overlooking the Sanders Creek valley and others on and near headwater areas of secondary streams. One difference is the location of the two Woodland period sites with ceramics (41LR204 and 41LR212)

on a relatively low ridge between Visor Creek and an intermittent tributary (see Figure 11-2).

In the Camp Maxey I survey area, the six post-A.D. 1000 Caddoan sites/components are concentrated on Pleistocene landform settings that immediately overlook a Holocene geomorphic surface and a third-order stream valley, Visor Creek (see Nickels et al. 1998:Figure 3-1). The two possible residential Caddoan sites, 41LR152 and 41LR157, in the Camp Maxey I area are on Pleistocene and Holocene geomorphic surfaces, respectively. In general, the distribution of Caddoan sites suggests preference for elevated and well-drained landforms in proximity to (but not necessarily in) the stream valley habitat and sources of fresh water. There is not much difference when the Camp Maxey II archaeological record is considered, at least based on the distribution of arrow points (see Figure 11-1) and Caddoan ceramics (see Figure 11-2) at the various sites. There are four or five clusters of Caddoan sites in the Camp Maxey II project area. These Caddoan sites concentrate on upland landforms overlooking the floodplains of permanent and temporary stream drainages, and the few large residential sites are on the crests of prominent ridges above the confluence of secondary streams with the Sanders Creek alluvial valley.

Lithic Technology and Raw Material Use

As was discussed in Nickels et al. (1998), and this is much clearer in the larger Camp Maxey II artifact assemblage, the analysis of the lithic raw materials on the Camp Maxey prehistoric sites indicates that there are clear preferences in the selection of raw materials for the manufacture and use of different tools. These preferences probably are closely related to the availability of raw materials and the range of task performances for which the tools have been designed (e.g., Hayden et al. 1996:9 and Figure 11-1). There are also differences in the distribution of artifacts of various lithic raw materials across the survey area, and these probably relate to both variability in the character of the raw materials in source areas as well as to the prehistoric preferences for different raw materials for tool use (Nickels et al. 1998:80–81).

A wide variety of lithic raw materials are available in the Camp Maxey area. Foremost are gravels of quartzite, petrified wood, and brown-tan chert cobbles found on high terraces and interfluves (see Banks 1990:56–57), along with sandstone and coarse-grained quartzite rocks that ended up as heating elements (and then as fire-cracked rocks) in hearths and ovens. Banks (1990:57) includes these gravel materials among the Uvalde Gravel deposits that are widespread in the region. Red River terrace deposits have been reported to contain yellow and red jasper and claystone/siltstone deposits (see Mallouf 1976); small amounts of claystone/siltstone occur on Camp Maxey archaeological sites.

Higher-quality siliceous raw materials originated in the Ouachita Mountains of southeastern Oklahoma, and can now be found in gravel deposits in the Red River from the mouth of Muddy Boggy Creek (which comes into the Red River a few miles above or west of Sanders Creek and the Camp Maxey area to the south in the headwaters of Sanders Creek). These Ouachita Mountains lithics include Big Fork chert (in black and green varieties; see Mallouf 1976); Arkansas novaculite; Pinetop chert; greenish-gray quartzites from the Stanley and Jackfork formations; banded Woodford Formation chert of brown, dark brown, and grayish-brown color; and the Johns Valley shale (Banks 1990:33–47). The Johns Valley shale deposit is "perhaps the most important single source of chert in the western Ouachitas" (Banks 1990:46), and "are superior in quality and size to their original sources of geologic origin." The Johns Valley contains redeposited cobbles and boulders of novaculite, Big Fork chert, Woodford chert , and Pinetop chert. These lithic materials would have been abundant in the Muddy Boggy Creek drainage, and in the Red River gravels, only a few miles north of Camp Maxey.

During the Archaic and Woodland period settlement of the Camp Maxey area, coarse-grained and fine-grained quartzite raw materials dominate the lithic debris and tools; this raw material preference was also noted in Nickels et al. (1998). Much of this material, obviously locally abundant, has been heat-treated to improve its knappability. Sites with high proportions of quartzite raw materials in the lithic debris are widespread at Camp Maxey (Figure 11-4), in settings

overlooking stream valleys as well as on upland landforms a considerable distance from permanent water.

The distribution of quartz and petrified wood lithic debris (Figure 11-5), although not abundant, closely parallels that of coarse-grained and fine-grained quartzite. In both cases, the distribution of these lithic raw materials is as broad across the landscape as archaeological sites with dart points (see Figure 11-1), rather than with the spatial distribution of arrow points and ceramics. Nevertheless, quartz and petrified wood lithic debris appears to be slightly more common on Early and Middle Caddoan period components at Camp Maxey then in the Archaic or Woodland period components, as well as more common in high density sites (irrespective of age) in the northern part of the project area (see Figure 11-3). This suggests that these raw materials probably occur in lithic source areas on upland landforms overlooking the Sanders Creek floodplain (now inundated by Pat Mayse Lake) to the north.

Local cherts have virtually the same spatial distribution as the Red River gravel cherts (Figure 11-6). They occur principally in the high density site clusters in the northern and north central part of the Camp Maxey II survey area (see Figure 1-3), and the distribution of sites with more than 20 percent local chert in the lithic debris samples is very similar to the distribution of sites with Caddoan ceramics; the Woodland ceramic site cluster has only a limited amount of local chert lithic debris (see Figure 11-2).

There is a clear preference in the Caddoan sites for fine-grained siliceous materials, and tools of these materials are more common than is the case with the lithic debris. Sites with abundant Red River cherts have a restricted spatial distribution at Camp Maxey compared to quartzite and local raw materials (Figure 11-7), and closely correlate spatially with the sites containing ceramics (see Figure 11-2), as well as the sites with high densities of artifacts in the shovel testing (see Figure 11-3). In fact, the spatial combination of arrow points, ceramics, Red River chert, and high densities of artifacts near the Sanders Creek valley, readily point to those parts of the Camp Maxey landscape that were specifically preferred for settlement and land use purposes by the Early and Middle Caddoan populations.

Lithic debris of Red River cherts and local cherts (see Figure 11-6) are considerably more abundant on Caddoan sites than they are in either Archaic or Woodland period components (Table 11-1), when we examine apparent single component sites. Taking into account the higher proportion of tools of fine-grained cherts (whether from local gravels or the Red River gravels) compared to the lithic debris suggests that completed tools of these materials were frequently brought into Camp Maxey from Red River Caddoan settlements and campsites, and that the fine-grained debris on the Camp Maxey residential and non-residential Caddoan components are probably the product of resharpening and maintenance activities on arrow points and other flake tools.

Ceramic Technology

A total of 14 ceramic sherds have been recovered from three prehistoric sites in Area I, 41LR150 (n=1), 41LR152 (n=8), and 41LR157 (n=5), and another 102 sherds come from 11 sites (ranging from 1–46 sherds per site) and a single isolated find in Area II. Sites 41LR186 and 41LR187 contain the largest ceramic assemblages, 39 and 46 sherds, respectively.

In general, the sherds are from well-made, coiled, and thin-walled Early to Middle Caddoan vessels tempered with grog (crushed sherds) and/or finely-crushed bone. One sherd from 41LR251 is a Late Caddoan neck banded jar sherd, also tempered with grog. The thick and coarse grog-tempered sherds from 41LR212 and 41LR259, as well as the isolated sherd from Area 17, appear to be Williams Plain, and they probably date to the Woodland period. This ceramic ware continued to be made in the Red River basin to ca. A.D. 1300, but it was usually accompanied by thinner and finely-ground grog-tempered Caddoan pottery; none of this kind of pottery was found at 41LR212 and 41LR259, although the sample sizes are very small.

The technology of ceramic manufacture at Camp Maxey was rather uniform or homogeneous, rather

Table 11-1. Lithic Raw Material Use from Lithic Debris in Apparent Single Component Archaic, Woodland, and Caddoan Sites

Periods	Quartzite	Red River Cherts	Local Cherts	Quartz/Petrified Wood
Archaic*	58.2%	23.3%	18.6%	0.0%
Archaic or Woodland	83.3%	16.7%	0.0%	0.0%
Woodland	66.2%	23.3%	7.8%	2.6%
Combined Archaic and Woodland	64.3%	23.0%	11.1%	1.6%
Early and Middle Caddoan	38.6%	36.9%	20.7%	3.7%

*Archaic sample, 41LR208, 41LR238, 41LR245, 41LR254 (n=43); Archaic or Woodland sample, 41LR216, 41LR224 (n=6); Woodland sample, 41LR204, 41LR168, 41LR212, 41LR213, 41LR214, 41LR259, 41LR268 (n=77); combined Archaic and Woodland (n=126); Early and Middle Caddoan sample, 41LR186, 41LR187, 41LR222, 41LR226, 41LR233, 41LR244, 41LR251, 41LR260 (n=241).

than diverse in character, because (1) more than 95 percent of the sherds have been tempered with grog (or crushed ceramics), and (2) most of the sherds are from vessels fired in a reducing environment and then cooled in a high-oxygen environment; the others were oxidized or incompletely oxidized during firing. However, there are moderate differences in paste and temper between the sites, perhaps due to variability in the available clays across the landscape, with crushed bone and hematite occasionally added as aplastics (particularly at 41LR186 and 41LR187), and one sherd from 41LR244 has a sandy paste, but no intentionally added temper. Another difference is the relatively low proportions (40–41 percent) of sherds at 41LR187 and 41LR226 that are from vessels fired in a low oxygen or reducing environment; at all the other Caddoan sites, the proportion of sherds fired in a reducing environment is 72 percent. In the probable Woodland period components, the proportion is 100 percent. Since 41LR187 is a confidently dated Middle Caddoan component—where the proportion of reduced sherds is 41 percent—and the proportion of reduced sherds is 67 percent at 41LR186, a confidently dated Early Caddoan component, the available evidence suggests that there was a change over time in the technology of firing pottery vessels. These differences probably relate to broad changes in vessel function and use, perhaps where the vessels were fired longer, with more control, and producing a harder and more durable ceramic form (see Rice 1987:532; Teltser 1993:532, 540).

Four of the 14 Area I sherds are decorated: one tool punctated (41LR150); two engraved (41LR152 and 41LR157), and one red-slipped (41LR152); this is a plain to decorated sherd ratio of 2.5:1. The use of a hematite-rich red clay slip, and the limited styles of decorated ceramics, are consistent with Early and Middle Caddoan ceramics also being made on the middle reaches of the Red River (cf. Krieger 1946) and the upper Sulphur River basin. In the larger sample of Caddoan sherds from the Camp Maxey II sites, the plain to decorated sherd ratio is slightly higher at 4.1:1, generally consistent with Early and Middle Caddoan ceramic assemblages on this part of the Red River; none of the five possible Woodland period sherds are decorated. Red-slipped ceramics are present at 41LR187 (n=4), along with a probable trade sherd of brushed ceramics from the Big Cypress Creek or Sabine River basins, and other decorated sherds include engraved (n=5), incised (n=3), pinched (n=1), incised-punctated (n=1, probably Crockett Curvilinear Incised), and tool and fingernail punctated (n=3) elements. There is a single Nash Neck Banded sherd from 41LR251 to mark the Late Caddoan ceramics in the Camp Maxey survey area.

Summary Consideration of Research Issues

As discussed in Nickels et al. (1998:21–24) and also in this volume (Chapter 6), there are several research issues concerning the prehistory of this part of northeast Texas that may be addressed using the archaeological sites and artifact assemblage information from the Camp Maxey survey. More fully-developed attempts to address these research issues will no doubt occur when a sample of the important archaeological sites have been more intensively investigated by excavations, when cultural features will be encountered and directly dated, and samples of charred plant remains and animal bones will be recovered in association with features and contextually intact artifact assemblages. The discussion below is a first attempt at taking a broader view of the Camp Maxey archaeological record, but the reader will do well to remember that the discussion is based on archaeological survey information from 116 prehistoric archeological components on the facility.

At the beginning of the Camp Maxey archaeological project, the available regional archaeological information for this part of the Red River basin suggested that Late Paleoindian and Archaic sites would be relatively common, particularly the Late Archaic components (ca. 2000–200 B.C.). These components tended to occur in a wide diversity of settings, including an intensive use of forested and prairie uplands similar to the Camp Maxey landscape. Woodland period sites, including components that may contain middens and structures from sedentary occupations, are apparently abundant along the Red River and its alluvial floodplain, but less common along the tributaries near their headwaters, though these (such as the Ray site [41LR135]) also may contain structures and middens (Bruseth 1998). Finally, Caddoan sites dating between ca. A.D. 800–1700 were known to be well-represented in this part of the Red River basin, especially hamlets, villages, and mound centers along the Red River and its principal northward-flowing tributaries (such as Sanders Creek). Major changes apparent in Caddoan land use and subsistence patterns after ca. A.D. 1300, where intensive maize-producing economies had evolved in parts of the Red River basin and other parts of the Caddoan area (see Perttula 1996b:313–322), had suggested that the upper part of the Red River (in Lamar and Fannin counties) was not intensively occupied by Caddoan groups after ca. A.D. 1300. This area may not have been re-occupied until the eighteenth century by Caddoan and Wichita groups, and the few sites that are known that date to the early historic era occur along the Red River, and not its tributaries.

Paleoindian and Archaic Mobility Patterns and Landscape Use

How did the many generations of mobile hunting-gathering foragers during the Paleoindian and Archaic periods use the land in the Red River basin? The available evidence from northeast Texas, based on differences in occupation intensity, tool kit composition, lithic assemblage diversity, and the use of local *vs.* non-local raw materials (Fields and Tomka 1993), suggest that significant differences occurred over time in residential and non-residential settlement patterns. In particular, there were increased population densities by Late Archaic times, with a more intensive use of the landscape that was accompanied by decreasing territory sizes (Fields and Tomka 1993:85). The western portions of northeast Texas (like the Camp Maxey area) may have been less intensively utilized for residential purposes than other parts of northeast Texas because of its location near the woodland-prairie-ecotone.

Based on the general setting, we expected a fairly intensive use of the Camp Maxey area during the Late Archaic period, because it is a period of time when residential and non-residential use by these broad-spectrum foragers occurred on virtually every level landform near available water and forest resources. The archaeological evidence of temporally diagnostic projectile points from Camp Maxey confirms that the Late Archaic use of the landscape was more intensive than during the Paleoindian or Early-Middle Archaic periods (see Figure 11-1), and the spatial distribution of sites with Archaic (and/or Woodland period) dart points is considerably broader than was the case during the later Caddoan occupation. In fact, the spatial distribution of Archaic style projectile points suggests that a wide variety of (wooded)

landforms—as well as settings near both small and higher-order streams—were exploited by these hunting-gathering foragers.

It was expected that lithic quarries and procurement sites would also be present, with abundant chipping debris and burned rocks from heat-treating of the poor quality quartzites and cherts. No quarries were identified during the archaeological survey, but the wide distribution of sites with quartzite lithic debris and Archaic to Woodland period tools (see Figure 11-4), and several high density sites that also have high percentages of quartzite lithic debris (see Figure 11-3), suggest that Archaic lithic procurement sites based on the exploitation of coarse- and fine-grained quartzite cobbles are present in the Camp Maxey survey areas. Hopefully, further investigations of the Archaic components in the Camp Maxey area will successfully identify the range of activities, occupation length, frequency of re-occupation, technology, and raw material procurement and use by the mobile Archaic hunter-gatherers in this part of the Red River basin of northeast Texas.

Sedentary Woodland Groups

Questions of settlement distribution and permanence during the Woodland period in northeast Texas are key to understanding the tempo and character of cultural changes that subsequently took place during the prehistoric Caddoan tradition, when sedentary and agricultural communities were well dispersed across the landscape. Such sites in the Red River basin are characterized by thick grog-tempered ceramics with flat bottoms and stilted bases, Gary dart points, and chipped stone axes; during the latter part of the period (ca. A.D. 600–700), arrow points first appear, along with Coles Creek-style vessels.

The Woodland period (ca. 200 B.C. to A.D. 800) was apparently a time of significant changes in settlement permanence among local hunter-gatherer groups in the Red River basin, as they became more sedentary. It was also when there were significant technological innovations, including the introduction and adoption of the bow and arrow and ceramic containers; there is a possibility that tropical cultigens, as well as the use of local seed plants, began to be a more common part of the diet towards the end of the period.

Discussions above of the different prehistoric components identified in the archaeological sites in the Camp Maxey project area indicate that Woodland components are apparently relatively abundant, but possible residential sites are uncommon. This suggests that if Woodland period populations became more sedentary through time, that the process of settlement permanence was primarily confined to the major stream valleys, such as the Red River and its principal tributaries, with hinterland and headwater areas of smaller streams still used for foraging activities rather than permanent settlement. Nevertheless, the possibility that a few Woodland period residential sites occur at Camp Maxey, along with a number more of non-residential character, implies that important archaeological information on the development of sedentary Native American communities can be obtained from a range of settlements in this part of the Red River basin (Perttula et al. 1993).

Caddoan Settlements and Communities

To what extent can connections be made between large-scale social change in Caddoan prehistory and changes evident in the archaeological record at the domestic [and local] level? Current archaeological evidence from the Red River basin suggests that there was a significant shift from multifamily residential groups in ca. A.D. 800/900–1300 Caddoan populations to groups approximating nuclear families after A.D. 1300. Large villages continued to be occupied, but considerable numbers of Caddoan families lived in sedentary, dispersed communities; there is a preponderance of small sites. These communities probably consisted of single homesteads and/or farmsteads with one or two structures and small family cemeteries, and small hamlets with a few houses, trash midden deposits, and family cemeteries.

Whatever processes occurred around A.D. 1300 that led to significant shifts in residential patterns, it appears that one of the consequences was the abandonment of certain areas (such as the Camp Maxey area and much of the Red River basin in Lamar County,

Texas) after that time, and the intensive settlement and use of other preferred settings (such as the alluvial valley in the Mound Prairie area in Red River County, Texas, centered at the Sam Kaufman/Roitsch site [41RR16]). Caddoan settlement data from Camp Maxey appear to be relevant in examining this postulated residential shift, and why it may have occurred, because the Caddoan residential occupations documented at Camp Maxey generally date from ca. A.D. 800/900–1300.

Archaeological investigations of the few Caddoan residential sites at Camp Maxey will be pertinent to investigating social aspects of changes in Caddoan domestic settlement patterns by obtaining basic information on the internal character of Caddoan settlements. Specifically, spatial and temporal details on the distribution of ceramics (including daub and burned clay, good signatures for Caddoan houses) as well as lithic artifacts can confirm the number and size of residential groups and when they were occupied. Determining midden size (if present), and the spacing between middens and ceramic/lithic concentrations, along with the temporal relationships between associated features and artifact assemblages at residential sites, will also contribute important information on the character of Caddoan residential groups in this hinterland area of the Red River basin.

The Development of Caddoan Agricultural Economies and the Use of Prairie Edge/ Woodland Habitats

The appearance of maize amongst Caddoan peoples occurred after ca. A.D. 700/800. However, the significance of the tropical cultigens to Caddoan economies became most apparent only after ca. A.D. 1200, then intensified after A.D. 1300/1400 in the Late Caddoan period, some several hundred years after the initial development of Caddoan culture in the Trans-Mississippi South. It is suspected that an intensification of maize agriculture, and the development of predictable maize surpluses by self-sufficient farmers, after ca. A.D. 1300/1400 in the Red River basin of the Caddoan area may be responsible in part for the demise of many of the Caddoan civic-ceremonial centers, as well as the abandonment of habitats where maize agriculture could not be successfully pursued by the prehistoric Caddo, and key changes in social and political relationships within Caddoan culture (see Perttula 1996b). After this time, then, social and political integration was regionally and locally redefined (e.g., Story 1990:340), and much of the emphasis on mound-building and renewal was discontinued.

Although no direct evidence for Caddoan agriculture was acquired during the course of the archaeological survey, there are hints and clues in the record that can indicate whether particular Camp Maxey archaeological sites have the potential to address this research issue. First, the differences in the relative frequency of Early-Middle Caddoan versus Late Caddoan sites at Camp Maxey, with very little evidence for a post-A.D. 1300 settlement in these upland habitats, suggests that regional changes in the spatial density of Caddoan residential settlements—whether these settlements were dependent upon maize or not—are also being detected in the archaeological record at Camp Maxey.

Investigations of well-preserved sites that date before or after A.D. 1300 can begin to directly measure, in this one small part of northeast Texas, how broad regional changes in subsistence and settlement can be detected at the local scale. Caddoan residential sites at Camp Maxey that have the potential to contain features with charred plant remains (i.e., 41LR186 has a pit feature detected in shovel testing) provide the archaeological contexts to examine the diachronic use of woodland-prairie edge habitats by Caddoan farmers.

Socio-political Dynamics in Caddoan Groups

Between about A.D. 900 and 1600 in the Caddoan area, complex and socially ranked societies developed along much of the Red River and its major tributaries (cf. Bruseth 1998). These societies had well-planned civic-ceremonial centers, elaborate mortuary rituals and ceremonial practices, and evidence for extensive inter-regional trade. Less well known is whether there exists archaeological evidence for social complexity among Caddoan groups living in hinterland and marginal areas (i.e., stream headwaters, prairie/woodland edge habitats, etc.), and the archaeological investigations at Camp Maxey

provide an opportunity to examine, to some extent, the socio-political character of the Caddoan groups that lived along Sanders Creek and its tributaries. The absence of civic-ceremonial centers, and no archaeological evidence for a likely hierarchy of Early to Middle Caddoan sites (Perttula 1993:138), such as community centers, villages, hamlets, and farmsteads, strongly indicate that this part of the Sanders Creek basin was not intensively occupied by sedentary Caddoan horticulturists with a complex settlement system. It is likely that the Caddoan residents of the Camp Maxey area were a part of a complex and socially ranked society whose public monuments and elite individuals lived along the Red River at mound sites such as Arthur City (41LR35), a few miles east of where Sanders Creek enters the Red River. Other important Early and Middle Caddoan mound centers are 6–10 miles east of Camp Maxey along Big Pine Creek, including 41LR3, Roy Young (41LR36), and Reed (41LR37) (Perttula 1993: Figure 2.5.6).

Chapter 12: Summary and Recommendations

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The Center for Archaeological Research (CAR) of The University of Texas at San Antonio, completed a pedestrian survey, intensive shovel testing, and backhoe trenching of approximately 5,000 acres at Camp Maxey, Lamar County, Texas, for the Adjutant General's Department and the Texas Army National Guard in January 2000. As a result of the archaeological investigations, 98 previously unrecorded archaeological sites (41LR181–280) have been identified in the project area. A previous survey of about 1,000 acres conducted by CAR (Nickels et al. 1998) in the southwest quadrant of the facility identified and documented 30 archaeological sites (41LR149–179). CAR conducted additional shovel testing at one of these sites, 41LR168. Finally, previous archaeological surveys conducted by James Corbin of Stephen F. Austin College in Nacagdoches and the Cultural Resources Management Staff at the TXARNG from Austin, documented an additional eight sites in the facility (41LR137–139, 41LR145–148; and 41LR170). CAR staff conducted additional archaeological work in the form of shovel tests and/or backhoe trenching at five of these previously recorded sites: 41LR137, 41LR148, 41LR170, 41LR172, and 41LR173. Overall then, a total of 136 archaeological sites have been identified and documented within the bounds of the Camp Maxey training facility. Figure 8-1 shows all of the known archaeological sites documented on the Camp Maxey facility.

The GIS database shows that the total Camp Maxey property includes just over 6,600 acres. Of that total, 983 acres had been previously surveyed, including 878 acres in the southwestern corner of the property surveyed by CAR (Nickels et al. 1998). A total of 4,682 acres were intensively surveyed during this project. Approximately 942 acres, distributed in eight different sections across the property, were considered highly disturbed. These areas were generally not surveyed during this project.

During the survey and site recording phases of the current project, 2,902 shovel tests were excavated. Out of this total, 2,876 (99.1 percent) were mapped and are in an ArcView GIS database. For 26 shovel tests, we lack locations, probably as a result of either a failure to record the data in the field, or problems with data management in the lab. Of the 2,876 shovel tests with GIS locations, 1,448 (50.3 percent) were excavated within site boundaries.

A total of 432 acres are contained within the site boundaries of the 100 newly discovered or expanded sites. This acreage is approximately 9 percent of the 4,682 intensely surveyed acres, and 6.5 percent of the total facility.

Of the 98 archaeological sites documented during the present survey, and the three additional sites where extensive work has been done by CAR (41LR137, 41LR168, and 41LR170), 91 contain materials of prehistoric age. The temporal affiliation of the prehistoric components could be determined and/or approximated for only 22 of these sites. Table 12-1 presents the temporal affiliation of these sites. Eight sites contain multiple components ranging primarily between Late Archaic to Middle Caddoan (A.D. 1100–1300) in age. However, one of the multicomponent sites (41LR170), contains materials that range from late Paleoindian to Early Caddoan. Three sites appear to be single component Late Archaic sites, while five may represent single component Woodland sites, and single component Early Caddoan materials may be found at four sites.

Nineteen sites have both prehistoric and historic components and ten additional sites contain only historic remains. In general, the historic components range from the later part of the nineteenth through the first half of the twentieth century, clustering in the first quarter of the century. Sites 41LR210, 41LR218, and 41LR173 contain cultural materials ranging from the latter part

Table 12-1. List of Sites with Known/Probable Temporal Affiliations from Camp Maxey

Permanent Site No.	Field Site No.	Temporal Affiliation
41LR186	FS 6	Early Caddo; ca. A.D. 900-1100
41LR187	FS 7	possible Archaic/Woodland; main comp. Middle Caddo, ca. A.D. 1100-1300
41LR190	FS 10	Late Archaic and Woodland
41LR204	FS 24	probable Woodland
41LR208	FS 28	Late Archaic
41LR212	FS 35	probable Woodland
41LR213	FS 37	Woodland period
41LR214	FS 38	Woodland period
41LR222	FS 46	probable Early Caddoan
41LR224	FS 48	Late Archaic
41LR225	FS 49	Late Archaic-Woodland, Early Caddoan
41LR226	FS 50	probable Early-Middle Caddoan
41LR233	FS 57	probable Early-Middle Caddoan
41LR238	FS 62	probable Late Archaic
41LR244	FS 68	probable Early-Middle Caddoan
41LR245	FS 69	probable Middle-Late Archaic
41LR254	FS 78	Late Archaic
41LR259	FS 83	probable Early Caddoan
41LR260	FS 84	probable Early Caddoan
41LR268	FS 92	probable Woodland
41LR137		Late Caddoan, ca. A.D. 1300-1450
41LR170		Late Paleoindian, Early Caddoan

of the nineteenth century to the early part of twentieth century. Sites 41LR148, 41LR209, 41LR239, 41LR241, and site 41LR171 may have been used somewhat later in the twentieth century, but prior to 1950.

The discussion of our assessments of Camp Maxey sites to the National Register of Historic Places (NRHP) and as State Archeological Landmarks (SAL) includes not only the 98 sites documented during this survey but also the 30 sites previously documented by CAR (i.e., Nickels et al. 1998), and the five sites where CAR has conducted additional work. It was felt that a review of the previous site assessments was warranted given the larger sample size of sites and the more complete knowledge of the general characteristics of Camp Maxey sites. In deriving eligibility assessments the following criteria were considered: 1) overall site integrity; 2) overall site size and the number of shovel tests excavated by square meter; 3) the percentage of positive shovel tests; 4) overall artifact densities; 5) relative artifact type richness; and 6) presence of datable materials.

Three categories of site integrity were employed: good, fair, and poor. To maintain consistency with the previous work conducted by CAR at Camp Maxey, these criteria were the same as those employed by the previous project (Nickels et al. 1998). Sites judged to have good integrity appear to be largely intact, with limited disturbance from bioturbation, erosion, and military activities, and appear to contain intact horizontal and vertical artifact patterning. Sites with fair integrity appear to retain segments with intact deposits, while other parts manifest several kinds of disturbances of the types mentioned above. Very limited areas of intact deposits, and ample evidence of heavy disturbances and erosion characterize sites with poor integrity.

With regard to overall site integrity, it was felt that any evidence of compromised integrity of archaeological remains (e.g., obvious mixture of deposits due to earth moving activities, etc.) would automatically yield a “not eligible” recommendation for the component in question. Using this criteria resulted in the

ranking of all historic components as not eligible to the NRHP or as not warranted for listing as SALs given that all homes have been either removed and/or the sites leveled once the facility was established.

To gauge the variation in site size across the project area, and to obtain a more accurate measure of the levels of effort expended on each site, site sizes were obtained using the ArcView plots of each site. Next, the density of shovel tests per square meter was calculated by dividing the site area by the total number of STs (Table 12-2). Among the 101 sites with extensive work (98 plus three), the density of STs ranges from 1:251 m^2 to 1:10,001 m^2. A total of 16 sites have one ST dug for every 500 m^2 or less. Twenty-seven sites have one ST dug for 501–1,000 m^2. Twenty-four sites have one ST dug for 1001–1,500 m^2. Thirty-four sites have one ST dug for 1,501–10,000 m^2. The low ST densities are in part the product of large site sizes that often delimited the entire landform upon which a site was located rather than just the concentration of positive STs excavated. This strategy was followed to provide for a protective buffer around sites.

The percentage of positive STs out of the total excavated on each site during the current project is presented in Table 12-2. The percentage ranges from seventeen percent (41LR218 and 41LR206) to 100 percent (41LR239 and 41LR279), however, in each of these cases the total number of STs excavated was relatively low (between two and six STs). The percentage of positive STs on sites with larger numbers of STs (e.g., six or more) ranges from 24-100 percent.

The relative density of prehistoric artifacts per shovel test was calculated by dividing the total number of prehistoric artifacts by the total number of positive shovel tests with prehistoric artifacts. Both chipped lithics, as well as fire-cracked rocks and heat spalls are included in this artifact total. The artifact densities per prehistoric component are presented in column six of Table 12-2. They range from a low of 1.0 per positive shovel test to a high of 20.30 (41LR184). Although exceptions exist, in general, the prehistoric components recommended for further work tend to have higher artifact densities than those considered not eligible.

The measure of artifact type richness consists of a count of the major prehistoric artifact types represented within the collection of artifacts from each site. Major artifact types consist of unmodified debitage, arrow points, dart points, bone, charcoal, choppers/wedges, cores/core fragments, perforators, edge-modified flakes, end scrapers, expedient scrapers, FCR, heat spalls, hammerstones, manos, metates, nut shells, and native ceramics. The full range of types was considered since it would provide a more accurate representation of the potential of the deposits to yield information on a variety of research issues including temporal affiliation, technological organization, subsistence strategies, etc. The artifact richness of each site is presented in column eight of Table 12-2. Considering only the prehistoric components in the table, the artifact richness of the components ranges from one (41LR264) to 12 (41LR187). With two exceptions (41LR207 and 41LR238), all recommended components have an artifact richness of three or more. Twenty-two of the prehistoric components recommended for further work have four or more artifact types present in the relatively small collection obtained during survey.

Datable materials, in the form of pieces of burned nut shells and other plant remains, have been recovered at eight sites with prehistoric components. They include: 41LR194, 41LR197, 41LR200, 41LR202, 41LR203, 41LR208, 41LR223, and 41LR137. Only two of these, 41LR197 and 41LR223, are not recommended for further work primarily because of the low prehistoric artifact densities (3 and 2, respectively) and low percentage of positive shovel tests with prehistoric materials (32 and 57 percent, respectively).

Based on the survey work conducted by CAR we feel that the 122 components investigated during the present survey, including revisited sites, and the additional 30 previously recorded by Nickels et al. (1998) can be divided into two major groups: not eligible and unknown eligibility.

A total of 114 historic and prehistoric components are recommended as not eligible to the NRHP or for designation as SALs (Table 12-2). These components, in our opinion, have received sufficient work to determine that they do not meet eligibility criteria (i.e.,

integrity of components, and/or potential contribution to regional research issues). All sites and/or components that did not have good to at least fair demonstrable integrity due to historic, military, or modern disturbances or extensive bioturbation, were considered ineligible to the NRHP or not warranted for nomination as SALs. Sites and/or components that were judged to have been sufficiently investigated but yielded low artifact returns in questionable association (e.g., fair to poor integrity), lacked temporal diagnostics, and yielded no datable materials were also considered as ineligible to the NRHP or not warranted for nomination as SALs. It is our opinion that these sites/components do not have any potential to contribute to a better understanding of the prehistory of northeast Texas, or to add new and important information that would address pertinent research issues developed in the Regional Preservation Plan for Archeological Resources in the Northeast Texas Archeological Region (Kenmotsu and Perttula 1993:35–187). Therefore, they do not merit or warrant further work. We recommend that the Texas Army National Guard be allowed to proceed with its proposed use of these areas for military-training purposes

A careful review of the list of ineligible sites also reveals that some of the sites documented during the Nickels et al. (1998) survey and previously identified as having unknown eligibility (Nickels et al. 1998:Table 12-1) have been now declared ineligible. This recommended change in designation comes from the fact that in light of the overall sample of cultural properties documented at Camp Maxey, these sites/components have minimal potential to yield research results that may make a significant contribution to regional prehistoric knowledge. That is, future work should concentrate on those sites with unknown eligibility that have a better chance of yielding significant research results.

A total of 38 prehistoric components are recommended as having an unknown eligible status to the NRHP or for designation as SALs (Table 12-2). All sites and/or components that had good to at least fair integrity, yielded temporal diagnostics (i.e., projectile points and/or ceramics) or other datable materials, and a variety of artifact types were identified as having unknown eligibility but worthy of further work. It is our opinion that because of the relatively limited amount of archaeological work many sites received during the pedestrian survey and shovel testing, none of the sites and/or components of unknown eligibility (see Table 12-2) should presently be considered for formal designation as SALs under the Antiquities Code of Texas or warrant inclusion in the NRHP. Only further investigations will determine if they meet any of the criteria for State Archeological Landmark status specified in Section 26.8 of the Texas Historical Commission's Rules of Practice and Procedure for the Antiquities Code of Texas, or the criteria specified in 36 CFR Part 60.4 for the National Register of Historic Places.

Nevertheless, the prehistoric sites/components with unknown eligibility status possess fair to good contextual integrity and appear to have the research potential to contribute important archaeological information relevant to addressing many of the study units (SU) posed in the Historic Contexts "Hunter-Gatherer Mobility in Northeast Texas, 10,000–200 B.C." (Fields and Tomka 1993), "The Emergence of Sedentism in Northeast Texas, ca. 500 B.C. to A.D. 1000" (Perttula et al. 1993), and "The Development of Agriculture in Northeast Texas before A.D. 1600" (Perttula 1993).

In particular, archaeological data (including lithic tools and debris of local and non-local origin, and site location and intra-site information) available from the possible Late Archaic/Woodland period components at 41LR187, 41LR190, 41LR204, and 41LR168 have the potential to contribute toward a better understanding of both Archaic period Settlement Systems and Site Planning (SU 2), Trade and Exchange (SU 4), and Technological Change/Material Culture (SU 5) (Fields and Tomka 1993:93–94), and Woodland period study units: Settlement Systems (SU 2), Intra- and Inter-regional Exchange and Interaction (SU 7), Material Culture Characterizations (SU 8), and Technological Change (SU 9) (Perttula et al. 1993:113–118). In turn, the Early-Middle Caddoan and Late-Caddoan period components at 41LR186, 41LR187, 41LR222, 41LR225, 41LR226, 41LR233, 41LR238, 41LR244, 41LR245, 41LR259, 41LR260, 41LR137, and 41LR170 may contain comparable archaeological data sets to provide new and important information on Chronology and Typology (SU 1),

Settlement Systems (SU 2), Social and Political Complexity (SU 4), Local and Extra-local Trade and Exchange (SU 7), Technological Change (SU 8), and Material Culture (SU 9) (Perttula 1993:137–140). Of particular significance with respect to the Caddoan period components at Camp Maxey is the presence of prehistoric Caddoan pottery in good contexts at several sites, which should permit research focusing on "the hierarchical arrangement of community mound centers, villages, hamlets, and farmsteads in the Red River basin prior to A.D. 1400" (Perttula 1993:138).

The Texas Army National Guard should avoid the prehistoric sites of unknown eligibility (see Table 12-2) during any proposed military training and/or related development or ground-disturbing activities. If these sites cannot be avoided during such activities, then a program of archaeological test excavations is recommended as the next step in further and formally evaluating the research significance of these sites under both the National Historic Preservation Act and the Antiquities Code of Texas permit process. The boundaries of these sites should be well marked by Texas Army National Guard surveyors in consultation with a professional archaeologist familiar with the sites to insure that accurate boundaries are established for these areas to be avoided prior to any future military-training activities.

Table 12-2. Prehistoric and Historic Components Identified in Sites Documented at Camp Maxey

Permanent Site Number	Archaeological Component	Component Integrity	Perc. of Positive STs	Perc. of pos. STs w/ preh. materials	Prehist. Artifact Density	Square meters/ ST	Artifact Type Richness	Datable Materials	Eligibility Status	Recommendation
41LR181	Historic	Poor							Not eligible	No further work
41LR181	Unknown Prehistoric	Poor	50	38	2.33	765	3		Not eligible	No further work
41LR182	Unknown Prehistoric	Fair	33	33	2.00	606	2		Not eligible	No further work
41LR183	Unknown Prehistoric	Fair	47	47	1.50	572	4		Not eligible	No further work
41LR184	Unknown Prehistoric	Good	70	70	20.30	396	6		Unknown	Avoidance or Test Excavations
41LR185	Unknown Prehistoric	Fair	19	19	1.00	631	2		Not eligible	No further work
41LR186	Historic	Fair							Not eligible	No further work
41LR186	Early Caddoan	Good	87	87	6.54	1658	9		Unknown	Avoidance or Test Excavations
41LR187	Historic	Poor							Not eligible	No further work
41LR187	Pos. Archaic/Woodland/M. Caddoan	Good	100	94	11.60	1520	12		Unknown	Avoidance or Test Excavations
41LR188	Unknown Prehistoric	Good	44	44	2.43	1727	3		Not eligible	No further work
41LR189	Unknown Prehistoric	Fair	43	43	3.67	2696	4		Not eligible	No further work
41LR190	Historic	Fair							Not eligible	No further work
41LR190	Late Archaic/Woodland	Fair	80	70	5.00	1136	4		Unknown	Avoidance or Test Excavations
41LR191	Historic	Fair							Not eligible	No further work
41LR191	Unknown Prehistoric	Fair	47	35	5.17	773	3		Not eligible	No further work
41LR192	Unknown Prehistoric	Fair	29	29	3.33	638	3		Not eligible	No further work
41LR193	Historic	Fair							Not eligible	No further work
41LR193	Unknown Prehistoric	Fair	38	38	2.00	962	2		Not eligible	No further work
41LR194	Unknown Prehistoric	Fair	62	62	6.12	393	4	Present	Unknown	Avoidance or Test Excavations
41LR195	Unknown Prehistoric	Fair	45	36	2.00	369	2		Not eligible	No further work
41LR196	Unknown Prehistoric	Good	72	72	5.92	1164	3		Unknown	Avoidance or Test Excavations
41LR197	Historic	Fair							Not eligible	No further work
41LR197	Unknown Prehistoric	Fair	75	75	2.16	838	4	Present	Not eligible	No further work
41LR198	Historic	Poor				0			Not eligible	No further work
41LR199	Historic	Poor				0			Not eligible	No further work
41LR200	Unknown Prehistoric	Fair	56	56	3.80	778	3	Present	Unknown	Avoidance or Test Excavations
41LR201	Unknown Prehistoric	Fair	39	28	3.00	1462	3		Not eligible	No further work
41LR202	Historic	Fair							Not eligible	No further work
41LR202	Unknown Prehistoric	Good	38	35	4.27	1977	5	Present	Unknown	Avoidance or Test Excavations
41LR203	Unknown Prehistoric	Fair	38	38	1.20	742	4	Present	Unknown	Avoidance or Test Excavations
41LR204	Prob. Woodland	Good	50	50	3.35	458	7		Unknown	Avoidance or Test Excavations
41LR205	Unknown Prehistoric	Fair	28	28	1.60	684	2		Not eligible	No further work

Table 12-2. continued…

Permanent Site Number	Archaeological Component	Component Integrity	Perc. of Positive STs	Perc. of pos. STs w/ preh. materials	Prehist. Artifact Density	Square meters/ ST	Artifact Type Richness	Datable Materials	Eligibility Status	Recommendation
41LR206	Unknown Prehistoric	Poor	17	17	1.50	315	3		Not eligible	No further work
41LR207	Unknown Prehistoric	Good	41	41	2.57	484	2		Unknown	Avoidance or Test Excavations
41LR208	Late Archaic	Fair-Good	83	83	8.81	393	6	Present	Unknown	Avoidance or Test Excavations
41LR209	Historic	Poor	67	22	1.00	863			Not eligible	No further work
41LR210	Historic	Poor	60	0		2232			Not eligible	No further work
41LR211	Unknown Prehistoric	Fair	26	26	1.33	461	3		Not eligible	No further work
41LR212	Prob. Woodland	Fair	25	25	3.66	251	4		Unknown	Avoidance or Test Excavations
41LR213	Woodland	Fair	24	24	1.50	612	3		Unknown	Avoidance or Test Excavations
41LR214	Woodland	Fair	42	42	2.92	1152	5		Unknown	Avoidance or Test Excavations
41LR215	Unknown Prehistoric	Fair	24	16	1.83	1333	4		Not eligible	No further work
41LR216	Unknown Prehistoric	Good	29	24	1.40	786	3		Not eligible	No further work
41LR217	Unknown Prehistoric	Fair	23	16	0.70	1634	2		Not eligible	No further work
41LR218	Historic	Poor	17	17	1.00	1885			Not eligible	No further work
41LR219	Historic	Poor	20	0		1129			Not eligible	No further work
41LR220	Unknown Prehistoric	Fair	58	58	1.91	1245	2		Not eligible	No further work
41LR221	Unknown Prehistoric	Fair	23	23	1.33	834	2		Not eligible	No further work
41LR222	Prob. Early Caddoan	Fair	39	33	2.28	1223	3		Unknown	Avoidance or Test Excavations
41LR223	Unknown Prehistoric	Good	57	57	2.25	2510	5	Present	Not eligible	No further work
41LR224	Late Archaic	Fair	38	38	1.80	477	3		Not eligible	No further work
41LR225	Historic	Fair							Not eligible	No further work
41LR225	L Archaic/Woodland/E Caddoan	Fair	54	46	4.54	1271	7		Unknown	Avoidance or Test Excavations
41LR226	Prob. Early-Middle Caddoan	Fair	22	22	3.00	1418	4		Unknown	Avoidance or Test Excavations
41LR227	Unknown Prehistoric	Good	56	50	3.13	1083	3		Not eligible	No further work
41LR228	Unknown Prehistoric	Fair	40	33	2.40	734	3		Not eligible	No further work
41LR229	Unknown Prehistoric	Fair	18	18	1.00	772	2		Not eligible	No further work
41LR230	Unknown Prehistoric	Fair	47	47	2.00	480	3		Not eligible	No further work
41LR231	Unknown Prehistoric	Fair	40	40	4.30	677	2		Not eligible	No further work
41LR232	Unknown Prehistoric	Fair	58	58	1.57	476	4		Not eligible	No further work
41LR233	Prob. Early-Middle Caddoan	Fair	42	42	1.40	634	3		Unknown	Avoidance or Test Excavations
41LR234	Unknown Prehistoric	Fair	38	38	1.33	225	2		Not eligible	No further work
41LR236	Unknown Prehistoric	Poor	20	20	1.00	564	2		Not eligible	No further work
41LR237	Unknown Prehistoric	Good	21	21	1.33	590	2		Not eligible	No further work
41LR238	Prob. Late Archaic	Fair	19	11	1.00	873	2		Unknown	Avoidance or Test Excavations

Table 12-2. continued…

Permanent Site Number	Archaeological Component	Component Integrity	Perc. of Positive STs	Perc. of pos. STs w/ preh. materials	Prehist. Artifact Density	Square meters/ ST	Artifact Type Richness	Datable Materials	Eligibility Status	Recommendation
41LR239	Historic	Fair	100	0		1670			Not eligible	No further work
41LR240	Historic	Poor							Not eligible	No further work
41LR240	Unknown Prehistoric	Poor	33	28	2.40	1031	3		Not eligible	No further work
41LR241	Historic	Poor	55	18	1.50	709			Not eligible	No further work
41LR242	Unknown Prehistoric	Poor	38	38	5.33	312	3		Not eligible	No further work
41LR243	Unknown Prehistoric	Poor	50	50	3.30	992	3		Not eligible	No further work
41LR244	Prob. Early-Middle Caddoan	Fair	50	50	2.00	765	3		Unknown	Avoidance or Test Excavations
41LR245	Prob. Early-Middle Caddoan	Fair	53	53	2.44	1072	4		Not eligible	No further work
41LR246	Unknown Prehistoric	Poor	86	71	3.40	454	3		Not eligible	No further work
41LR247	Unknown Prehistoric	Fair	47	47	1.33	942	3		Not eligible	No further work
41LR248	Historic	Fair							Not eligible	No further work
41LR248	Unknown Prehistoric	Fair	31	31	3.75	1075	3		Not eligible	No further work
41LR249	Unknown Prehistoric	Fair	33	33	1.33	456	2		Not eligible	No further work
41LR250	Unknown Prehistoric	Fair	44	31	10.20	735	3		Not eligible	No further work
41LR252	Unknown Prehistoric	Good	50	50	4.25	1253	3		Not eligible	No further work
41LR253	Unknown Prehistoric	Fair	46	38	2.25	2597	3		Not eligible	No further work
41LR254	Historic	Fair							Not eligible	No further work
41LR254	Late Archaic	Fair	67	53	4.25	2635	5		Unknown	Avoidance or Test Excavations
41LR255	Unknown Prehistoric	Fair	60	53	3.13	1356	3		Not eligible	No further work
41LR256	Unknown Prehistoric	Poor	31	31	2.33	1362	2		Not eligible	No further work
41LR257	Unknown Prehistoric	Fair	67	56	4.60	1153	2		Not eligible	No further work
41LR258	Unknown Prehistoric	Fair	70	70	2.90	1697	4		Unknown	Avoidance or Test Excavations
41LR259	Prob. Early Caddoan	Poor-Fair	64	64	4.00	1160	4		Unknown	Avoidance or Test Excavations
41LR260	Prob. Early Caddoan	Good	73	73	8.36	2719	6		Unknown	Avoidance or Test Excavations
41LR261	Unknown Prehistoric	Good	71	57	4.25	3568	5		Not eligible	No further work
41LR262	Unknown Prehistoric	Good	75	75	10.66	3977	3		Not eligible	No further work
41LR263	Historic	Fair							Not eligible	No further work
41LR263	Unknown Prehistoric	Fair	60	60	3.33	1717	3		Not eligible	No further work
41LR264	Historic	Fair							Not eligible	No further work
41LR264	Unknown Prehistoric	Fair	83	33	1.50	1374	1		Not eligible	No further work
41LR265	Historic	Poor							Not eligible	No further work
41LR265	Unknown Prehistoric	Poor	71	71	2.20	3339	3		Not eligible	No further work
41LR266	Unknown Prehistoric	Poor-Fair	40	40	2.17	2585	5		Unknown	Avoidance or Test Excavations

Table 12-2. continued…

Permanent Site Number	Archaeological Component	Component Integrity	Perc. of Positive STs	Perc. of pos. STs w/ preh. materials	Prehist. Artifact Density	Square meters/ ST	Artifact Type Richness	Datable Materials	Eligibility Status	Recommendation
41LR267	Unknown Prehistoric	Fair	56	56	2.00	2335	3		Not eligible	No further work
41LR268	Prob. Woodland	Fair	80	80	2.50	1346	5		Unknown	Avoidance or Test Excavations
41LR269	Unknown Prehistoric	Poor	67	67	2.00	2494	2		Not eligible	No further work
41LR270	Historic	Fair	50	0		3212			Not eligible	No further work
41LR271	Unknown Prehistoric	Fair	47	33	1.80	2109	4		Not eligible	No further work
41LR272	Historic	Fair		0		0			Not eligible	No further work
41LR273	Historic	Poor							Not eligible	No further work
41LR273	Unknown Prehistoric	Poor	30	20	1.50	2526	1		Not eligible	No further work
41LR274	Unknown Prehistoric	Fair	50	50	1.50	3223	1		Not eligible	No further work
41LR275	Unknown Prehistoric	Poor	60	60	1.00	3803	2		Not eligible	No further work
41LR276	Unknown Prehistoric	Poor	13	13	1.00	1407	2		Not eligible	No further work
41LR277	Unknown Prehistoric	Fair	46	46	2.67	1240	2		Not eligible	No further work
41LR278	Unknown Prehistoric	Good	27	27	1.75	2429	2		Not eligible	No further work
41LR279	Historic	Fair							Not eligible	No further work
41LR279	Unknown Prehistoric	Fair	100	100	5.33	10001	2		Not eligible	No further work
41LR280	Unknown Prehistoric	Fair	67	67	1.00	6306	2		Not eligible	No further work
Revisited Sites:										
41LR137	Late Caddoan	Fair-Good	71	71	3.73	1594	6	Present	Unknown	Avoidance or Test Excavations
41LR148	Historic	Poor	67	0		4075			Not eligible	No further work
41LR168	Unknown Prehistoric	Fair	20	18	1.43	1833	4		Unknown	Avoidance or Test Excavations
41LR170	Historic	Fair							Not eligible	No further work
41LR170	Late Paleoindian/Early Caddoan		53	45	5.57	1372	9		Unknown	Avoidance or Test Excavations
41LR171	Historic	Poor							Not eligible	No further work
41LR173	Historic	Poor							Not eligible	No further work
Nickels et al. 1998									Not eligible	No further work
41LR149	Archaic/Woodland	Fair	28	0	1.80				Not eligible	No further work
41LR150	Early-Middle Caddoan	Poor	21	0	1.00				Not eligible	No further work
41LR151	Unknown Prehistoric	Poor	9	0	1.00				Not eligible	No further work
41LR152	Middle Caddoan	Poor	41	0	2.00				Unknown	Avoidance or Test Excavations
41LR153	Archaic?/Early Caddoan?	Fair	31	0	1.75				Unknown	Avoidance or Test Excavations
41LR154	Unknown Prehistoric	Good	13	0	1.00				Not eligible	No further work

Table 12-2. continued…

Permanent Site Number	Archaeological Component	Component Integrity	Perc. of Positive STs	Perc. of pos. STs w/ preh. materials	Prehist. Artifact Density	Square meters/ ST	Artifact Type Richness	Datable Materials	Eligibility Status	Recommendation
41LR154	Historic	Fair			N/A				Not eligible	No further work
41LR155	Late Caddoan	Poor	50	0	1.60				Unknown	Avoidance or Test Excavations
41LR156	Unknown Prehistoric	Fair	21	0	2.33				Unknown	Avoidance or Test Excavations
41LR157	Early-Middle Caddoan	Fair	36	0	6.25				Unknown	Avoidance or Test Excavations
41LR158	Early-Middle Caddoan?	Fair	33	0	1.75				Unknown	Avoidance or Test Excavations
41LR159	Unknown Prehistoric	Fair	45	0	2.75				Not eligible	No further work
41LR160	Unknown Prehistoric	Fair	27	0	2.14				Unknown	Avoidance or Test Excavations
41LR161	Unknown Prehistoric	Fair	71	0	1.40				Not eligible	No further work
41LR161	Historic	Fair			2.00				Not eligible	No further work
41LR162	Unknown Prehistoric	Fair	40	0	3.75				Not eligible	No further work
41LR163	Unknown Prehistoric	Fair	30	0	3.33				Unknown	Avoidance or Test Excavations
41LR164A&B	Late Archaic?	Fair	34	0	3.36				Not eligible	No further work
41LR165	Archaic?	Fair	33	0	1.33				Not eligible	No further work
41LR166	Historic	Fair			N/A				Not eligible	No further work
41LR167	Historic	Fair			N/A				Not eligible	No further work
41LR168	Archaic/Woodland	Fair	20	0					Not eligible	No further work
41LR169	Archaic/Woodland	Poor	0	0	N/A				Not eligible	No further work
41LR172	Historic	Poor			N/A				Not eligible	No further work
41LR174	Unknown Prehistoric	Poor	15	0	1.00				Not eligible	No further work
41LR175	Unknown Prehistoric	Good	20		4.00				Not eligible	No further work
41LR176	Unknown Prehistoric	Poor	0	0	N/A				Not eligible	No further work
41LR177	Unknown Prehistoric	Fair	33	0	1.30				Not eligible	No further work
41LR178	Unknown Prehistoric	Fair	25	0	1.00				Not eligible	No further work
41LR179	Unknown Prehistoric	Fair	11	0	2.00				Not eligible	No further work

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Appendix A

Camp Maxey II

Geomorphological Backhoe Trench Profile Descriptions

BHT-1; area 8; field site 34; upland; noncalcareous throughout.

A1 0-6 cm; **Pre-Holocene**; dark brown (10YR 3/3) loamy fine sand; strong medium granular; very friable; gradual smooth.

A2 6-17 cm; dark yellowish brown (10YR 4/4) loamy fine sand; moderate medium subangular blocky; very friable; clear smooth.

Bw 17-27 cm; brown (7.5YR 5/4) loamy fine sand; moderate medium subangular blocky; very friable; gradual smooth.

E1 27-48 cm; brown (7.5YR 5/4) loamy fine sand; weak medium subangular blocky; very friable; few medium iron manganese concretions; gradual smooth.

E2 48-89 cm; strong brown (7.5YR 5/6) loamy fine sand; moderate medium subangular blocky; very friable; few medium iron manganese concretions; clear smooth.

EB 89-103 cm; strong brown (7.5YR 4/6) fine sandy loam; weak medium angular blocky; friable; abrupt smooth.

Bt 103-124 cm; strong brown (7.5YR 5/6) sandy clay loam; weak coarse prismatic; very firm; few medium to very coarse iron manganese concretions; 12% red (2.5YR 4/8) soft iron masses; common distinct clay films; clear smooth.

Btg1 124-160 cm; light gray (2.5YR 7/1) sandy clay loam; weak coarse prismatic; very firm; 30% red (2.5YR 4/8) soft iron masses and plinthite; gradual smooth.

Btg2 160-200 cm; light gray (2.5Y 7/1) sandy clay loam; weak coarse prismatic; very firm; 20% red (2.5YR 4/8) soft iron masses and plinthite.

BHT-2a; area 2; field site 22; edge of bog; noncalcareous throughout.

A1 0-13 cm; **Holocene**; dark grayish brown (10YR 4/2) loamy fine sand; weak fine subangular blocky; very friable; 2% strong brown (7.5YR 5/8) iron pore linings; gradual smooth.

A2 13-34 cm; brown (10YR 5/3) loamy fine sand; weak medium subangular blocky; very friable; 2% strong brown (7.5YR 5/8) iron pore linings; gradual smooth.

AB 34-43 cm; brown (10YR 5/3) and very dark gray (10YR 3/1) loamy fine sand; weak medium subangular blocky; very friable; abrupt smooth.

Ab 43-72 cm; very dark brown (10YR 3/1) fine sandy loam; moderate medium subangular blocky; friable; gradual smooth.

Eb 72-89 cm; grayish brown (10YR 5/2) fine sandy loam; weak medium subangular blocky; very friable; abrupt smooth.

Btb 89-120 cm; **Pre-Holocene**; very dark gray (10YR 3/1) sandy clay loam; moderate medium prismatic; very firm; 14% yellowish red (5YR 4/6) soft iron masses and iron pore linings; gradual smooth.

Btgb 120-159 cm; light gray (2.5Y 7/2) sandy clay loam; weak coarse prismatic; very firm; 25% red (2.5YR 4/8) soft iron masses and plinthite; gradual smooth.

BCb 159-200 cm; light gray (2.5Y 7/2) sandy clay loam; weak coarse prismatic; very firm; 10% red (2.5YR 4/8) soft iron masses and plinthite.

BHT-2b; area 2; field site 22; edge of bog; noncalcareous throughout.

O 0-8 cm; **Holocene**; fibrous root mass from sedge and some shrubs; 2% dark brown (10YR 3/3) uncoated sand grains; abrupt wavy.

A 8-31 cm; pale brown (10YR 6/3) and grayish brown (10YR 5/2) loamy fine sand; weak medium subangular blocky; very friable; 2% strong brown (7.5YR 5/6) iron pre linings; clear wavy.

AB 31-38 cm; grayish brown (10YR 5/2) and pale brown (10YR 6/3) fine sandy loam; moderate medium subangular blocky; friable; 2% strong brown (7.5YR 4/6) iron pore linings; abrupt wavy.

Ab 38-51 cm; **Pre-Holocene**; grayish brown (10YR 5/2) and dark grayish brown (10YR 4/2) sandy clay loam; moderate medium subangular blocky; firm; 2% pale brown (10YR 6/3) biocasts; abrupt smooth.

BAb 51-65 cm; dark gray (10YR 4/1) sandy clay; weak medium prismatic; very firm; 6% strong brown (7.5YR 4/6) pore linings; clear smooth.

Btg1b 65-139 cm; dark gray (10YR 4/1) sandy clay; weak medium prismatic; very firm; 16% strong brown (7.5YR 4/6) iron pore linings and iron depletions; gradual smooth.

Btg2b 139-150 cm; light gray (2.5Y 7/2) sandy clay; weak coarse prismatic; very firm; 10% strong brown (7.5YR 5/8) soft iron masses; many distinct clay films.

BHT-3; area 5; field site 22; terrace on west side of bog; noncalcareous throughout.

A 0-7 cm; **Pre-Holocene**; dark grayish brown (10YR 4/2) loamy fine sand; weak medium subangular blocky; very friable; gradual smooth.

Bw 7-22 cm; brown (10YR 5/3) loamy fine sand; weak medium subangular blocky; very friable; gradual smooth.

E 22-46 cm; pale brown (10YR 6/3) loamy fine sand; moderate medium subangular blocky; very friable; abrupt smooth.

Bt1 46-96 cm; strong brown (7.5YR 5/6) sandy clay; weak coarse prismatic; very firm; 2% yellowish red (5YR 4/6) soft iron masses; common faint clay films; clear smooth.

Bt2 96-116 cm; strong brown (7.5YR 5/6) sandy clay loam; weak coarse prismatic; very hard; 4% reddish brown (2.5YR 4/4) soft iron masses and plinthite; clear smooth.

Bt3 116-150 cm; strong brown (7.5YR 5/6) sandy clay loam; weak coarse prismatic; very hard; 12% reddish brown (2.5YR 4/4) soft iron masses and plinthite.

BHT-4; area 5; field site 6; terrace; noncalcareous throughout.

A 0-7 cm; **Pre-Holocene**; dark brown (10YR 3/3) loamy fine sand; weak medium subangular blocky; very friable; gradual smooth.

Bw 7-27 cm; brown (10YR 5/3) loamy fine sand; moderate medium subangular blocky; very friable; gradual smooth.

E1 27-73 cm; yellowish brown (10YR 5/4) loamy fine sand; moderate medium subangular blocky; very friable; gradual smooth.

E2 73-127 cm; light yellowish brown (10YR 6/4) loamy fine sand; moderate medium subangular blocky; very friable; clear smooth.

Bt1 127-148 cm; light gray (2.5Y 7/2) sandy clay loam; weak coarse prismatic; very firm; 20% red (2.5YR 4/8) soft iron masses and plinthite; abrupt smooth.

Bt2 148-200 cm; light brown (7.5YR 6/3) sandy clay loam; weak coarse prismatic; very firm; 10% strong brown (7.5YR 4/6) soft iron masses; 10% red (2.5YR 4/8) plinthite; 15% white (2.5Y 8/1) skeletons.

BHT-5; area 5; field site 6; valley fill; noncalcareous throughout.

A 0-8 cm; **Pre-Holocene**; black (10YR 2/1) loamy fine sand; weak medium subangular blocky; very friable; clear smooth.

E 8-33 cm; brown (10YR 5/3) loamy fine sand; weak medium subangular blocky; very friable; abrupt smooth.

Bt 33-64 cm; strong brown (7.5YR 4/6) sandy clay; weak coarse prismatic; very firm; common faint clay films; gradual smooth.

Btg 64-90 cm; strong brown (7.5YR 4/6) sandy clay loam; weak coarse prismatic; very firm; 5% strong brown (7.5YR 5/8) soft iron masses; 7% light gray (2.5Y 7/2) iron depletions, few faint clay films.

BHT-6; area 5; field site 6; toeslope; noncalcareous throughout.

A 0-12 cm; **Holocene**; dark grayish brown (10YR 4/2) loamy fine sand; moderate medium subangular blocky; very friable; gradual smooth.

E1 12-46 cm; brown (10YR 5/3) loamy fine sand; weak medium subangular blocky; very friable; gradual smooth.

E2 46-62 cm; light yellowish brown (10YR 6/4) loamy fine sand; weak medium subangular blocky; very friable; abrupt smooth.

Bt1 62-97 cm; **Pre-Holocene**; yellowish brown (10YR 5/6) sandy clay loam; moderate medium prismatic; very firm; 5% yellowish red (5YR 4/6) soft iron masses; gradual smooth.

Bt2 97-130 cm; yellowish brown (10YR 5/6) sandy clay; weak coarse prismatic; very firm; 20% red (2.5YR 4/8) soft iron masses and plinthite.

BHT-7; area 5; east of field site 6; toeslope; noncalcareous throughout.

A 0-12 cm; **Holocene**; very dark gray (10YR 3/1) loamy fine sand; moderate fine subangular blocky; very friable; clear smooth.

AB 12-22 cm; brown (10YR 5/3) loamy fine sand; moderate fine to medium subangular blocky; very friable; gradual smooth.

E1 22-47 cm; light yellowish brown (10YR 6/4) loamy fine sand; moderate medium subangular blocky; very friable; gradual smooth.

E2 47-62 cm; very pale brown (10YR 7/4) loamy fine sand; moderate medium subangular blocky; very friable; abrupt smooth.

Bt 62-76 cm; **Pre-Holocene**; strong brown (7.5YR 5/8) sandy clay; moderate coarse prismatic parting to moderate coarse angular blocky; very firm; 2% light yellowish brown (10YR 6/4) iron depletions; common faint clay films; gradual smooth.

Btg 76-100 cm; brownish yellow (10YR 6/8) sandy clay; moderate coarse prismatic parting to moderate coarse angular blocky; very firm; 2% light gray (2.5Y 7/1) iron depletions; 30% yellowish red (5YR 5/8) soft iron masses and plinthite.

BHT-8; area 21; north of field site 79; flood terrace; noncalcareous throughout.

O 0-9 cm; **Holocene**; very dark grayish brown (10YR 3/2) fibrous root mass; clear smooth.

Bg1 9-28 cm; light yellowish brown (2.5Y 6/3) fine sandy loam; weak medium subangular blocky; friable; 2% strong brown (7.5YR 5/8) soft iron masses and iron pore linings; gradual smooth.

Bg2 28-37 cm; light brownish gray (2.5Y 6/1) fine sandy loam; weak coarse subangular blocky; friable; 2% strong brown (7.5YR 5/8) iron pore linings; 2% dark brown (7.5YR 3/4) iron manganese stains; abrupt smooth.

Btg1b 37-69 cm; **Pre-Holocene**; grayish brown (2.5Y 5/2) sandy clay; weak medium to coarse angular blocky; very firm; 15% strong brown (7.5YR 5/6) soft iron masses; 30% light gray (2.5Y 7/2) sand coats; common distinct clay films; gradual smooth.

Btg2b 69-130 cm; grayish brown (2.5Y 5/2) sandy clay; weak coarse angular blocky; very firm; 15% strong brown (7.5YR 5/8) soft iron masses; 25% light gray (2.5Y 7/2) iron and clay depletions; common distinct clay films; gradual smooth.

Btg3b 130-200 cm; grayish brown (2.5Y 5/2) sandy clay; weak coarse angular blocky; very firm; 30% strong brown (7.5YR 5/8) soft iron masses; 15% light gray (2.5Y 7/2) iron and clay depletions; common distinct clay films.

BHT-9a; area 17; east of field site 55; edge of bog; noncalcareous throughout.

O 0-5 cm; very dark grayish brown (10YR 3/2) partially decomposed root mass; clear smooth.

A 5-37 cm; **Pre-Holocene**; brown (10YR 5/3) loamy fine sand; weak medium to coarse subangular blocky; very friable; gradual smooth.

E1 37-105 cm; pale brown (10YR 6/3) loamy fine sand; weak medium to coarse subangular blocky; very friable; gradual smooth.

E2 105-140 cm; very pale brown (10YR 7/3) loamy fine sand; weak coarse subangular blocky; very friable; 12% strong brown (7.5YR 4/6, 5/6) soft iron masses and plinthite; gradual smooth.

E3 140-162 cm; very pale brown (10YR 8/2); loamy fine sand; weak coarse subangular blocky; very friable; 2% strong brown (7.5YR 4/6, 5/6) soft iron masses and plinthite; abrupt smooth.

Btg 162-170 cm; gray (2.5Y 5/1) sandy clay loam; weak coarse prismatic; very firm; 25% strong brown (7.5YR 4/6, 5/6) soft iron masses; 2% very pale brown (10YR 8/2) iron and clay depletions.

BHT-9b; area 21; east of field site 55; bog; noncalcareous throughout.

O 0-5 cm; **Holocene**; very dark grayish brown (10YR 3/2) fibrous root mass; clear smooth.

A1 5-28 cm; very dark grayish brown (10YR 3/2) fine sandy loam; moderate medium subangular blocky; very friable; gradual smooth.

A2 28-50 cm; dark grayish brown (10YR 4/2) fine sandy loam; moderate medium to coarse subangular blocky; very friable; gradual smooth.

E 50-79 cm; light gray (10YR 7/2) fine sandy loam; weak coarse subangular blocky; very friable; abrupt smooth.

Atgb 79-101 cm; **Pre-Holocene**; dark gray (10YR 4/1) sandy clay; weak coarse prismatic; very firm; 12% strong brown (7.5YR 4/6, 5/6) iron pore linings; clear smooth.

Btgb 101-154 cm; light gray (2.5Y 7/1) sandy clay loam; weak coarse prismatic; firm; 2% strong brown (7.5YR 4/6) iron pore linings; 12% strong brown (7.5YR 4/6) soft iron masses; many prominent clay films.

BHT-10; area 17; east of field site 55; peninsula into bog; noncalcareous throughout.

A1 0-5 cm; **Pre-Holocene**; grayish brown (10YR 5/2) loamy fine sand; weak fine to medium subangular blocky; very friable; gradual smooth.

A2 5-30 cm; pale brown (10YR 6/3) loamy fine sand; moderate medium subangular blocky; very friable; gradual smooth.

E 30-111 cm; very pale brown (10YR 7/4) loamy fine sand; moderate medium subangular blocky; very friable; clear wavy.

Eg1 111-131 cm; very pale brown (10YR 7/3) loamy fine sand; moderate medium subangular blocky; very friable; 12% strong brown (7.5YR 5/6) soft iron masses and plinthite; clear wavy.

Eg2 131-149 cm; light gray (10YR 7/2) loamy fine sand; weak coarse subangular blocky; very friable; 2% strong brown (7.5YR 5/6) soft iron masses; gradual smooth.

Btg 149-180 cm; dark gray (2.5Y 4/1) sandy clay; weak coarse prismatic; very firm; 8% strong brown (7.5YR 5/6) soft iron masses; 12% red (2.5YR 4/8) soft iron masses and plinthite; few faint clay films.

BHT-11; area 17; north of field site 55; upland; noncalcareous throughout.

A1 0-12 cm; **Pre-Holocene**; brown (10YR 4/3) loamy fine sand; moderate fine to medium subangular blocky; very friable; gradual smooth.

A2 12-50 cm; yellowish brown (10YR 5/3) loamy fine sand; moderate medium to coarse subangular blocky; very friable; gradual smooth.

E1 50-102 cm; brownish yellow (10YR 6/6) loamy fine sand; weak medium subangular blocky; very friable; gradual smooth.

E2 102-145 cm; light yellowish brown (10YR 6/4) loamy fine sand; weak coarse subangular blocky; very friable; gradual smooth.

E3 145-175 cm; yellow (10YR 7/6) loamy fine sand; weak coarse subangular blocky; very friable; 2% reddish yellow (7.5YR 6/8) soft iron masses; abrupt smooth.

Bt 175-200 cm; light gray (2.5Y 7/2) sandy clay loam; weak coarse prismatic; firm; 30% red (2.5YR 5/6) soft iron masses and plinthite; 2% yellowish red (5YR 5/8) soft iron masses; 2% very pale brown (10YR 7/3) sand coats; common faint clay films.

BHT-12; area 24; west of field site 42; floodplain; noncalcareous throughout.

A 0-14 cm; **Holocene**; yellowish brown (10YR 5/4) clay; moderate fine to medium subangular blocky; firm; abrupt smooth.

Bw 14-26 cm; brownish yellow (10YR 6/6) clay; moderate medium subangular blocky; firm; abrupt smooth.

E1b1 26-39 cm; yellowish brown (10YR 5/4) fine sandy loam; moderate medium subangular blocky; friable; gradual smooth.

E2b1 39-53 cm; very pale brown (10YR 7/3) fine sandy loam; moderate medium subangular blocky; friable; clear smooth.

Bt1b2 53-68 cm; **Pre-Holocene**; brown (7.5YR 5/4) sandy clay loam; moderate medium prismatic parting to moderate medium angular blocky; very hard; 30% very pale brown (10YR 7/3) iron depletions; gradual smooth.

Bt2b2 68-80 cm; brown (7.5YR 5/4) sandy clay loam; moderate medium angular blocky; hard; 50% very pale brown (10YR 7/3) iron depletions; abrupt smooth.

Bt3b2 80-90 cm; gray (10YR 6/1) sandy clay; moderate coarse angular blocky; very hard; 30% brown (7.5YR 5/4) and strong brown (7.5YR 5/8) soft iron masses; 2% white (2.5Y 8/1) sand coats; clear smooth.

Bt2b2 90-166 cm; gray (10YR 6/1) sandy clay; weak coarse prismatic; very firm; 30% yellowish red (5YR 4/6) and strong brown (7.5YR 5/8) soft iron masses; few faint clay films; gradual smooth.

Bt3b2 166-200 cm; light brownish gray (2.5Y 6/2) sandy clay loam; weak coarse prismatic; firm; 25% yellowish red (5YR 4/6) and strong brown (7.5YR 5/8) soft iron masses.

BHT-13; area 12; terrace; noncalcareous throughout.

A1 0-6 cm; **Pre-Holocene**; brown (10YR 4/3) fine sandy loam; moderate fine to medium subangular blocky; very friable; gradual smooth.

A2 6-23 cm; brown (10YR 5/3) fine sandy loam; moderate medium subangular blocky; very friable; gradual smooth.

E1 23-52 cm; light yellowish brown (10YR 6/4) fine sandy loam; moderate medium subangular blocky; friable; abrupt smooth.

Bt1 52-71 cm; light brownish gray (10YR 6/2) sandy clay; weak coarse prismatic; firm; 12% strong brown (7.5YR 5/8) soft iron masses; 5% red (2.5YR 4/8) plinthite; gradual smooth.

Bt2 71-100 cm; gray (2.5Y 6/1) sandy clay loam; weak coarse prismatic; firm; 25% strong brown (7.5YR 5/8) soft iron masses; 20% red (2.5YR 4/8) plinthite.

BHT-14; area 9; south of field site 28; floodplain; noncalcareous throughout.

O 0-7 cm; **Holocene**; very dark grayish brown (10YR 3/2) fibrous root mass; clear smooth.

A 7-18 cm; yellowish brown (10YR 5/6) fine sandy loam; moderate medium subangular blocky; friable; gradual smooth.

Bw 18-36 cm; dark yellowish brown (10YR 4/4) fine sandy loam; moderate medium to coarse subangular blocky; friable; gradual smooth.

E 36-67 cm; yellowish brown (10YR 5/4) fine sandy loam; moderate medium subangular blocky; friable; clear smooth.

Bt1 67-79 cm; **Pre-Holocene**; yellowish brown (10YR 5/4) sandy clay loam; moderate medium subangular blocky; firm; 2% dark reddish brown (5YR 3/4) soft iron masses; gradual smooth.

Bt2 79-99 cm; light gray (2.5Y 7/2) sandy clay; moderate medium subangular blocky; firm; 2% dark reddish brown (5YR 3/4) and red (2.5YR 4/8) soft iron masses; common faint clay films; abrupt smooth.

Btg1 99-121 cm; pale brown (10YR 6/3) sandy clay loam; weak coarse prismatic; firm; 15% yellowish red (5YR 4/6) soft iron masses; common faint clay films; gradual smooth.

Btg2 121-146 cm; light gray (10YR 7/2) sandy clay loam; weak coarse prismatic; very hard; 15% red (2.5YR 4/8) soft iron masses and plinthite; 10% white (2.5Y 8/1) sand coats; gradual smooth.

Btg3 146-200 cm; yellowish brown (10YR 5/4) and light brownish gray (2.5Y 6/2) sandy clay; weak coarse prismatic; very firm; 12% red (2.5YR 4/8) soft masses.

BHT-15; area 9; south of field site 28; flood terrace; noncalcareous throughout.

O 0-7 cm; **Holocene**; very dark grayish brown (10YR 3/2) fibrous root mass; clear smooth.

A 7-22 cm; dark yellowish brown (10YR 4/4) fine sandy loam; moderate fine to medium subangular blocky; friable; abrupt smooth.

Bt 22-41 cm; **Pre-Holocene**; yellowish red (5YR 4/6) clay; moderate medium to coarse angular blocky; firm; iron manganese gravel line in upper 1/4 of horizon, subrounded, 3-7 cm in diameter; abrupt smooth.

Btg1 41-79 cm; light gray (2.5Y 7/2) clay; moderate coarse prismatic; very firm; 20% strong brown (7.5YR 5/8) soft iron masses; 15% red (2.5YR 4/8) plinthite; gradual smooth.

Btg2 79-95 cm; light gray (2.5Y 7/2) clay; 20% yellowish red (5YR 5/8) and strong brown (7.5YR 5/8) soft iron masses; 12% red (2.5YR 4/8) plinthite.

BHT-16; area 9; south of field site 28; flood terrace; noncalcareous throughout.

A 0-10 cm; **Pre-Holocene**; dark brown (10YR 3/3) loamy fine sand; moderate fine to medium subangular blocky; very friable; gradual smooth.

E1 10-26 cm; dark yellowish brown (10YR 4/4) loamy fine sand; moderate medium to coarse subangular blocky; very friable; 2% subrounded to subangular siliceous gravel, 1-3 cm diameter; gradual smooth.

E2 26-47 cm; yellowish brown (10YR 5/6) loamy fine sand; moderate medium to coarse subangular blocky; very friable; few medium iron manganese nodules, detrital; 3% well rounded to subrounded siliceous gravel, 1-3 cm diameter; abrupt smooth.

Bt1 47-62 cm; strong brown (7.5YR 5/6) sandy clay; moderate medium angular blocky; firm; few medium iron manganese nodules, detrital; 2% well rounded to subrounded siliceous gravel, 1-3 cm diameter; clear smooth.

Bt2 62-78 cm; brown (7.5YR 5/4) and strong brown (7.5YR 5/6) sandy clay loam; moderate medium to coarse angular blocky; 2% red (2.5YR 5/8) plinthite; few medium iron manganese nodules; 2% well rounded to subangular siliceous gravel, 1-4 cm diameter; clear smooth.

Btv1 78-97 cm; brown (7.5YR 5/4) and reddish yellow (7.5YR 6/8) sandy clay loam; weak coarse prismatic; firm; 30% red (2.5YR 4/8) soft iron masses and plinthite; few medium iron manganese nodules; 2% subrounded siliceous gravel, 0.5-1 cm diameter; gradual smooth.

Btv2 97-120 cm; light gray (2.5Y 7/2) and brownish yellow (10YR 6/8) sandy clay loam; weak coarse prismatic; firm; 30% red (2.5YR 4/8) soft iron masses and plinthite; few medium iron manganese nodules; 4% subrounded siliceous gravel, 0.5-1 cm diameter.

BHT-17; area 26; upland; noncalcareous throughout.

A1 0-10 cm; **Pre-Holocene**; black (10YR 2/1) loamy fine sand; moderate medium subangular blocky; very friable; clear smooth.

A2 10-28 cm; yellowish brown (10YR 5/4) fine sandy loam; moderate medium to coarse subangular blocky; friable; common very dark gray (10YR 3/1) biocasts; 2% strong brown (7.5YR 4/6, 5/8) soft iron masses; gradual smooth.

E1 28-45 cm; light gray (10YR 7/2) and yellowish brown (10YR 5/4) fine sandy loam; moderate medium subangular blocky; friable; 4% strong brown (7.5YR 5/8) soft iron masses and pore linings; gradual smooth.

E2 45-62 cm; strong brown (7.5YR 4/6, 5/6) sandy clay loam; moderate fine to medium angular blocky; firm; gradual smooth.

Bt1 62-84 cm; yellowish brown (10YR 5/6) and brownish yellow (10YR 6/6) sandy clay loam; weak coarse prismatic; firm; 12% red (2.5YR 4/8) soft iron masses and plinthite; clear smooth.

Bt2 84-104 cm; light gray (10YR 7/2) sandy clay loam; weak coarse prismatic; very hard; 15% red (2.5YR 4/8) soft iron masses and plinthite; 12% white (2.5Y 8/1) sand coats; abrupt smooth.

Btv1 104-117 cm; light brownish gray (2.5Y 6/2) sandy clay loam; moderate medium prismatic; very hard; 20% red (2.5YR 4/8) soft iron masses and plinthite; 30% white (2.5Y 8/1) sand coats; clear smooth.

Btv2 117-150 cm; gray (2.5Y 6/1) sandy clay; moderate medium prismatic; very hard; 30% red (2.5YR 4/8) soft iron masses and plinthite.

BHT-18; area 25; south of field site 98; floodplain; noncalcareous throughout.

O 0-5 cm; **Holocene**; brown (10YR 4/3) fibrous root mass; gradual smooth.

A 5-22 cm; brownish yellow (10YR 6/6) fine sandy loam; weak medium subangular blocky; very friable; gradual smooth.

Bw 22-48 cm; strong brown (7.5YR 5/8) and yellowish brown (10YR 5/4) sandy clay loam; weak medium subangular blocky; firm; gradual smooth.

BC 48-67 cm; brown (7.5YR 5/4) and brownish yellow (10YR 6/6) fine sandy loam; weak medium angular blocky; friable; few strong brown (7.5YR 5/8) iron pore linings; abrupt smooth.

C1 67-77 cm; yellow (10YR 7/6) loamy fine sand; massive; very friable; abrupt smooth.

C2 77-98 cm; very pale brown (10YR 7/4), reddish yellow (7.5YR 6/8), strong brown (7.5YR 5/8), dark brown (7.5YR 3/2), and reddish brown (5YR 4/3) laminations; fine sandy loam; massive; very friable; gradual smooth.

C3 98-127 cm; light brownish gray (10YR 6/2), very pale brown (10YR 7/4), brownish yellow (10YR 6/8), and light yellowish brown (2.5Y 6/3) laminations; sandy clay loam; massive; firm; 15% strong brown (7.5YR 5/8) soft iron masses; 1% subrounded siliceous gravel, 0.5 to 5 cm diameter; clear smooth.

C4 127-134 cm; very pale brown (10YR 7/3) loamy fine sand; massive; very friable; 15% strong brown (7.5YR 5/8) soft iron masses; abrupt smooth.

Ab1 134-151 cm; light brownish gray (2.5Y 6/2) sandy clay loam; moderate medium angular blocky; firm; 15% strong brown (7.5YR 5/8) and yellowish red (5YR 4/6) soft iron masses; 2% yellowish red (5YR 4/6) iron pore linings; abrupt smooth.

Eb2 151-169 cm; strong brown (7.5YR 5/6) and yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky; very friable; abrupt irregular.

Btgb2 169-220 cm; **Pre-Holocene**; gray (2.5Y 6/1) sandy clay; weak coarse prismatic; very firm; 30% strong brown (7.5YR 5/8) and yellowish red (5YR 4/6) soft iron masses; iron manganese gravel in upper 5 cm of horizon, subangular, 1-7 cm diameter.

BHT-19; area 30; disturbed terrace; noncalcareous throughout.

Ap 0-11 cm; **Pre-Holocene**; brown (10YR 4/3) fine sandy loam; moderate medium subangular blocky; friable; gradual smooth.

Bw 11-28 cm; pale brown (10YR 6/3) fine sandy loam; moderate medium platy; very friable; gradual smooth.

E 28-36 cm; yellowish brown (10YR 5/6) fine sandy loam; moderate medium platy; very friable; gradual smooth.

Bt1 36-49 cm; light yellowish brown (10YR 6/4) and brownish yellow (10YR 6/6) sandy clay loam; weak coarse prismatic; firm; 2% red (2.5YR 4/8) soft iron masses and plinthite; clear smooth.

Bt2 49-71 cm; light brownish gray (10YR 6/2) clay; moderate medium angular blocky; very firm; 15% red (2.5YR 4/8) soft iron masses and plinthite; gradual smooth.

Bt3 71-120 cm; light brownish gray (10YR 6/2) clay; weak medium to coarse prismatic; firm; 30% strong brown (7.5YR 5/8) and red (2.5YR 4/8) soft iron masses and plinthite, common faint clay films.

CB-1; area 21; north of field site 79; levee; noncalcareous throughout.

O 0-3 cm; **Holocene**; very dark grayish brown (10YR 3/2) fibrous root mass; clear smooth.

A1 3-16 cm; dark yellowish brown (10YR 4/4) fine sandy loam; moderate medium subangular blocky; very friable; gradual smooth.

A2 16-29 cm; yellowish brown (10YR 5/4) fine sandy loam; moderate medium subangular blocky; very friable; gradual smooth.

E1 29-71 cm; brownish yellow (10YR 6/6) fine sandy loam; moderate medium subangular blocky; very friable; gradual smooth.

E2 71-86 cm; light yellowish brown (10YR 6/4) and light gray (10YR 7/2) fine sandy loam; moderate medium angular blocky; friable; 2% yellowish red (5YR 4/6) soft iron masses; clear smooth.

Bt1 86-115 cm; **Pre-Holocene**; light brownish gray (10YR 6/2) sandy clay loam; moderate coarse prismatic; very hard; 15% strong brown (7.5YR 5/8) soft iron masses; 12% light gray (10YR 7/2) sand coats; clear smooth.

Bt2 115-145 cm; brown (7.5YR 4/3) sandy clay loam; moderate medium prismatic; very hard; 15% strong brown (7.5YR 4/6) soft iron masses.

CB-2; area 21; north of field site 79; bench; noncalcareous throughout.

O 0-3 cm; **Holocene**; very dark grayish brown (10YR 3/2) fibrous root mass; clear smooth.

A1 3-16 cm; dark yellowish brown (10YR 4/4) fine sandy loam; moderate medium subangular blocky; very friable; gradual smooth.

A2 16-29 cm; yellowish brown (10YR 5/4) fine sandy loam; moderate medium subangular blocky; very friable; gradual smooth.

E1 29-65 cm; brownish yellow (10YR 6/6) fine sandy loam; moderate medium subangular blocky; very friable; gradual smooth.

E2 65-118 cm; light yellowish brown (10YR 6/4) fine sandy loam; moderate medium subangular blocky; very friable; gradual smooth.

E3 118-159 cm; yellowish brown (10YR 5/6) fine sandy loam; moderate medium subangular blocky; very friable; clear smooth.

Bt1 159-200 cm; **Pre-Holocene**; strong brown (7.5YR 5/6) and brownish yellow (10YR 6/6) sandy clay loam; moderate medium subangular blocky; firm; abrupt smooth.

Bt2 200-225 cm; gray (2.5Y 6/1) sandy clay loam; moderate coarse angular blocky; firm; 15% strong brown (7.5YR 5/8) soft iron masses.

CB-3; area 17; west of site 58; terrace; noncalcareous throughout.

A1 0-9 cm; **Pre-Holocene**; brown (10YR 4/3) fine sandy loam; moderate fine subangular blocky; very friable; gradual smooth.

A2 9-29 cm; brown (10YR 5/3) fine sandy loam; moderate medium subangular blocky; very friable; gradual smooth.

E 29-75 cm; brownish yellow (10YR 6/6) fine sandy loam; moderate medium subangular blocky; very friable; 2% subrounded siliceous gravel, 0.5-3 cm diameter; clear smooth.

Bt 75-100 cm; pink (7.5YR 7/4) sandy clay loam; weak medium prismatic; firm; 15% strong brown (7.5YR 5/8) soft iron masses; 12% subangular to subrounded siliceous gravel, 0.2-4 cm diameter; gradual smooth.

Btg 100-119 cm; light brownish gray (10YR 6/2) sandy clay loam; weak medium to coarse prismatic; firm; 25% strong brown (7.5YR 4/6, 5/8) soft iron masses; 2% subrounded siliceous gravel, 0.1-1 cm diameter; abrupt wavy.

C1 119-171 cm; light brownish gray (10YR 6/2) sandy clay; moderate fine to

medium angular blocky; firm; 35% yellowish red (5YR 5/8) soft iron masses and plinthite; 40% subangular to subrounded siliceous gravel, 0.1-11 cm diameter; abrupt wavy.

C2 171-275 cm; light gray (10YR 7/2) sandy clay loam; weak medium to coarse prismatic; firm; 2% strong brown (7.5YR 4/6, 5/8) soft iron masses.

CB-4; area 17; field site 49; terrace; noncalcareous throughout.

A1 0-7 cm; **Pre-Holocene**; dark grayish brown (10YR 4/2) fine sandy loam; moderate fine subangular blocky; friable; gradual smooth.

A2 7-24 cm; light yellowish brown (10YR 6/4) fine sandy loam; moderate medium subangular blocky; friable; gradual smooth.

Bw1 24-45 cm; strong brown (7.5YR 5/6) sandy clay loam; moderate fine to medium subangular blocky; firm; gradual smooth.

Bw2 45-63 cm; reddish yellow (7.5YR 6/8) sandy clay loam; moderate medium subangular blocky; firm; 2% red (2.5YR 4/8) soft iron masses and plinthite; clear smooth.

Bt1 63-78 cm; light brownish gray (10YR 6/2) sandy clay; weak medium to coarse prismatic; firm; 20% red (2.5YR 4/8) soft iron masses, plinthite and iron pore linings; gradual smooth.

Bt2 78-150 cm; pale yellow (2.5Y 7/3) sandy loam; weak coarse prismatic; friable; 12% strong brown (7.5YR 5/8) and red (2.5YR 4/8) soft iron masses and plinthite; 2% subrounded siliceous gravel, 2-5 cm diameter.

Appendix B

Camp Maxey II

Depth to Clay and Total Depth of all Shovel Tests Excavated at Camp Maxey

Table B-1. Depth to Clay and Total Depth of all Shovel Tests

Description	Depth to Clay	Maximum Depth
137.CCC-2	58	58
137.CCC-3	80	80
137.CCC-5	110	110
137.CCC-6	100	100
137.CCC-7	111	111
137.CCC-9	30	30
137.DDD-1	90	90
137.DDD-10	0	128
137.DDD-11	0	120
137.DDD-12	0	120
137.DDD-13	82	82
137.DDD-14	90	90
137.DDD-15	105	105
137.DDD-16	84	84
137.DDD-17	78	78
137.DDD-18	100	100
137.DDD-19	75	75
137.DDD-2	0	80
137.DDD-20	77	77
137.DDD-21	75	75
137.DDD-22	55	55
137.DDD-23	88	88
137.DDD-24	56	60
137.DDD-3	40	40
137.DDD-4	86	86
137.DDD-5	78	80
137.DDD-6	115	115
137.DDD-7	110	110
137.DDD-8	100	100
137.DDD-9	77	80
137.M-1	52	52
137.M-2	89	89
137.M-4	74	74
137-CCC-1	62	62
148.36-1	26	30
148.36-2	35	35
148.G4-	40	40
168.31-1	51	51
168.31-2	71	80
168.31-3	70	70
168.31-4	12	12
168.31-5	60	60
168.31-6	28	28
168.31-7	45	55
168.31-8	55	55
168.A-0	0	0
168.A-1	35	35
168.A-2	56	56
168.A-4	58	58
168.A-6	77	77
168.B-0	47	47
168.B-2	50	50
168.B-3	62	62

Description	Depth to Clay	Maximum Depth
168.C-1	45	45
168.C-2	20	25
168.C-4	58	60
168.D-0	22	22
168.D-1	30	30
168.F-1	5	5
168.F-3	60	60
168.G-2	30	30
168.SWP-1	67	67
168.SWP-10	38	45
168.SWP-11	55	55
168.SWP-12	75	75
168.SWP-13	60	60
168.SWP-14	60	60
168.SWP-2	48	53
168.SWP-3	1	5
168.SWP-4	39	40
168.SWP-5	25	25
168.SWP-6	46	46
168.SWP-7	38	38
168.SWP-8	89	89
168.SWP-9	42	42
168-E-1	60	60
168-E-3	70	70
169.B-1	60	60
170.A-13	100	100
170.B15	60	60
170.B-17	75	75
170.C-16	0	120
170.D-16	50	50
170.D-17	80	80
170-4	60	60
170-5	0	90
170-6	115	120
170-7	78	80
170-8	60	60
170-A14	0	90
170-A14a	55	55
170-E-14	75	75
171.ST6	33	33
171.ST7	30	30
171.ST8	53	53
171.ST9	58	58
173.LL-1	57	57
173.LL-2	70	70
173.LL-3	60	60
173.LL-4	79	79
181.1-1	61	61
181.1-2	56	56
181.1-3	42	42
181.1-4	45	45
181.1-5	0	0
181.1-6	43	45

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
181.1-7	59	60
181.ZZ6	60	60
182.2-1	48	48
182.2-2	40	40
182.2-3	0	0
182.2-4	55	55
182.2-5	53	55
182.2-6	58	58
182.2-7	53	53
182.AAA-0	60	60
182.BBB-0	63	63
182.DDD-0	75	75
182.XX-13	30	30
182.ZZ-0	62	62
183.N-1	0	100
183.N-2	110	110
183.RR-11	0	60
183.RR-12	0	80
183.RR-13	0	80
183.RR-14	0	80
183.RR-14-E1	0	130
183.RR-14-E2	110	107
183.RR-14-N3	120	120
183.RR-14-W1	0	100
183.S-1	0	110
183.SS-11	60	60
183.SS-13	80	80
183.W-2	0	0
183.W-3	122	122
183.W-4	113	113
184.4-1	0	60
184.4-2	58	60
184.4-3	0	0
184.4-4	49	49
184.4-5	22	22
184.4-6	32	32
184.4-7	60	60
184.4-8	40	40
184.A-12	35	35
184.A-15	55	63
185.5-1	35	35
185.5-2	40	40
185.5-3	57	57
185.5-4	30	30
185.5-5	60	60
185.5-6	45	45
185.5-7	40	40
185.5-8	30	30
185.5-9	4	4
185.A-7	60	60
185.B-5	0	0
185.B-7	0	0
185.ST10	30	30
185.ST11	33	33
185.ST13	30	30
185.ST8	28	28
186-19	80	82
186-20	60	61
186-21	65	68
186-22	60	64
186-23	27	28
186-24	78	81
186-26	57	60
186-27	55	58
186-28	77	81
186-29	67	69
186-30	34	37
186-31	100	110
186-32	0	100
186-33	0	115
186-34	0	109
186-35	84	87
186-36	41	47
186-37	56	59
186-38	39	41
186-39	0	101
186-40	95	97
186-41	70	73
186-42	79	81
186-43	57	61
186-44	85	88
186-45	40	44
186-46	80	86
186-47	80	82
186-48	0	106
186-49	0	100
186-50	0	106
186-51	0	100
186-81	0	100
186-82	0	110
186-83	0	100
186-84	0	102
186-85	0	100
186-86	0	100
186-87	0	101
186-88	0	100
186-89	0	102
186-90	0	100
186-91	0	100
186-92	50	51
186-93	23	25
186-94	73	76
187.ST95	60	62
187.ST1	46	52
187.ST2	47	49
187.ST3	45	47

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
187.ST4	66	70
187.ST5	0	100
187.ST6	30	33
187.ST7	76	79
187.ST8	30	32
187-10	28	30
187-11	34	38
187-14	69	71
187-15	60	63
187-16	73	76
187-17	75	77
187-9	30	32
187-96	79	80
188.ST63	50	52
188.AR5.ST53	59	62
188.AR5.ST54	72	75
188.AR5.ST55	43	46
188.AR5.ST57	55	59
188.AR5.ST59	56	60
188.AR5.ST61	65	67
188.AR5.ST62	71	73
188.AR5.ST64	69	71
188.AR5.ST65	48	57
188.AR5.ST66	46	50
188.AR5.ST67	48	52
188.AR5.ST68	54	60
188.AR5.ST69	38	41
188.AR5.ST70	60	60
189.AR5.ST71	46	50
189.AR5.ST72	0	0
189.P-0	30	30
189.ST73	55	58
189.ST74	45	48
189.ST75	41	45
189.ST76	26	31
190.10-1	58	60
190.10-10	78	78
190.10-11	56	56
190.10-13	0	100
190.10-2	38	40
190.10-3	20	20
190.10-4	46	46
190.10-5	80	80
190.10-6	56	56
190.10-7	30	30
190.10-8	20	20
190.10-9	0	100
190.B-9	45	45
190.D-10	0	80
190.D-9	0	80
190.G-4	42	42
190.G-6	0	80
190.H-8	55	55

Description	Depth to Clay	Maximum Depth
190.I-9	50	50
190-E-10	60	60
191.11-1	93	93
191.11-10	20	20
191.11-11	68	68
191.11-12	0	0
191.11-13	80	80
191.11-14	0	120
191.11-2	75	75
191.11-3	0	129
191.11-4	80	80
191.11-5	0	90
191.11-6	95	95
191.11-7	0	110
191.11-8	0	120
191.11-9	20	20
191.RR-6	0	80
191.SS-5	0	80
191.TT-5	0	80
192.12-1	24	24
192.12-10	20	20
192.12-11	60	60
192.12-12	84	84
192.12-13	76	76
192.12-14	44	44
192.12-15	60	60
192.12-16	65	65
192.12-2	50	50
192.12-3	38	38
192.12-4	57	57
192.12-5	113	113
192.12-6	100	100
192.12-7	48	48
192.12-9	64	64
192.JJ-8	60	60
192.KK-8	0	100
192.MM-1	50	50
192.NN-2	0	80
192.OO-1	50	50
192.12-8	114	114
193.13.2	0	125
193.13-7	76	76
193.13-1	60	60
193.13-3	0	110
193.13-4	68	68
193.13-5	0	100
193.13-6	105	105
193.JJ-11	0	60
193.JJ-12	55	55
193.JJ-14	0	90
193.KK-11	60	60
193.KK-12	100	100
193.KK-13	100	100

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
194.14-1	0	116
194.14-10	0	120
194.14-11	0	122
194.14-2	0	130
194.14-3	0	110
194.14-4	60	60
194.14-5	80	80
194.14-6	105	105
194.14-7	130	130
194.14-8	0	135
194.14-9	0	130
194.AA-7	0	100
194.AA8	0	100
195.15-1	100	100
195.15-10	121	121
195.15-2	64	64
195.15-3	0	120
195.15-4	0	100
195.15-5	0	120
195.15-6	100	100
195.15-7	110	110
195.15-8	101	101
195.15-9	0	100
195.BB-12	102	102
196.16-1	0	52
196.16-10	93	93
196.16-11	113	113
196.16-12	0	100
196.16-13	80	95
196.16-2	48	48
196.16-3	0	62
196.16-4	0	100
196.16-5	0	100
196.16-6	0	107
196.16-7	0	130
196.16-8	0	110
196.16-9	0	125
196.W-15	0	90
196.W15.N1	0	95
196.Y-11	0	100
196.Z-15	52	52
196.Z-16	98	98
197.17-1	0	0
197.17-11	135	135
197.17-2	98	98
197.17-3	45	45
197.17-4	0	115
197.17-8	92	92
197.W-24	80	80
197.W-25	0	60
200.20-10	0	100
200.20-12	0	105
200.20-13	0	100

Description	Depth to Clay	Maximum Depth
200.20-5	90	90
200.20-6	0	100
200.20-7	104	104
200.20-9	0	100
200.SWEEP.19	0	90
200.X-28	0	80
201.21-1	0	90
201.21-2	51	51
201.21-3	64	64
201.21-4	0	0
201.21-5	56	56
201.21-6	60	60
201.21-7	60	60
201.21-8	75	75
201.M-12	50	50
201.O-15	0	60
201.P-12	0	100
201.P-16	50	50
201.RIVERSWEEP.8	55	55
201.SWEEP.15	38	38
201.SWEEP10	80	80
201.SWEEP11	0	80
201.SWEEP-12	35	35
201.SWEEP9	40	40
202.AR5.ST60	56	58
202.BOG-1	49	49
202.BOG-2	40	40
202.BOG-3	50	50
202.BOG4	0	40
202.J-10	0	0
202.L-10	10	20
202.M-14	65	65
202.O-5	48	48
202.O-6	63	63
202.O-8	0	85
202.O-9	53	53
202.P-3	0	0
202.P-4	60	60
202.P-5	0	83
202.P-6	0	80
202.Q-2	40	40
202.Q-5	0	80
202.R-2	80	80
202.R-3	50	50
202.R-5	0	100
202.S-0	88	88
202.S-2	75	75
202.S-5	0	100
202.ST25	124	124
202.T-9	90	90
203.23-3	53	53
203.23-9	55	55
203.23-1	59	60

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
203.23-10	58	60
203.23-11	57	60
203.23-12	43	43
203.23-13	45	45
203.23-14	41	41
203.23-15	60	60
203.23-16	52	52
203.23-17	60	65
203.23-2	38	38
203.23-4	51	51
203.23-5	48	48
203.23-6	45	45
203.23-7	63	63
203.23-8	30	30
203.A-12	40	40
203.B-12	63	63
203.B-13	53	53
203.B-14	38	38
203.C-10	50	50
203.C-7	30	30
203.C-8	75	75
203.D-12	50	50
203.D-9	60	65
204.24-1	64	64
204.24-10	46	46
204.24-12	40	40
204.24-13	45	45
204.24-14	53	53
204.24-15	38	45
204.24-16	40	40
204.24-17	50	50
204.24-18	65	65
204.24-19	40	40
204.24-2	48	48
204.24-20	45	45
204.24-21	40	40
204.24-22	50	50
204.24-23	47	47
204.24-24	38	38
204.24-3	95	95
204.24-4	0	40
204.24-5	0	48
204.24-6	30	30
204.24-7	45	45
204.24-8	40	40
204.24-9	51	51
204.F-8	36	36
204.G-10	47	47
204.G-8	40	40
205.25-1	0	60
205.25-10	50	50
205.25-11	59	59
205.25-12	66	66

Description	Depth to Clay	Maximum Depth
205.25-13	80	80
205.25-2	30	30
205.25-3	70	70
205.25-4	63	65
205.25-5	70	70
205.25-6	30	30
205.25-7	73	76
205.25-8	60	60
205.25-9	50	50
205.O-13	60	60
205.P-5	65	65
205.P-6	65	65
205.Q-5	40	40
205.Q-6	65	65
206.26-10	28	28
206.26-4	40	40
206.26-5	40	40
206.26.8	48	48
206.26-1	55	55
206.26-2	42	42
206.26-3	30	30
206.26-6	30	30
206.26-7	48	48
206.26-9	30	30
206.S-15	53	53
206.U-12	28	28
207.27-1	85	85
207.27-10	73	73
207.27-13	46	49
207.27-14	48	48
207.27-2	70	72
207.27-3	60	60
207.27-4	60	60
207.27-5	65	65
207.27-6	63	63
207.27-7	50	50
207.27-8	80	80
207.27-9	43	43
207.BB-10	55	58
207.BB-11	60	60
207.BB-15	64	69
207.BB-5	80	80
207.BB-7	58	61
208.28-10	65	65
208.28-11	20	20
208.28-12	40	40
208.28-2	50	50
208.28-3	52	52
208.28-5	55	55
208.28-6	20	20
208.28-7	60	60
208.28-8	27	30
208.28-9	50	50

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
208-28-1	65	65
208-28-4	50	50
209.30-1	30	30
209.30-2	50	50
209.30-3	34	34
209.30-4	56	56
209.30-5	30	30
209.30-6	20	20
209.30-7	55	60
209.30-8	30	30
209.G-13	43	43
210.32-1	40	40
210.32-2	60	60
210.32-3	42	42
210.32-4	49	49
210.32-5	25	35
211.34-1	80	80
211.34-10	75	75
211.34-11	75	80
211.34-12	85	85
211.34-13	76	76
211.34-14	70	70
211.34-15	60	60
211.34-16	73	73
211.34-17	100	100
211.34-18	40	40
211.34-2	62	62
211.34-3	80	80
211.34-4	50	50
211.34-5	25	25
211.34-6	62	62
211.34-7	80	80
211.34-8	83	83
211.34-9	50	50
211.BB-12	70	70
211.BB-16	60	63
211.BB-17	73	73
211.BB-18	75	79
211.BB-19	39	42
212.35-1	20	20
212.35-2	25	25
212.35-3	52	53
212.35-4	30	30
212.35-5	3	3
212.35-6	5	5
212.35-7	10	10
212.35-8	4	4
212.35-9	28	28
212.J-1	40	40
212.K-1	30	30
212.K-2	22	22
213.37-1	39	40
213.37-2	45	45

Description	Depth to Clay	Maximum Depth
213.37-4	0	50
213.37-5	40	40
213.37-3	0	0
213.DD-5	73	73
213.FF-2	50	50
213.FF-3	58	58
213.FF-3a	37	37
213.FF-4	46	46
213.FF-4a	50	50
213.FF-4b	52	52
213.FF-4c	67	67
213.FF-4d	42	47
213.FF-4e	48	48
213.GG-1	55	55
213.GG-1a	50	50
213.GG-1b	50	50
213.GG-2	18	18
213.HH-0	20	20
213.HH-1	34	34
214.II-8a	60	60
214.38-1	60	60
214.38-10	55	55
214.38-11	60	60
214.38-12	95	100
214.38-13	0	115
214.38-14	0	104
214.38-2	0	90
214.38-3	0	107
214.38-4	50	50
214.38-5	0	80
214.38-6	0	60
214.38-7	58	58
214.38-8	6	10
214.38-9	0	60
214.II-8	67	67
214.JJ-9	76	76
214.KK-10	65	65
214.KK-10a	29	29
214.MM-6a	0	10
214.MM-6b	23	23
214.JJ-10	78	78
214.MM-6	24	24
214.MM-6C	50	50
214.NN-10	28	28
214.NN-10a	2	5
214.NN-11	10	10
214.NN-13	76	76
214.NN-13a	15	15
214.NN-13c	55	55
214.NN-13d	45	45
215.39-1	72	72
215.39-10	62	62
215.39-11	70	70

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
215.39-12	84	84
215.39-13	50	50
215.39-14	60	60
215.39-15	10	12
215.39-16	28	30
215.39-2	75	78
215.39-3	15	15
215.39-4	0	100
215.39-5	0	60
215.39-6	20	20
215.39-7	22	22
215.39-8	50	50
215.39-9	79	82
215.JJ-14	52	52
215.JJ-15	70	70
215.JJ-16	66	66
215.KK-13	70	70
215.KK-14	17	20
215.KK-15	25	25
215.KK-16	10	10
215.LL-10	0	90
215.LL-11	21	21
215.LL-12	1	5
215.LL-13	16	16
215.LL-14	61	61
215.LL-8	60	60
215.LL-9	61	61
215.MM-13	0	0
215.MM-7	36	39
215.MM-8	40	40
215.MM-9	94	96
215.NN-2	65	65
215.OO-1	80	80
215.OO-7	70	70
215.PP-1	0	60
216.40-1	30	30
216.40-10	61	61
216.40-2	56	56
216.40-3	40	40
216.40-4	30	30
216.40-5	0	100
216.40-6	57	57
216.40-7	60	60
216.40-8	72	72
216.40-9	20	20
216.QQ-2	36	36
216.QQ-3	75	75
216.RR-3	20	20
216.SS-0	100	100
216.SS-1	60	60
216.SS-2	20	20
216.TT-12	61	61
217.41-1	40	40

Description	Depth to Clay	Maximum Depth
217.41-10	47	47
217.41-11	80	80
217.41-2	45	45
217.41-3	40	40
217.41-4	32	32
217.41-5	72	72
217.41-6	42	42
217.41-7	85	85
217.41-8	22	22
217.41-9	30	30
217.OO-14	75	75
217.PP-6	30	30
217.PP-6A	19	19
217.PP-7	60	60
217.QQ-6	57	57
217.RR-10	36	36
217.RR-12	10	10
217.SS-13	48	60
217.SS-14	60	60
217.SS-15	20	20
217.TT-5	17	20
217.TT-8	45	45
217.UU-6	19	19
217.VV-10	50	50
217.VV-11	0	100
217.WW-5	45	45
217.WW-6	45	45
217.WW-7	18	20
217.WW-8	27	27
217.XX-8	17	17
218.42-1	15	20
218.42-2	20	20
218.42-3	20	25
218.BBB-13	10	10
218.BBB-12	0	0
218.CCC-8	25	25
219.43-1	60	60
219.43-2	55	60
219.D-10	24	24
219.D-11	55	55
219.D-6	30	30
219.D-7	66	66
219.D-8	8	8
219.D-9	42	42
219-E-6	60	60
219.G-4	40	40
220.44-1	72	72
220.44-2	65	65
220.44-3	52	52
220.44-4	96	96
220.44-5	62	62
220.44-6	88	88
220.44-7	70	70

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
220.44-8	80	80
220.A-11	95	95
220.A-13	60	60
220.D-7	75	75
220.O-14A	90	90
220.O-14B	74	74
220.O-14C	75	75
220.SWP1	75	75
220.SWP2	103	103
220.SWP3	72	72
220.SWP4	100	100
220-O-14	97	97
221.45-1	70	70
221.45-2	63	63
221.45-3	30	30
221.45-4	44	44
221.45-5	45	45
221.45-6	30	30
221.45-7	38	38
221.F-12	0	80
221.I-9	20	25
221.K-13	87	87
221.K-13c	72	72
221.K-13d	44	44
221.L-14	70	70
222.46-1	110	110
222.46-11	47	47
222.46-2	20	20
222.46-3	82	82
222.46-5	20	20
222.46-6	30	30
222.46-7	65	65
222.46-8	80	80
222.46-9	70	70
222.A-1	30	30
222.B-22	35	35
222.B-23	75	75
222.C-18	64	64
222.C-20	100	100
222.D-20	50	50
222-E-15	85	85
222.G-10	63	63
222.L-13	70	70
223.47-1	78	78
223.47-2	0	90
223.47-3	115	115
223.47-4	80	80
223.47-5	100	100
223.47-6	45	45
223.47-7	0	71
223.47-8	0	82
223.A-12	95	95
223.A-22	90	90

Description	Depth to Clay	Maximum Depth
223.C-7	72	72
223.D-10	80	80
223.D-8	0	130
223-E-8	98	98
224.48-1	45	45
224.48-10	75	75
224.48-2	44	44
224.48-3	21	21
224.48-4	25	25
224.48-5	66	66
224.48-6	25	25
224.48-7	60	60
224.48-8	25	25
224.48-9	44	44
224.48-9b	62	62
224.G-4	72	72
224.H-8	35	35
225.49-1	80	80
225.49-2	60	60
225.49-3	100	100
225.49-4	55	55
225.49-5	88	88
225.49-6	87	87
225.A-41	75	75
225.A-42	40	40
225.A-43	35	35
225.B-41	50	50
225.B-42	80	80
225.B-43	55	55
225.C-41	57	57
225.C-42	83	83
225.D-41	25	25
225.D-42	70	70
225.D-43	60	60
225-E-41	18	18
225-E-42	45	45
225-E-43	58	58
225-E-44	50	50
225-E-45	17	17
225-E-46	15	15
225-E-47	40	40
226.50-1	53	53
226.50-10	80	80
226.50-11	73	73
226.50-12	50	50
226.50-13	36	36
226.50-2	40	40
226.50-3	45	45
226.50-4	35	35
226.50-5	55	55
226.50-6	61	61
226.50-7	60	60
226.50-8	65	65

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
226.50-9	54	54
226.A-28	87	87
226.B-25	40	40
226.B-27	40	40
226.C-21	40	40
226.C-22	50	50
226.D-30	68	68
226.D-44	58	58
226-E-28	80	80
226.F-26	36	36
226.D-32	85	85
227.51-1	70	70
227.51-10	75	75
227.51-2	100	100
227.51-3	110	110
227.51-4	80	80
227.51-5	74	74
227.51-6	50	50
227.51-7	60	60
227.51-8	100	100
227.51-9	0	104
227.A-20	0	125
227.B-19	85	85
227.C-15	70	70
227.C-16	80	80
227.D-22	83	83
227.F-20	73	73
228.52-1	70	70
228.52-10	60	60
228.52-2	48	48
228.52-3	69	69
228.52-4	72	72
228.52-5	97	97
228.52-6	90	90
228.52-7	46	46
228.52-8	70	70
228.52-9	50	50
228.C-11	78	78
228.D-16	65	65
228-E-15	65	65
228.F-12	94	94
228.H-15	80	80
229.53-1	28	28
229.53-2	30	30
229.53-3	60	60
229.53-4	20	20
229.H-21	50	50
229.H-22	60	60
229.I-21	40	40
229.I-23	70	70
229.I-24	80	80
229.K-14	32	32
229.K-15	32	32

Description	Depth to Clay	Maximum Depth
230.54-1	92	92
230.54-10	0	127
230.54-11	57	57
230.54-2	0	105
230.54-3	0	105
230.54-4	90	90
230.54-5	100	100
230.54-6	40	40
230.54-7	0	132
230.54-8	0	43
230.54-9	110	110
230.L-21	74	74
230.L-22	115	115
230.L-23	35	35
230.L-24	30	30
230.L-25	34	34
230.M-22	15	15
231.55-1	0	115
231.55-2	0	110
231.55-3	0	95
231.55-4	0	120
231.T-9	0	122
232.56-2	85	85
232.56-3	100	100
232.56-4	84	84
232.56-5	26	26
232.56-6	58	58
232.56-7	40	40
232.56-9	86	86
232.56-1	54	54
232.56-10	100	100
232.A-14	0	100
232.B-14	30	30
232.D-19	78	78
233.57-1	120	120
233.57-10	110	110
233.57-2	100	100
233.57-3	120	120
233.57-4	0	90
233.57-5	85	85
233.57-6	90	90
233.57-7	0	110
233.57-8	72	72
233.T-11	107	107
233.U-11	100	100
233.U-12	100	100
234.58-1	100	100
234.58-2	70	70
234.58-3	67	67
234.58-4	85	85
234.58-5	96	96
234.58-6	80	80
234.A-11	100	100

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
234.B-11	105	105
235.59-2	0	105
235.59-3	0	100
236.60-1	110	110
236.60-2	110	100
236.60-3	100	100
236.60-4	0	110
236.60-5	0	109
236.V-17	0	100
236.W-17	0	120
236.X-15	0	100
236.Y-15	0	100
236.Y-16	0	105
237.61-1	30	30
237.61-10	50	50
237.61-11	40	40
237.61-2	47	47
237.61-3	40	40
237.61-4	55	55
237.61-5	50	50
237.61-6	52	52
237.61-7	42	42
237.61-8	58	58
237.61-9	47	47
237.T-17	68	68
237.U-17	70	70
237.U-18	52	52
238.62-1	57	57
238.62-10	37	37
238.62-11	30	30
238.62-12	33	33
238.62-13	45	45
238.62-14	48	48
238.62-15	50	50
238.62-16	40	40
238.62-17	47	47
238.62-18	37	37
238.62-19	44	44
238.62-2	55	55
238.62-3	43	43
238.62-4	43	43
238.62-5	30	30
238.62-6	36	36
238.62-7	38	38
238.62-8	67	67
238.62-9	53	53
238.CC-2	32	32
238.CC-3	40	40
238.CC-4	50	50
238.CC-5	45	45
238.CC-6	66	66
238.CC-7	50	50
238.DD-4	40	40

Description	Depth to Clay	Maximum Depth
238.GG-2	30	30
239.63-2	88	88
239.63-1	0	100
239.M-9	0	110
240.64-1	120	120
240.64-10	0	115
240.64-11	0	115
240.64-12	87	87
240.64-2	65	65
240.64-3	120	120
240.64-5	113	113
240.64-6	87	87
240.64-7	70	70
240.64-8	0	110
240.64-9	120	120
240.C-3	120	120
240.D-4	0	100
240.D-6	0	110
240-E-4	0	100
240.F-3	0	100
240.H-10	0	120
240.H-11	0	130
241.65-1	88	88
241.65-2	0	62
241.65-3	0	120
241.65-4	103	103
241.65-5	112	112
241.65-6	30	30
241.65-7	35	35
241.II-16	58	58
241.II-16a	90	90
241.II-16b	100	100
241.KK-20	65	65
242.66-1	38	38
242.66-2	24	24
242.II-18	23	23
242.II-19	80	80
242.II-19A	28	28
242.II-19B	23	23
242.II-19C	25	25
242.II-19-D	25	25
243.67-1	115	115
243.67-10	0	100
243.67-11	118	118
243.67-12	83	83
243.67-13	103	103
243.67-14	60	60
243.67-2	0	85
243.67-3	0	80
243.67-4	0	98
243.67-5	0	100
243.67-6	93	93
243.67-7	80	80

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
243.67-8	0	140
243.67-9	95	95
243.EE-12	105	105
243.FF-13	100	100
243.GG-12	110	110
243.GG-15	105	105
243.HH-16	88	88
243.HH-17	74	74
244.68-1	54	54
244.68-2	55	55
244.68-3	65	65
244.68-4	43	43
244.68-5	70	70
244.GG-7	67	67
245.69-1	20	20
245.69-2	0	140
245.69-3	129	129
245.69-4	85	85
245.69-5	52	52
245.69-6	92	93
245.69-7	55	55
245.69-8	58	58
245.UU-5	50	50
245.UU-6	80	80
245.VV-11	70	70
245.VV-12	25	25
245.VV-8	120	120
245.WW-10	108	108
245.WW-11	62	62
245.WW-12	140	140
245.WW9	0	60
246.70-1	35	35
246.70-2	52	52
246.SS-0	35	35
246.TT-1	0	130
246.TT-2	0	120
246.UU-1	50	50
246.UU-2	0	100
247.71-6	20	20
247.71-1	38	38
247.71-2	75	75
247.71-3	90	90
247.71-4	45	45
247.71-5	63	63
247.KK-15	70	70
247.LL-14	70	70
247.LL-15	92	92
247.LL-16	0	100
247.LL-17	0	90
247.LL-18	50	50
247.LL-19	28	28
247.LL-20	77	77
247.LL-21	65	65
247.LL-22	55	55
247.LL-23	36	36
247.LL-24	35	35
247.LL-25	50	50
248.72-1	115	115
248.72-2	85	85
248.72-3	62	62
248.72-4	72	72
248.72-5	72	77
248.72-6	65	65
248.PP-1	87	87
248.PP-2	98	98
248.QQ-0	0	130
248.QQ-1	90	90
248.RR-1	80	80
248.RR-3	20	20
248.SS-3	40	40
249.73-1	64	64
249.73-2	60	65
249.73-3	15	15
249.73-4	26	26
249.PP-4	51	51
249.QQ-4	54	54
249.RR-5	30	30
249.RR-6	75	75
249.RR-7	30	30
250.74-1	84	84
250.74-2	50	50
250.74-3	0	50
250.74-4	80	80
250.74-5	46	46
250.74-6	0	100
250.74-7	73	73
250.74-8	0	120
250.PP-10	96	96
250.QQ-9	130	130
250.QQ-10	83	83
250.QQ-11	70	70
250.RR-11	60	60
250.RR-13	78	78
250.SS-12	58	58
250.SS-9	130	130
252.AAA-9	70	70
252.BBB-1	56	56
252.BBB-2	0	100
252.BBB-3	0	130
252.BBB-4	80	80
252.BBB-5	115	115
252.BBB-6	98	98
252.BBB-7	118	118
253.M-6	43	43
253.N-10	30	30
253.N-11	30	30

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
253.N-12	50	50
253.N-14	30	30
253.N-6	55	55
253.N-7	80	80
253.N-8	20	20
253.N-9	60	60
253.O-13	60	60
253.O-4	46	46
253.O-5	56	56
253.O-7	60	60
254.78-1	40	40
254.P-1	0	100
254.P-10	100	100
254.P-11	91	91
254.P-12	75	75
254.P-13	64	64
254.P-14	65	65
254.P-2	40	40
254.P-3	82	82
254.P-4	80	80
254.P-5	0	100
254.P-6	90	90
254.P-7	83	86
254.P-8	90	90
254.P-9	108	108
255.79-1	82	82
255.79-2	70	70
255.79-3	60	60
255.79-4	54	54
255.79-5	85	85
255.79-6	46	46
255.79-7	104	104
255.79-8	60	60
255.A-2	84	84
255.B-1	75	75
255.C-3	70	70
255.Q-1	88	91
255.U-3	84	84
255.U-4	47	47
255.A-4	55	55
255.B-3	110	110
255.C-1	0	0
256.80-1	108	108
256.A-3	108	108
256.A3-d	90	90
256.A3-a	100	100
256.A3-b	100	100
256.A-5	138	138
256.A5-b	87	87
256.A-8	70	70
256.A8-a	90	90
256.B-4	76	76
256.B-8	90	90

Description	Depth to Clay	Maximum Depth
256-A3c	110	110
256-A5a	110	110
257.A-6	0	100
257.B-1	100	100
257.B-5	120	120
257.B-7	85	85
257.B-8	80	80
257-A-1	118	118
257-A-2	120	120
257-A-3	89	89
257-D-6	0	0
258.A-11	110	110
258.A-13	0	75
258.A-18	90	90
258.C-11	95	95
258.C-7	0	110
258.D-8	30	30
258.F-1	55	55
258.A-10	128	128
258.A-12	0	120
258.A-14	95	95
258.A-15	99	99
258.A-16	80	80
258.A-17	80	80
258.A-5	0	133
258.A-6	110	110
258.A-7	119	119
258.A-8	0	70
258.A-9	0	130
258.B-5	105	105
258.B-7	110	110
258.B-8	95	95
258.C-10	0	120
258.C-8	135	135
258.C-9	0	140
258.D-7	90	90
258.D-9	0	120
258-E-1	84	84
258.G-2	120	120
258.H-1	95	95
258.I-2	0	140
259.A-1	65	65
259.A-2	96	96
259.A-3	72	72
259.A-4	76	76
259.D-3	0	70
259.A-5	0	94
259.B-1	120	120
259.B-2	100	100
259.C-1	0	138
259.C-2	110	110
259.D-1	0	120
259.D-2	0	105

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
259-E-1	120	120
259-E-2	100	100
260.84-1	100	100
260.84-2	100	100
260.84-3	80	80
260.84-4	0	130
260.D-26	0	90
260.G-2	0	100
260.G-8	0	80
260.H-2	0	100
260.I-1	0	0
260.I-5	0	60
260.I-O	0	100
260.J-2	70	70
260.J-4	0	60
260.K-1	75	75
260.OFF G2	0	0
261.85-1	0	96
261.85-2	35	35
261.C-20	60	60
261.C-21	0	60
261.MM-1	70	70
261.QQ-13	25	25
261.OO-12	77	77
262.86-1	125	125
262.GG-18	0	0
262.HH-10	70	70
262.T-12	0	0
263.87-1	90	90
263.87-2	80	80
263.A-24	60	60
263.FF-10	70	70
263.GG-8	90	90
264.88-1	100	100
264.88-2	42	42
264.88-3	65	65
264.DD-1	53	53
264.DD-6	60	60
264.EE-6	45	45
265.89-1	110	110
265.89-2	80	80
265.89-3	90	90
265.A-25	80	80
265.A-27	47	47
265.BB-1	90	90
265.EE-10	90	90
266.90-1	130	130
266.90-2	80	80
266.90-3	110	110
266.90-4	38	38
266.90-77	49	49
266.90-78	94	98
266.90-79	78	83

Description	Depth to Clay	Maximum Depth
266.90-80	60	64
266.90-84	50	50
266.90-85	40	40
266.90-86	47	47
266.90-87	0	101
266.90-88	50	50
266.90-89	0	102
266.90-90	60	60
267.91-1	50	50
267.91-2	70	70
267.91-3	92	92
267.CM-2	40	40
267.CM-3	90	100
267.JV-2	75	75
267.KM-1	23	25
267.KM2	82	82
267-E1	0	0
268.92-1	45	45
268.92-2	80	80
268.92-3	40	40
268.92-4	60	60
268.JJ-19	0	0
269.93-1	58	58
269.93-2	50	50
269.93-3	60	60
269.EEE-1	88	88
269.FFF-2	40	40
269.HHH-1	80	80
270.94-1	75	75
270.EEE-3	50	50
270.GGG2	40	40
270.HHH-3	100	100
271.95-3	50	50
271.95-4	50	50
271.95-1	120	120
271.95-2	115	115
271.95-5	100	100
271.A-6	0	120
271.B-6	120	120
271.B-7	50	60
271.C-3	33	33
271.C-4	35	35
271.C-5	0	134
271.C-6	50	50
271-E-1	68	68
271-E-2	0	90
271.F-2	0	95
272.D-3	25	25
272.D-4	98	98
272.D-5	120	120
272-E-4	100	100
272-E-5	15	20
272-F-5	60	60

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
272.I-1	0	80
272-E-15	30	30
272.F-4	80	80
273.D-1	85	85
273.D-3	50	50
273-E-1	30	30
273.F-2	80	80
273.F-3	40	40
273.F-4	35	35
273-D-2	70	80
273-E-2	40	4
273-E-3	60	60
273.F-1	120	120
274.D-1	79	79
274.D-2	0	120
274.D-3	70	70
274-E-1	20	20
274-E-2	75	75
274-E-4	90	90
274.F-1	75	75
274.F-3	120	120
275.A-1	125	125
275.A-2	0	146
275.B-1	80	80
275.C-1	65	80
275.C-3	100	100
276.CM-3	30	30
276.K-12	5	5
276.K-13	76	76
276.K-13-1	28	28
276.K-13-2	25	25
276.K-13-3	95	95
276.K-13-4	102	102
276.K-13-5	20	20
276.K-13-6	43	43
276.L-20	55	55
276.LS4	70	70
276.M-19	105	105
276.M-19a	60	60
276.M-19b	100	100
276.M-19c	77	77
277.A-2	55	55
277.A-3	59	59
277.A-4	109	109
277.A-5	55	55
277.B-2	55	55
277.B-4	60	60
277.C-1	100	100
277.C-2	80	80
277.C-3	100	100
277.C-4	40	40
277.C-5	110	110
277.C-6	120	120

Description	Depth to Clay	Maximum Depth
277.C-7	90	90
278.P-14	15	15
278.N-16	40	44
278.N-17	43	55
278.O-15	0	0
278.O-16	54	54
278.O-17	68	68
278.O-18	17	17
278.O-19	25	25
278.P-15	0	0
278.Q-1	40	40
278.Q-4	40	55
279.AA-14	68	68
279.AA-17	63	63
280.H-37	58	60
280.I-37	58	60
280.J-60	47	47
AR1.A-10	70	70
AR1.A-6	90	90
AR1.AAA-3	50	50
AR1.BB-6	68	68
AR1.BBB-11	50	50
AR1.C-10	40	40
AR1.C-14	10	10
AR1.C-18	0	60
AR1.C-2	60	60
AR1.C-22	50	60
AR1.C-26	60	60
AR1.C-6	50	50
AR1.CC-10	75	75
AR1.CCC-8a	60	60
AR1.CCC-8b	63	63
AR1.D-15	70	70
AR1.D15-E1	65	65
AR1.D15-E2	48	48
AR1.D15-N1	58	58
AR1.D15-S1	65	65
AR1.D15-W1	0	0
AR1.D-5	0	0
AR1.DD-3	70	70
AR1.DS-2	40	40
AR1.D-S3	0	40
AR1.EEE-10	50	50
AR1.FF-10	20	20
AR1.FF-14	60	60
AR1.FF-2	80	80
AR1.FF-6	85	85
AR1.G-12	90	90
AR1.G-16	30	30
AR1.G-20	50	50
AR1.G-24	0	80
AR1.G-8	38	38
AR1.HH-12	70	80

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR1.HH-13	0	80
AR1.HH-14	0	80
AR1.I-12	0	60
AR1.II-11	0	80
AR1.II-12	0	80
AR1.II-13	0	80
AR1.JJ-4	50	50
AR1.L-12	50	50
AR1.L-16	70	70
AR1.L-4	0	60
AR1.L-8	50	50
AR1.LL-3	55	55
AR1.OO-7	50	50
AR1.P-10	20	20
AR1.P-20	5	10
AR1.P-24	75	75
AR1.P-4	0	80
AR1.P-8	100	100
AR1.PP-4	100	100
AR1.PP4-W1	90	90
AR1.PP-N1	0	60
AR1.PP-S1	0	60
AR1.Q-10	65	65
AR1.Q-4	80	80
AR1.QQ-7	50	50
AR1.R-1	80	80
AR1.R-10	0	0
AR1.R-8	0	60
AR1.RIVERSWEEP1	20	20
AR1.RIVERSWEEP2	25	25
AR1.RIVERSWEEP7	20	20
AR1.S-1	25	25
AR1.S-10	20	20
AR1.S-3	40	40
AR1.S-5	80	80
AR1.Sweep 18	0	100
AR1.SWEEP5	48	48
AR1.SWEEP13	20	20
AR1.SWEEP14	35	35
AR1.SWEEP-16	100	100
AR1.SWEEP-17	0	60
AR1.SWEEP3	4	10
AR1.SWEEP4	60	60
AR1.SWEEP6	75	75
AR1.T-10	0	90
AR1.T-15	0	60
AR1.T-19	30	30
AR1.T-2	50	50
AR1.T-23	70	70
AR1.T-4	40	40
AR1.T-9	0	0
AR1.T-9	70	70
AR1.TT-13	60	60

Description	Depth to Clay	Maximum Depth
AR1.TT-14	0	80
AR1.TT-15	80	80
AR1.U-10	60	60
AR1.U-2	70	70
AR1.U-30	70	70
AR1.U-31	0	110
AR1.U-32	84	84
AR1.U-4	0	80
AR1.UU-13	0	100
AR1.UU13-E1	92	92
AR1.UU13-N1	0	115
AR1.UU13-S1	98	98
AR1.UU13-W1	0	100
AR1.V-1	70	70
AR1.V-19	0	100
AR1.V-3	0	100
AR1.V-5	65	65
AR1.VV-14	0	80
AR1.VV-4	0	70
AR1.W-1	50	50
AR1.W-16	0	100
AR1.W-2	0	131
AR1.WW-6	0	80
AR1.X-2	0	60
AR1.X-6	0	60
AR1.Y-1	20	20
AR1.YY-12	0	0
AR1.YY-7	55	55
AR1.Z-3	70	70
AR1.Z-5	20	20
AR10.A-28	66	66
AR10.A-40	60	60
AR10.B-10	35	35
AR10.B-1	80	80
AR10.B-23	40	40
AR10.B-4	17	17
AR10.B-6	38	38
AR10.C-13	35	35
AR10.C-17	50	50
AR10.C-33	40	40
AR10.D-32	76	76
AR10.DD-1	20	20
AR10.E-14	25	25
AR10.E-18	52	52
AR10.E-22	15	15
AR10.E-28	43	43
AR10.E-36	30	30
AR10.E-38	40	40
AR10.F-13	36	36
AR10.F-16	20	20
AR10.F-18	32	32
AR10.F-24	50	50
AR10.F-32	20	20

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR10.F-39	60	60
AR10.FF-11	10	10
AR10.G-10	20	20
AR10.G-18	10	10
AR10.G-27	38	38
AR10.G-35	60	60
AR10.GG-5	60	60
AR10.H-11	43	43
AR10.H-20	60	60
AR10.H-24	58	62
AR10.H-28	15	15
AR10.H-32	18	18
AR10.H-36	12	15
AR10.H-38	60	65
AR10.H-4	60	60
AR10.H-7	75	75
AR10.I-1	60	60
AR10.I-10	58	58
AR10.I-16	60	60
AR10.I-19	37	37
AR10.I-21	40	40
AR10.I-25	25	25
AR10.I-29	60	60
AR10.II-1	40	40
AR10.J-13	63	63
AR10.J-9	100	100
AR10.JJ-4	35	35
AR10.K-21	20	20
AR10.K-26	25	25
AR10.K-8	56	56
AR10.L-11	12	12
AR10.L-14	11	11
AR10.M-11	60	60
AR10.M-12	60	60
AR10.M-4	20	20
AR10.N-11	15	15
AR10.N-24	25	25
AR10.N-7	5	5
AR10.O-12	22	22
AR10.O-6	10	10
AR10.P-16	40	40
AR11.A-03	60	60
AR11.A-06	50	50
AR11.A-07	100	100
AR11.A-15	75	75
AR11.A-23	55	55
AR11.B-01	0	60
AR11.B-06	45	45
AR11.B-11	0	45
AR11.B-15	45	50
AR11.B-19	52	52
AR11.B-20	60	60
AR11.B-23	31	31

Description	Depth to Clay	Maximum Depth
AR11.C-03	30	30
AR11.C-05	30	30
AR11.C-06	50	50
AR11.C-07	45	45
AR11.C-26	50	50
AR11.D-01	62	62
AR11.D-05	40	40
AR11.D-14	15	15
AR11.D-18	65	65
AR11.E-06	0	60
AR11.E-15	50	50
AR11.F-09	0	60
AR11.F-15	50	50
AR11.F-19	38	40
AR11.G-11	53	53
AR11.G-13	70	70
AR11.G-24	44	44
AR11.H-08	73	73
AR11.H-16	55	55
AR11.H-21	65	65
AR11.I-03	55	55
AR11.I-07	50	50
AR11.I-08	28	28
AR11.I-09	50	50
AR11.I-10	56	56
AR11.I-11	28	28
AR11.I-12	60	67
AR11.J-04	0	80
AR12.AAA-1	20	20
AR12.NN-16	20	20
AR12.A-2	15	15
AR12.AA-1	10	10
AR12.AA-10	50	50
AR12.AA-12	20	20
AR12.AA-3	20	20
AR12.AA-6	47	47
AR12.AAA-4	60	60
AR12.B-6	36	36
AR12.BB-11	60	60
AR12.BB-2	18	18
AR12.BB-4	43	43
AR12.BB-6	30	44
AR12.BB-8	0	0
AR12.BBB-5	35	35
AR12.C-11	25	25
AR12.C-4	30	30
AR12.C-7	10	10
AR12.CC-1	35	35
AR12.CC-10	25	25
AR12.CC-12	14	17
AR12.CC-15	10	10
AR12.CC-2	73	76
AR12.CCC-1	38	38

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR12.CCC-3	100	100
AR12.D-6	18	18
AR12.D-9	18	18
AR12.DD-1	52	52
AR12.DD-14	46	46
AR12.DD-8	35	35
AR12.E-10	30	30
AR12.E-4	15	15
AR12.EE-0	0	80
AR12.EE-4	40	40
AR12.EE-6	30	30
AR12.EE-8	0	60
AR12.F-10	22	22
AR12.F-12	24	24
AR12.F-14	13	13
AR12.F-16	28	28
AR12.F-17	24	24
AR12.F-20	14	14
AR12.F-21	23	23
AR12.F-4	17	17
AR12.F-6	15	15
AR12.F-7	20	20
AR12.FF-11	28	28
AR12.FF-6	48	49
AR12.FF-7	28	28
AR12.G-10	45	45
AR12.G-12	30	30
AR12.G-13	25	25
AR12.G-14	30	30
AR12.G-15	23	23
AR12.G-16	25	25
AR12.G-3	19	19
AR12.G-7	48	48
AR12.G-9	68	68
AR12.GG-12	1	15
AR12.H-1	45	45
AR12.H-10	65	65
AR12.H-12	20	20
AR12.H-14	35	35
AR12.H-2	75	75
AR12.H-3	40	40
AR12.H-6	30	30
AR12.HH-4	55	55
AR12.I-1	67	67
AR12.I-10	36	36
AR12.I-12	40	40
AR12.I-15	20	20
AR12.I-2	50	50
AR12.I-5	34	34
AR12.I-6	36	36
AR12.I-7	71	71
AR12.II-5	30	30
AR12.J-1	17	17

Description	Depth to Clay	Maximum Depth
AR12.J-16	38	38
AR12.J-17	28	28
AR12.J-18	20	20
AR12.J-3	36	36
AR12.J-6	50	50
AR12.JJ-4	20	20
AR12.K-12	15	15
AR12.K-13	20	20
AR12.K-18	38	38
AR12.K-2	35	35
AR12.K-4	50	50
AR12.K-6	40	40
AR12.K-8	40	40
AR12.KK-17	8	8
AR12.KK-2	1	8
AR12.KK-6	2	2
AR12.L-1	16	16
AR12.L-11	71	71
AR12.L-4	28	28
AR12.L-7	62	62
AR12.L-9	72	74
AR12.M-12	51	51
AR12.M-14	65	65
AR12.M-17	56	56
AR12.M-2	13	15
AR12.M-7	15	15
AR12.MM-15	100	100
AR12.N-10	18	18
AR12.N-14	85	85
AR12.N-23	60	60
AR12.N-6	35	35
AR12.NN-0	80	80
AR12.NN-13b	21	21
AR12.NN-13e	48	48
AR12.O-12	10	10
AR12.O-13	50	50
AR12.O-14	52	52
AR12.O-4	20	20
AR12.O-8	40	40
AR12.OO-10	27	27
AR12.OO-10a	59	60
AR12.OO-10b	15	15
AR12.OO-16	15	15
AR12.P-13	20	20
AR12.P-15	25	25
AR12.P-5	58	58
AR12.PP-10	20	20
AR12.PP-4	0	60
AR12.PP-6b	33	33
AR12.PP8	93	93
AR12.Q-12	25	25
AR12.Q-17	60	60
AR12.Q-3	40	40

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR12.Q-7	30	30
AR12.QQ-14	30	30
AR12.R-0	60	60
AR12.R-1	70	70
AR12.RR-1	70	70
AR12.RR-14	20	20
AR12.RR-17	10	10
AR12.S-0	22	22
AR12.S-13	10	10
AR12.S-14	35	35
AR12.S-15	35	35
AR12.S-5	30	30
AR12.T-15	23	23
AR12.T-2	40	40
AR12.T-8	3	3
AR12.U-5	8	8
AR12.U-6	40	40
AR12.UU-12	58	58
AR12.UU-4	15	15
AR12.V-3	8	8
AR12.V-9	20	20
AR12.VV-5	30	30
AR12.W-11	73	73
AR12.W-19	7	10
AR12.W-20	23	23
AR12.W-3	45	45
AR12.W-9	20	20
AR12.WW-14	68	68
AR12.WW-9	38	38
AR12.X-12	55	55
AR12.X-17	10	10
AR12.X-6	20	20
AR12.XX-10	17	17
AR12.XX-11	18	18
AR12.Y-11	20	20
AR12.Y-12	20	20
AR12.Y-6	50	50
AR12.YY-0	37	37
AR12.Z-15	23	23
AR12.Z-8	0	60
AR12.ZZ-0	50	50
AR12.ZZ-13	70	70
AR12.ZZ-5	82	82
AR13.U-1	30	30
AR13.A-1	15	15
AR13.B-4	36	36
AR13.C-2	11	11
AR13.D-6	12	12
AR13.E-10	10	10
AR13.E-4	18	18
AR13.F-4	20	20
AR13.G-1	60	60
AR13.H-1	56	56

Description	Depth to Clay	Maximum Depth
AR13.I-1	50	50
AR13.J-0	36	36
AR13.L-1	20	20
AR13.M-1	45	45
AR13.O-1	22	22
AR13.O-5	15	15
AR13.P-8	90	90
AR13.Q-8	37	37
AR13.Q-9	50	50
AR13.R-4	11	11
AR13.S-10	30	30
AR13.S10-E1	30	30
AR13.S10-N1	27	27
AR13.S10-N2	30	30
AR13.S10-S1	15	15
AR13.S10-W1	40	40
AR13.S10-W2	52	55
AR13.S-11	10	10
AR13.S-8	60	60
AR13.S-9	10	10
AR13.SWP1	40	40
AR13.SWP2	57	60
AR13.T-3	15	15
AR13.V-0	30	30
AR13.V-1	30	30
AR13.V-2	20	20
AR13.V-3	20	20
AR13.V-7	40	40
AR13.W-0	48	48
AR13.W-1	36	36
AR13.W-2	38	38
AR13.W-4	28	28
AR13.X-1	30	30
AR13.X-10	20	20
AR13.X-5	15	15
AR13.Y-4	30	30
AR13.Y-8	27	27
AR14.L-7	35	35
AR14.A-4	30	30
AR14.A-6	47	47
AR14.B-6	17	17
AR14.B-7	40	40
AR14.C-2	35	35
AR14.C-5	35	35
AR14.C-6	52	52
AR14.E-2	30	30
AR14.G-1	30	30
AR14.G-5	20	20
AR14.H-2	63	63
AR14.H-4	10	10
AR14.H-6	1	3
AR14.I-1	15	15
AR14.I-15	55	55

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR14.I-3	65	65
AR14.J-4	44	44
AR14.J-5	44	44
AR14.J-7	46	46
AR14.K-5	34	34
AR14.L-1	43	43
AR14.L-10	15	15
AR14.L-11	15	15
AR14.L-5	35	35
AR14.M-10	65	65
AR14.M-11	30	30
AR14.M-5	31	31
AR14.M-6	40	40
AR14.N-12	60	60
AR14.N-4	30	30
AR14.N-8	75	75
AR14.O-12	60	60
AR14.O-4	50	50
AR15.A-7	95	95
AR15.B-3	40	40
AR15.C-1	0	82
AR15.C-11	30	30
AR15.C-3	1	1
AR15.C-5	40	40
AR15.D-3	40	40
AR15.D-5	40	40
AR15.E-3	35	35
AR15.H-2	35	35
AR15.I-2	30	30
AR15.I-4	40	40
AR15.I-6	1	1
AR15.J-3	20	20
AR15.J-5	20	20
AR15.K-1	10	10
AR15.L-3	40	40
AR15.L-5	65	65
AR15.M-1	80	80
AR15.M-2	80	80
AR15.M-3	44	44
AR15.M-4	8	8
AR15.M-5	35	35
AR16.46-10	50	50
AR16.46-4	87	87
AR16.A-3	70	70
AR16.B-16	20	20
AR16.B-26	20	20
AR16.B-7	50	50
AR16.C-11	30	30
AR16.C-9	40	40
AR16.D-1	55	55
AR16.D-17	45	45
AR16.D-19	35	35
AR16.D-22	35	35

Description	Depth to Clay	Maximum Depth
AR16.D-24	75	75
AR16.D-26	48	48
AR16.D-30	70	70
AR16.E-11	85	85
AR16.E-18	0	100
AR16.E-21	62	62
AR16.E-3	60	60
AR16.F-1	22	22
AR16.F-15	64	64
AR16.F-18	47	47
AR16.F-4	37	37
AR16.F-5	0	0
AR16.G-2	42	42
AR16.G-5	60	60
AR16.H-1	70	70
AR16.H-18	8	8
AR16.H-7	15	15
AR16.I-5	50	50
AR16.J-20	63	63
AR16.J-5	60	60
AR16.J-6	60	60
AR16.K-10	87	87
AR16.K-13a	70	70
AR16.K-13b	65	65
AR16.K-14	70	70
AR16.K-17	67	67
AR16.K-4	25	25
AR16.K-8	40	40
AR16.L-12	18	18
AR16.L-15	42	42
AR16.L-8	20	20
AR16.L-9	18	18
AR17.57-9	67	67
AR17.59-1	0	40
AR17.A-17	23	23
AR17.A-2	47	47
AR17.A-4	50	50
AR17.A-6	47	47
AR17.A-8	65	65
AR17.AA-10	38	38
AR17.AA-11	80	80
AR17.AA-2	50	50
AR17.AA-23	100	100
AR17.AA-6	50	50
AR17.AAA-1	34	34
AR17.AAA-10	83	83
AR17.AAA-12	86	86
AR17.AAA-8	104	104
AR17.B-12	105	105
AR17.B-4	20	20
AR17.B-9	17	20
AR17.BB-10	60	60
AR17.BB-12	0	98

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR17.BB-19	0	100
AR17.BB-22	95	95
AR17.BB-3	40	40
AR17.BB-4	62	62
AR17.BB-6	48	48
AR17.BB-8	50	50
AR17.BBB-8	60	60
AR17.BOG-SWP1	95	95
AR17.BOG-SWP16	0	95
AR17.BS10	0	100
AR17.BS11	0	100
AR17.BS12	0	100
AR17.BS13	0	55
AR17.BS14	55	55
AR17.BS15	81	81
AR17.BS17	100	100
AR17.BS18	100	100
AR17.BS2	0	90
AR17.BS3	0	105
AR17.BS4	0	80
AR17.BS5	85	85
AR17.BS6	0	95
AR17.BS7	0	100
AR17.BS8	0	100
AR17.BS9	0	80
AR17.C-13	70	70
AR17.C-18	112	112
AR17.C-2	33	33
AR17.C-4	27	27
AR17.C-43	20	20
AR17.C-5	18	18
AR17.C-6	30	30
AR17.CC-1	52	52
AR17.CC-12	0	100
AR17.CC-15	50	50
AR17.CC-16	91	91
AR17.CC-17	0	95
AR17.CC-19	0	100
AR17.CC-21	70	70
AR17.CC-25	0	100
AR17.CC-8	50	50
AR17.CCC-4	92	92
AR17.CCC-8	109	109
AR17.CM1	110	120
AR17.CM2	140	140
AR17.CM3	60	60
AR17.D-12	90	90
AR17.D-14	70	70
AR17.D-4	85	85
AR17.D-5	28	28
AR17.D-7	40	40
AR17.D-9	80	80
AR17.DD-15	80	80

Description	Depth to Clay	Maximum Depth
AR17.DD-16	110	110
AR17.DD-17	70	70
AR17.DD-6	60	60
AR17.E-10	20	20
AR17.E-11	38	38
AR17.E-12	65	65
AR17.E-19	40	40
AR17.E-2	17	17
AR17.E-20	35	35
AR17.E-5	58	58
AR17.EE-14	90	90
AR17.EE-18	0	100
AR17.F-10	38	38
AR17.F-15	40	40
AR17.F-3	30	30
AR17.F-5	120	120
AR17.F-7	23	23
AR17.F-8	40	40
AR17.FF-10	40	40
AR17.FF-19	0	75
AR17.G-10	40	40
AR17.G-14	57	57
AR17.G-18	67	67
AR17.G-22	52	52
AR17.G-5	20	20
AR17.GG-18	103	103
AR17.GG-3	14	14
AR17.H-1	27	27
AR17.H-11	15	15
AR17.H-13	15	15
AR17.H-19	42	42
AR17.H-6	30	30
AR17.H-8	30	30
AR17.HH-18	24	24
AR17.HH-21	91	91
AR17.HH-25	62	62
AR17.I-12	30	30
AR17.I-14	35	35
AR17.I-18	40	40
AR17.I-19	50	50
AR17.I-6	60	60
AR17.I-9	40	40
AR17.II-14	42	42
AR17.II-15	63	63
AR17.J-10	30	30
AR17.J-16	35	35
AR17.J-20	25	25
AR17.J-5	50	50
AR17.J-6	45	45
AR17.JJ-14	50	50
AR17.JJ-19	35	35
AR17.JV-1	115	115
AR17.JV-2	0	145

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR17.JV-3	55	55
AR17.JV-4	50	50
AR17.JV-5	35	35
AR17.K-4	63	63
AR17.K-7	90	90
AR17.K-9	32	32
AR17.L-12	75	75
AR17.L-14	63	63
AR17.L-17	68	68
AR17.L-9	65	65
AR17.LL-5	86	86
AR17.LL-6	0	110
AR17.LL-7	0	110
AR17.LL-8	99	99
AR17.LS-1	75	75
AR17.LS-2	103	103
AR17.LS-3	70	70
AR17.M-10	60	60
AR17.M-12	35	35
AR17.M-16	43	43
AR17.M-23	30	30
AR17.M-7	35	35
AR17.N-11	40	40
AR17.N-13	25	25
AR17.N-2	40	40
AR17.N-3	0	0
AR17.N-4	53	53
AR17.N-6	55	55
AR17.N-9	30	30
AR17.O-1	15	15
AR17.O-11	66	66
AR17.O-4	34	34
AR17.O-7	24	24
AR17.O-9	75	75
AR17.P-11	35	35
AR17.P-13	60	60
AR17.P-1	35	35
AR17.P-3	0	0
AR17.P-6	40	40
AR17.P-8	20	20
AR17.PP-12	60	60
AR17.PP-14	0	77
AR17.PP-17	68	68
AR17.Q-1	45	45
AR17.Q-10	24	24
AR17.Q-13	49	49
AR17.Q-3	51	51
AR17.Q-5	65	65
AR17.Q-7	20	20
AR17.R-10	89	89
AR17.R-12	65	65
AR17.R-16	24	24
AR17.R-2	30	30

Description	Depth to Clay	Maximum Depth
AR17.R-20	40	40
AR17.R-24	42	42
AR17.R-28	20	20
AR17.R-6	80	80
AR17.RR-15	110	110
AR17.RR-16	0	70
AR17.S-19	70	70
AR17.S-23	30	30
AR17.S-5	90	90
AR17.S-9	0	100
AR17.SS-22	55	55
AR17.SS-5	40	40
AR17.SS-6	70	70
AR17.SWP1	60	60
AR17.SWP2	60	60
AR17.SWP3	0	60
AR17.SWP4	30	30
AR17.SWP5	50	50
AR17.SWP6	50	50
AR17.T-2	0	100
AR17.T-20	75	75
AR17.TT-11	94	94
AR17.TT-13	23	23
AR17.TT-15	83	83
AR17.TT-16	70	70
AR17.TT-17	82	82
AR17.TT-4	80	80
AR17.TT-5	84	84
AR17.TT-7	0	80
AR17.U-21	85	85
AR17.U-5	0	80
AR17.UU-13	70	70
AR17.UU-9	60	60
AR17.V-15	90	90
AR17.V-16	75	75
AR17.V-18	80	80
AR17.V-20	0	100
AR17.V-9	70	70
AR17.VV-2	60	60
AR17.W-15	100	100
AR17.W-3	3	3
AR17.W-9	78	78
AR17.WW-5	60	60
AR17.X-17	95	95
AR17.X-10	60	60
AR17.X-13	100	100
AR17.X-17	0	0
AR17.X-5	65	65
AR17.XX-2	60	60
AR17.XX-6	95	95
AR17.XX-8	75	75
AR17.Y-10	30	30
AR17.Y-14	100	100

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR17.Y-17	100	100
AR17.Y-2	40	42
AR17.Y-6	48	48
AR17.YY-10	54	54
AR17.YY-11	44	44
AR17.YY-9	39	39
AR17.Z-1	60	60
AR17.Z-11	80	80
AR17.Z-24	96	96
AR17.Z-25	89	89
AR17.Z-26	85	85
AR17.Z-7	50	50
AR17.ZZ-10	80	80
AR17.ZZ-8	110	110
AR18.E-1	70	70
AR18.F-8	70	70
AR18.G-6	60	60
AR18.H-3	70	70
AR18.I-6	0	110
AR18.J-13	70	70
AR18.J-8	0	110
AR18.K-2	0	70
AR18.K-4	0	70
AR18.K-7	100	100
AR18.L-8	0	80
AR18.M-2	48	48
AR18.N-2	90	90
AR18.N-8	45	45
AR19.A-10	47	47
AR19.A-10a	45	45
AR19.A-10b	58	58
AR19.A-10c	80	80
AR19.A-10d	50	0
AR19.A-10e	30	30
AR19.A-12	82	82
AR19.A-17	81	81
AR19.A-8b	0	100
AR19.AAA-1	0	135
AR19.AAA3	72	72
AR19.B-1	88	88
AR19.BBB-1	50	50
AR19.BBB-10	90	90
AR19.BBB-9	30	30
AR19.CCC-13	88	88
AR19.CCC-7	63	63
AR19.CCC-9	81	81
AR19.D-2	0	0
AR19.D-3	80	80
AR19.E-1	60	60
AR19.E-3	10	10
AR19.E-5	80	80
AR19.EEE-2	70	70
AR19.EEE-4	60	60

Description	Depth to Clay	Maximum Depth
AR19.EEE-5	60	60
AR19.F-3	70	70
AR19.FFF-1	0	60
AR19.FFF-3	60	60
AR19.FFF-4	60	60
AR19.FFF-5	80	80
AR19.FFF-6	70	70
AR19.FFF-7	60	60
AR19.FFF-8	40	40
AR19.G-13	72	72
AR19.G-19	0	100
AR19.G-25	92	92
AR19.G-8	87	87
AR19.GGG-1	90	90
AR19.GGG-3	40	40
AR19.GGG-4	48	48
AR19.GGG-5	45	45
AR19.GGG-6	46	46
AR19.GGG-7	99	99
AR19.GGG-8	67	67
AR19.HHH-2	90	90
AR19.HHH-4	60	60
AR19.HHH-5	90	90
AR19.HHH-6	90	90
AR19.III-1	60	60
AR19.III-2	0	105
AR19.III-3	56	56
AR19.M-3	41	41
AR19.M-5	54	54
AR19.N-3	44	44
AR19.P-15	54	58
AR19.P-16	64	64
AR19.V-2	88	88
AR19.W-3	0	100
AR19.X-2	70	70
AR19.Y-7	45	45
AR19.Z-4	55	55
AR2.78	0	0
AR2.A-27a	25	25
AR2.AA-4	3	3
AR2.BBB-13	0	0
AR2.BBB-7	0	0
AR2.C-2	0	100
AR2.CC-3	60	60
AR2.D-6	0	80
AR2.DD-9	48	48
AR2.EE-2	50	50
AR2.EEE-1	65	65
AR2.EEE-13	65	65
AR2.F-8	0	0
AR2.FFF-7	60	60
AR2.GGG-0	30	30
AR2.H-2	40	40

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR2.H-6	0	45
AR2.HH-1	70	70
AR2.I-0	0	80
AR2.I-4	40	40
AR2.J-4	45	45
AR2.JJ-11	20	20
AR2.JJ-13	0	100
AR2.K-13	20	20
AR2.K-2	40	40
AR2.K-7	0	20
AR2.KK-2	0	80
AR2.KK-8	50	50
AR2.LL-2	90	90
AR2.LL-7	75	75
AR2.M-16	70	70
AR2.N-2	0	60
AR2.NN-1	0	100
AR2.NN-4	67	67
AR2.OO-1	60	60
AR2.PP-0	45	45
AR2.PP-12	0	60
AR2.PP-4	50	50
AR2.PP-8	0	0
AR2.QQ-3	85	85
AR2.SS-1	45	45
AR2.ST2	40	40
AR2.ST3	41	41
AR2.ST5	40	40
AR2.U-14	50	50
AR2.U-5	0	60
AR2.UU-12	18	18
AR2.UU-3	25	25
AR2.UU-8	0	60
AR2.V-10	0	80
AR2.VV-5	20	20
AR2.VV-9	10	10
AR2.W-10	0	85
AR2.W-4	65	65
AR2.X-2	50	50
AR2.XX-1	70	70
AR2.XX-3	80	80
AR2.XX-7	0	60
AR2.XX-9	70	70
AR2.YY-10	60	60
AR2.YY-12	0	80
AR2.YY-4	40	40
AR2.Z-6	0	80
AR2.ZZ-12	60	60
AR2.ZZ-13	35	35
AR2.ZZ-2	60	60
AR20.B-2	100	100
AR20.B-4	100	100
AR20.B-6	100	100

Description	Depth to Clay	Maximum Depth
AR20.C-1	90	90
AR20.C-10	30	30
AR20.C-11	40	40
AR20.C-12	52	52
AR20.C-13	63	63
AR20.C-3	0	120
AR20.D-1	0	100
AR20.D-5	80	80
AR20.D-8	80	80
AR21.H-3	112	112
AR21.A-19	50	50
AR21.A-3	0	98
AR21.C-5	100	100
AR21.C-6	0	105
AR21.D-1	70	70
AR21.D-4	0	100
AR21.D-5	110	110
AR21.D-6	0	110
AR21.E-1	80	80
AR21.K-3	73	73
AR21.K-8	70	70
AR21.L-6	30	30
AR21.L-9	80	80
AR21.M-2	75	75
AR21.N-6	40	40
AR22.A-6	60	60
AR22.B-3	82	82
AR22.B-4	32	32
AR23.A-1	40	40
AR23.A-2	20	20
AR23.A-3	60	60
AR23.A-4	40	60
AR23.A-5	60	60
AR23.B-1	20	20
AR23.B-2	60	60
AR23.B-3	40	40
AR23.B-4	80	80
AR23.B-5	20	20
AR23.C-1	40	40
AR23.C-2	55	55
AR23.D-1	0	100
AR23.D-2	25	25
AR23.E-3	0	120
AR23.F-1	50	50
AR23.F-3	115	115
AR23.G-4	0	50
AR24.A-1	20	20
AR24.A-10	0	60
AR24.A-11	40	40
AR24.A-12	45	45
AR24.A-13	30	40
AR24.A-14	0	130
AR24.A-2	25	30

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR24.A-3	40	40
AR24.A-4	30	30
AR24.A-5	40	40
AR24.A-6	70	80
AR24.A-7	45	45
AR24.A-8	0	128
AR24.A-9	0	140
AR24.B-1	60	60
AR24.B-10	65	65
AR24.B-11	55	55
AR24.B-12	32	32
AR24.B-13	65	65
AR24.B-14	40	40
AR24.B-2	30	30
AR24.B-3	25	25
AR24.B-4	50	50
AR24.B-5	15	15
AR24.B-6	70	70
AR24.B-7	40	40
AR24.B-8	0	115
AR24.B-9	60	60
AR24.C-1	10	10
AR24.C-2	30	30
AR24.C-10	65	65
AR24.C-11	20	20
AR24.C-12	60	60
AR24.C-13	40	40
AR24.C-14	30	30
AR24.C-3	65	65
AR24.C-4	20	20
AR24.C-5	30	30
AR24.C-6	55	55
AR24.C-7	90	90
AR24.C-8	95	95
AR24.C-9	0	100
AR24.D-1	50	50
AR24.D-2	100	100
AR24.E-1	40	40
AR25.A-1	45	45
AR25.A-2	52	52
AR25.B-1	35	40
AR25.B-2	65	65
AR25.B-3	80	80
AR25.B-4	20	20
AR25.C-1	98	98
AR25.C-2	70	70
AR25.C-3	45	45
AR25.E-4	70	70
AR25.E-5	50	50
AR25.E-6	50	50
AR25.G-1	0	0
AR25.G-2	40	40
AR25.G-3	28	28

Description	Depth to Clay	Maximum Depth
AR25.G-4	15	15
AR25.G-5	22	22
AR25.G-6	40	40
AR25.G-7	38	38
AR25.H-1	40	40
AR25.H-2	30	40
AR25.H-3	40	40
AR25.H-4	15	20
AR25.H-5	15	20
AR25.H-6	10	10
AR25.H-7	20	20
AR25.I-1	50	50
AR25.I-2	30	30
AR25.I-3	25	25
AR26.A-1	44	44
AR26.A-2	0	120
AR26.A-3	20	20
AR26.A-4	20	20
AR26.B-1	15	15
AR26.B-2	35	35
AR26.B-3	50	50
AR26.B-4	45	45
AR26.B-5	65	65
AR26.C-1	40	40
AR26.C-2	60	60
AR26.C-3	60	60
AR26.C-4	80	80
AR26.C-5	100	100
AR26.C-6	95	95
AR26.D-4	20	20
AR26.E-3	80	80
AR26.E-5	95	95
AR26.F-2	60	60
AR26.F-4	30	40
AR26.G-1	20	20
AR26.G-2	33	33
AR26.H-1	50	50
AR26.H-2	60	60
AR26.H-3	45	50
AR26.I-1	110	110
AR26.I-2	40	40
AR26.J-1	36	36
AR26.J-2	35	35
AR26.J-3	110	110
AR26.K-1	110	110
AR26.K-2	95	95
AR26.L-1	40	40
AR26.L-2	60	60
AR27.A-1	57	57
AR27.A-2	34	34
AR27.A-3	23	23
AR27.A-4	85	85
AR27.B-1	60	60

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR27.B-2	5	5
AR27.B-3	40	40
AR27.B-4	80	80
AR27.C-1	20	20
AR27.C-2	60	60
AR27.C-3	40	40
AR28.A-3	63	63
AR28.B-2	30	30
AR28.C-2	130	140
AR28.C-4	42	42
AR28.G-1	55	55
AR28.G-2	80	80
AR28.H-1	50	50
AR28.H-2	80	80
AR28.J-1	42	42
AR28.J-2	39	39
AR28.J-3	84	84
AR28.J-4	0	102
AR28.K-1	20	20
AR28.K-2	50	50
AR28.K-3	8	8
AR28.K-4	90	90
AR28.K-5	35	35
AR28.L-1	80	80
AR28.L-2	70	80
AR28.L-3	40	40
AR28.L-4	90	90
AR29.A-1	40	40
AR29.B-1	85	85
AR29.B-3	0	0
AR29.C-8	0	0
AR29.D-1	45	45
AR29.E-1	55	55
AR29.E-2	20	20
AR3.92-5	50	50
AR3.92-6	50	50
AR3.A-1	0	0
AR3.A-2	48	48
AR3.A-4	20	20
AR3.A-5	30	30
AR3.AA-20	52	52
AR3.AA-8	0	0
AR3.B-1	60	60
AR3.B-10	15	20
AR3.B-18	0	70
AR3.B-3	28	28
AR3.B-6	30	30
AR3.BB-20	35	35
AR3.BB-23	30	30
AR3.BB-25	20	20
AR3.BB-27	47	47
AR3.BB-3	42	42
AR3.BB-5	43	43

Description	Depth to Clay	Maximum Depth
AR3.BB-7	42	42
AR3.C-19	30	30
AR3.C-4	0	70
AR3.CC-1	16	16
AR3.CC-10	52	52
AR3.CC-17	3	3
AR3.CC-21	52	52
AR3.CC-29	52	52
AR3.CC-35	58	58
AR3.CC-8	0	100
AR3.CC-9	38	38
AR3.CM-1	60	65
AR3.D-16	80	80
AR3.D-22	65	65
AR3.D-24	53	53
AR3.D-3	45	45
AR3.D-4	30	30
AR3.D-7	40	40
AR3.DD-18	26	26
AR3.DD-32	58	58
AR3.DD-5	38	38
AR3.DD-7	62	62
AR3.DD-9	60	60
AR3.EE-1	50	50
AR3.EE-17	40	40
AR3.EE-19	15	15
AR3.EE-21	60	60
AR3.EE-30	60	60
AR3.EE-5	50	50
AR3.EE-6	51	51
AR3.F-12	60	60
AR3.FF-20	0	0
AR3.FF-5	60	60
AR3.FF-7	30	30
AR3.GG-3	90	121
AR3.H-6	0	80
AR3.H-9	20	20
AR3.HH-1	45	45
AR3.HH-10	47	47
AR3.HH-16	60	60
AR3.HH-2	86	86
AR3.HH-3	113	113
AR3.HH-6	0	50
AR3.I-20	25	25
AR3.II-1	0	58
AR3.II-2	0	100
AR3.II-4	0	0
AR3.II-7	0	0
AR3.J-10	0	60
AR3.J-12	50	50
AR3.J-26	60	60
AR3.J-8	0	0
AR3.JJ-1	0	40

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR3.JJ-12	0	0
AR3.JJ-15	75	75
AR3.JJ-2	50	50
AR3.JJ-3	60	60
AR3.JJ-8	0	85
AR3.JV-1	40	40
AR3.K-15	0	60
AR3.K-20	0	60
AR3.Sweep-C4	50	50
AR3.Sweep-E-1	0	60
AR3.SWP-B1	40	40
AR3.SWP-B2	0	60
AR3.SWP-B4	0	60
AR3.SWP-B5	40	40
AR3.SWP-C1	50	50
AR3.SWP-C2	50	50
AR3.SWPC3	25	25
AR31.A-1	60	60
AR31.A-2	2	20
AR31.A-3	55	55
AR31.B-1	0	60
AR31.B-2	0	60
AR31.B-3	80	80
AR31.C-2	40	40
AR31.C-1	35	40
AR31.C-3	40	40
AR32.A-1	65	65
AR32.B-1	85	85
AR4 ST3	0	100
AR4.ST1	0	100
AR4.ST10	45	45
AR4.ST11	48	48
AR4.ST12	58	58
AR4.ST13	52	52
AR4.ST14	59	59
AR4.ST15	48	48
AR4.ST17	48	48
AR4.ST19	50	50
AR4.ST2	0	100
AR4.ST20	33	33
AR4.ST4	42	42
AR4.ST5	38	38
AR5.187-12	47	50
AR5.187-13	26	28
AR5.ST52	0	0
AR6.A-12	53	53
AR6.B-1	95	95
AR6.B-13	45	45
AR6.B-2	80	80
AR6.C-1	0	100
AR6.C-10	0	70
AR6.C-11	42	42
AR6.C-2	0	80

Description	Depth to Clay	Maximum Depth
AR6.D-1	100	100
AR6.D-10	80	80
AR6.D-11	32	32
AR6.D-2	0	80
AR6.D-9	60	60
AR6.E-1	0	0
AR6.E-10	80	80
AR6.E-11	45	45
AR6.E-12	52	52
AR6.E-2	90	90
AR6.E-6	80	80
AR6.E-9	70	70
AR6.F-0	50	50
AR6.F-11	72	72
AR6.F-3	0	0
AR6.G-1	70	70
AR6.H-1	70	70
AR6.H-11	57	57
AR6.H-2	50	50
AR6.H-5	60	60
AR6.I-1	0	0
AR6.I-11	0	0
AR6.J-1	42	42
AR6.J-4	1	5
AR6.J-7	28	28
AR6.J-8	40	40
AR6.K-3	58	58
AR6.L-5	20	20
AR6.M-12	60	60
AR6.M-2	40	40
AR6.N-15	0	0
AR6.O-2	40	40
AR6.O-8	5	5
AR6.P-17	60	60
AR6.ST1	0	100
AR6.ST2	0	100
AR6.ST3	80	80
AR7 H-5	92	92
AR7 O-14	47	47
AR7.AA-13	40	40
AR7.AA-5	43	45
AR7.B-2	60	60
AR7.B-6	33	33
AR7.C-5	50	50
AR7.CC-1	58	58
AR7.D-3	20	20
AR7.D-6	39	40
AR7.F-1	43	43
AR7.F-11	50	50
AR7.F-4	38	44
AR7.G-1	60	60
AR7.G-2	60	60
AR7.H-2	47	47

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR7.I-2	20	20
AR7.I-9	45	45
AR7.J-13	40	40
AR7.J-4	38	38
AR7.L-10	40	43
AR7.L-14	63	63
AR7.L-4	52	52
AR7.N-11	58	58
AR7.P-6	25	25
AR7.Q-11	50	50
AR7.R-12	86	86
AR7.S-2	60	60
AR7.U-1	60	60
AR7.U-6	30	30
AR7.V-4	30	35
AR7.W-1	40	40
AR7.W-14	43	43
AR7.X-5	60	60
AR7.Y-1	60	60
AR8.27-11	50	50
AR8.27-12	56	59
AR8.27-15	63	63
AR8.AA-12	100	100
AR8.AA-3	60	60
AR8.BB-9	63	65
AR8.BB-1	65	65
AR8.BB-13	60	60
AR8.BB-14	38	38
AR8.BB-2	64	64
AR8.BB-3	40	40
AR8.BB-4	60	60
AR8.BB-6	0	80
AR8.BB-8	40	40
AR8.E-2	23	23
AR8.E-3	50	50
AR8.I-5	40	40
AR8.I-8	60	60
AR8.L-12	60	60
AR8.L-5	30	30
AR8.M-17	40	40
AR8.M-3	60	60
AR8.N-12	65	65
AR8.N-14	63	63
AR8.N-16	50	50
AR8.N-6	20	20
AR8.R-6	40	40
AR8.T-6	48	48
AR8.U-10	60	60
AR8.V-1	39	39
AR8.V-2	41	41
AR8.W-10	64	64
AR8.W-4	47	47
AR8.W-7	47	47

Description	Depth to Clay	Maximum Depth
AR8.W-8	46	46
AR8.X-2	40	40
AR8.X-6	57	57
AR8.X-7	55	55
AR8.Y-13	70	70
AR8.Y-6	70	70
AR8.Z-1	20	20
AR8.Z-11	80	80
AR8.Z-14	40	40
AR8.Z-6	60	60
AR9.29-4	63	63
AR9.29-1	60	60
AR9.29-2	65	65
AR9.29-3	60	60
AR9.29-5	60	60
AR9.29-6	20	20
AR9.A7-W	40	40
AR9.AA-1	10	10
AR9.B-8	43	43
AR9.D-4	60	60
AR9.E-1	0	60
AR9.E-11	80	80
AR9.E-4	65	65
AR9.F-11	50	60
AR9.F-4	0	80
AR9.F-6	35	40
AR9.G-1	28	28
AR9.G-6	30	30
AR9.G-8	40	40
AR9.H-2	45	45
AR9.H-6	40	40
AR9.I-7	57	57
AR9.J-7	48	48
AR9.K-9	60	60
AR9.L-4	60	60
AR9.M-11	69	69
AR9.M-3	45	45
AR9.M-7	67	67
AR9.N-1	60	60
AR9.N-10	41	41
AR9.N10-E4	42	42
AR9.N10-N1	53	53
AR9.N-10-S3	46	46
AR9.N10-W2	60	60
AR9.O-1	60	60
AR9.O-10	60	60
AR9.P-6	50	50
AR9.Q-0	44	44
AR9.Q-2	0	60
AR9.S-7	53	53
AR9.U-1	0	60
AR9.V-5	60	60
AR9.W-1	15	15

Table B-1. continued…

Description	Depth to Clay	Maximum Depth
AR9.X-6	60	60
AR9.Y-3	60	60
AR9-A-3	35	35
AR9-A-7	45	45
AR9-A7-e	37	37
AR9-A7-n	40	40
AR9-A7-s	10	10
AR9-C-3	48	48
AR9-E-7	45	45
AR9-I-12	55	55

Note: Figure B-1, showing the distribution of all shovel tests, and previously surveyed and disturbed areas at Camp Maxey, is located in the Map Supplement to this report.

Appendix C

Camp Maxey II

Catalog of Isolated Finds from all Non-site Locations at Camp Maxey

Table C-1. Catalog of Isolate Finds from Non-site Locations

		Prehistoric											**Historic**														
Area	ST or Other Prov.	Arrow Point	Biface	Charcoal	Dart Point	Fire-cracked Rock	Hammerstone	Hammerstone/mano	Heat Spalls	Native Ceramic	Unmodified Debitage	*Total*	Brick	Brick-Tile	Bullet	Canteen	Cartridge Case	European Ceramic	Fasteners	Glass	Mason Jar Lid	Nail	Personal	Unidentified Metal Object	Wire	*Total*	**Grand Total**
1	19 m s of CCC8											0												1		1	1
	A-7					1						1														0	1
	CCC-8										1	1								2				2		4	5
	D-10								1			1														0	1
	D-15				1							1														0	1
	D-51											0			1											1	1
	D-52											0			1											1	1
	KK-8										0	0														0	0
	P12								1			1														0	1
	PP-4								4			4														0	4
	T-9										2	2														0	2
	UI 2 roadcut						1					1														0	1
	UI-3											0												0		0	0
	UI-9		1									1														0	1
	UU-13										2	2														0	2
	WW-6											0	1													1	1
	Total	0	1	0	1	1	1	0	6	0	5	15	1	0	2	0	0	0	0	2	0	0	0	3	0	8	23
2	B-9											0								3						3	3
	C-2					6	1					7														0	7
	E-15								1			1														0	1
	GG-10					2			2		11	15			1											1	16
	I-0					3					2	5														0	5
	near 32									6		6														0	6
	NN-0 (UI 8)	1									2	3														0	3
	off G-6 UI 6				1							1														0	1
	UI 8										1	1														0	1
	Total	1	0	0	1	11	1	0	3	6	16	39	0	0	1	0	0	0	0	3	0	0	0	0	0	4	43

Table C-1. continued…

		Prehistoric											Historic														
Area	ST or Other Prov.	Arrow Point	Biface	Charcoal	Dart Point	Fire-cracked Rock	Hammerstone	Hammerstone/mano	Heat Spalls	Native Ceramic	Unmodified Debitage	*Total*	Brick	Brick-Tile	Bullet	Canteen	Cartridge Case	European Ceramic	Fasteners	Glass	Mason Jar Lid	Nail	Personal	Unidentified Metal Object	Wire	*Total*	**Grand Total**
3	AA-8								2		3	5														0	5
	B 25											0		1												1	1
	BB-25										1	1														0	1
	CC-9											0					1									1	1
	EE-30											0			1											1	1
	GG-3										1	1														0	1
	ss-15										1	1														0	1
	Total	0	0	0	0	0	0	0	2	0	6	8	0	1	1	0	1	0	0	0	0	0	0	0	0	3	11
4	ST# 6	0	0	0	0	0	0	0	0	0	0	0														0	0
5	16					4						4														0	4
	78								1			1														0	1
	LL-3								2			2														0	2
	ST95							1				1														0	1
	X-6								2			2														0	2
	Total	0	0	0	0	4	0	1	5	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
6	2					5						5														0	5
	5					5						5														0	5
	6					5			3		1	9														0	9
	A-13					1						1														0	1
	File A0909/2A											0						1								1	1
	RR-14					1						1														0	1
	Total	0	0	0	0	17	0	0	3	0	1	21	0	0	0	0	0	1	0	0	0	0	0	0	0	1	22
7	Z-2	0	0	0	0	0	0	0	0	0	0	0											1			1	1

Table C-1. continued…

		Prehistoric											**Historic**														
Area	ST or Other Prov.	Arrow Point	Biface	Charcoal	Dart Point	Fire-cracked Rock	Hammerstone	Hammerstone/mano	Heat Spalls	Native Ceramic	Unmodified Debitage	*Total*	Brick	Brick-Tile	Bullet	Canteen	Cartridge Case	European Ceramic	Fasteners	Glass	Mason Jar Lid	Nail	Personal	Unidentified Metal Object	Wire	*Total*	**Grand Total**
8	N16					1						1														0	1
	S-3								1			1														0	1
	W-7					1						1														0	1
	X-2					1						1														0	1
	Total	0	0	0	0	3	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
9	C-3					11						11														0	11
	F6					2						2														0	2
	F-6					2						2														0	2
	FS 29-01					16						16														0	16
	FS 29-02					4			1			5														0	5
	FS 29-03					2						2														0	2
	FS 29-04										1	1														0	1
	FS 29-05					26						26														0	26
	G-10								1			1														0	1
	N-10										1	1														0	1
	Sweep 8											0														0	0
	UI 3		1									1														0	1
	Total	0	1	0	0	63	0	0	2	0	2	68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68
10	K-26	0	0	0	0	0	0	0	0	0	0	0						3	1	150	1			2		157	157
11	A-7										1	1														0	1
	E-6											0							2			7				9	9
	Total	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0	0	7	0	0	0	9	10

Table C-1. continued…

		Prehistoric											Historic														
Area	ST or Other Prov.	Arrow Point	Biface	Charcoal	Dart Point	Fire-cracked Rock	Hammerstone	Hammerstone/mano	Heat Spalls	Native Ceramic	Unmodified Debitage	*Total*	Brick	Brick-Tile	Bullet	Canteen	Cartridge Case	European Ceramic	Fasteners	Glass	Mason Jar Lid	Nail	Personal	Unidentified Metal Object	Wire	*Total*	**Grand Total**
12												0			1											1	1
	CC-4											0				1										1	1
	CCC-8											0								3						3	3
	F-16											0			1											1	1
	FF-1(UI 7)											0												1		1	1
	K-6					1						1														0	1
	MM-6a											0														0	0
	near MM-3 (UI 10)											0								1						1	1
	OO-14					2						2														0	2
	P-13											0								1						1	1
	TT-4					3						3														0	3
	X-17						1					1														0	1
	Total	0	0	0	0	6	1	0	0	0	0	7	0	0	2	1	0	0	0	5	0	0	0	1	0	9	16
13	P-8					1						1														0	1
	P-9								3		1	4														0	4
	Q-8					5					1	6														0	6
	Q-9					4					3	7														0	7
	S-10			1		1						2														0	2
	S-10 (E1)											0													6	6	6
	S-10 (W1)					1						1														0	1
	Total	0	0	1	0	12	0	0	3	0	5	21	0	0	0	0	0	0	0	0	0	0	0	0	6	6	27
14	M-10										1	1														0	1
	Sweep 12					1						1														0	1
	Total	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
15	E-3	0	0	0	0	0	0	0	0	0	0	0			1											1	1
16	D-8					4						4														0	4

Table C-1. continued…

		Prehistoric											Historic															
Area	ST or Other Prov.	Arrow Point	Biface	Charcoal	Dart Point	Fire-cracked Rock	Hammerstone	Hammerstone/mano	Heat Spalls	Native Ceramic	Unmodified Debitage	*Total*	Brick	Brick-Tile	Bullet	Canteen	Cartridge Case	European Ceramic	Fasteners	Glass	Mason Jar Lid	Nail	Personal	Unidentified Metal Object	Wire	*Total*	**Grand Total**
17	4								1			1														0	1
	5					1						1														0	1
	BS-13									1		1														0	1
	C-14				1							1														0	1
	CC-2											0														0	0
	CC-25										1	1														0	1
	D-44											0														0	0
	FF-20								1			1														0	1
	HH-14								1			1														0	1
	J-5											0			1											1	1
	LL-1					1						1		1												1	2
	LL-2											0						1		3			1			5	5
	PP-17					3						3			1											1	4
	RR-15										1	1														0	1
	S-5								1			1														0	1
	Sweep 14											0		2												2	2
	WW-12											0														0	0
	Z-7											0								1						1	1
	ZZ-8										1	1														0	1
	Total	0	0	0	1	5	0	0	4	1	3	14	0	3	2	0	0	1	0	4	0	0	1	0	0	11	25
18	F-8											0			1											1	1

Table C-1. continued…

		Prehistoric											Historic															
Area	ST or Other Prov.	Arrow Point	Biface	Charcoal	Dart Point	Fire-cracked Rock	Hammerstone	Hammerstone/mano	Heat Spalls	Native Ceramic	Unmodified Debitage	*Total*	Brick	Brick-Tile	Bullet	Canteen	Cartridge Case	European Ceramic	Fasteners	Glass	Mason Jar Lid	Nail	Personal	Unidentified Metal Object	Wire	*Total*	**Grand Total**
19	6								2			2														0	2
	A12											0			2											2	2
	BBB-1					1						1														0	1
	ccc-14					1						1														0	1
	CCC-5										1	1														0	1
	CCC-6					1					1	2			2											2	4
	DDD-9											0			1											1	1
	EEE-4											0			1											1	1
	EEE-8											0			2											2	2
	FFF-1											0			1											1	1
	FFF-6											0			1											1	1
	GGG-6											0			1											1	1
	III-3											0			1											1	1
	V-2					1						1														0	1
	Total	0	0	0	0	4	0	0	2	0	2	8	0	0	12	0	0	0	0	0	0	0	0	0	0	12	20
21	L-9											0												1		1	1
23	A-5											0			4											4	4

Table C-1. continued…

		Prehistoric											Historic														
Area	ST or Other Prov.	Arrow Point	Biface	Charcoal	Dart Point	Fire-cracked Rock	Hammerstone	Hammerstone/mano	Heat Spalls	Native Ceramic	Unmodified Debitage	*Total*	Brick	Brick-Tile	Bullet	Canteen	Cartridge Case	European Ceramic	Fasteners	Glass	Mason Jar Lid	Nail	Personal	Unidentified Metal Object	Wire	*Total*	**Grand Total**
24	A-7											0			7											7	7
	A-8											0			1											1	1
	A-9											0			4											4	4
	B-1										1	1														0	1
	B-4											0			6											6	6
	B-6											0			3											3	3
	B-7											0			1											1	1
	BHT12(tu#5)					1						1														0	1
	C-10											0			3											3	3
	C-12											0			1											1	1
	C-7										1	1			16											16	17
	C-8											0			5											5	5
	D-1											0			1											1	1
	Total	0	0	0	0	1	0	0	0	0	2	3	0	0	48	0	0	0	0	0	0	0	0	0	0	48	51
25	C-1										1	1														0	1
26	C-5											0														0	0
	FS 80 A-2					1						1														0	1
	Total	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
28	A-1											0		2												2	2
	J-1											0								2						2	2
	Total	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	4	4
Grand Total		1	2	1	3	133	3	1	31	7	44	226	1	6	74	1	1	5	3	166	1	7	2	7	6	280	506

Appendix D

Camp Maxey II

Catalog of Artifacts Recovered from Sites Recommended for Further Work

Table D-1. Artifacts Recovered from 41LR137

	Prehistoric						Historic	
ST#	Charcoal	Core	Fire-cracked Rock	Heat Spalls	Native Ceramic	Unmodified Debitage	Bullet	Total
CCC-01						2		2
CCC-05				2				2
CCC-06			1	1				2
DDD-01			2	1		3		6
DDD-04			3			1		4
DDD-05						1		1
DDD-06	1		4			1		6
DDD-07			5	4				9
DDD-08		1	16					17
DDD-10			5			2	3	10
DDD-11						2		2
DDD-13						2	1	3
DDD-14						1		1
DDD-15						2		2
DDD-16			1				2	3
DDD-17		1					1	2
DDD-18			2		1	2		5
DDD-19		1						1
DDD-20						5		5
DDD-21			1			4		5
M-1						1		1
M-2						2		2
M-4			1			1	1	3
Total	1	3	41	8	1	32	8	94

Table D-2. Artifacts Recovered from 41LR168

	Prehistoric				
ST#	Biface	Dart Point	Heat Spalls	Unmodified Debitage	Total
31-01				2	2
A-06				1	1
F-01				1	1
Sweep 01				2	2
Sweep 02				1	1
Sweep 05				2	2
Sweep 12			1		1
UI 4		1			1
UI 5	1				1
Total	1	1	1	9	12

Table D-3. Artifacts Recovered from 41LR170

	Prehistoric											Historic				
ST#	Arrow Point	Arrow Point Preform	Core	Dart Point	Daub	Edge Modified	Fire-cracked Rock	Heat Spalls	Native Ceramic	Nutting Stone	Unmodified Debitage	Brick-Tile	Cartridge Case	Glass	Nail	Total
TxANG4				1												1
TxANG6											4					4
TxANG7							2		7							9
TxANG8							1		1		2					4
TxANG10				1	2				4		4					11
TxANG12					2		1		6		8					17
TxANG13	1				1						1					3
TxANG15							2		2		3			1		8
TxANG16											3					3
TxANG17							1		1		0					2
5	1	1					1				13					16
6	1			1							6					8
7									1							1
A-13			2								2					4
A-14	1									1	1			1	1	5
A-14a												1				1
B-17								1			2		5	2		10
C-16								2			1					3
D-17							1				2					3
E-14						1					3					4
Total	4	1	2	3	5	1	9	3	22	1	55	1	5	4	1	117

Table D-4. Artifacts Recovered from 41LR184

	Prehistoric						
ST#	Biface	Core	Fire-cracked Rock	Heat Spalls	Ochre	Unmodified Debitage	Total
4-01			2	1		5	8
4-02			9	1		13	23
4-03		1	10	1		21	33
4-04						3	3
4-07	1	1	1			4	7
4-08				1		4	5
A-15		1	22		1	39	63
Total	1	3	44	4	1	89	142

Table D-5. Artifacts Recovered from 41LR186

	Prehistoric										Historic		
ST#	Arrow Point	Biface	Core	Drill-Perforator	Edge Modified	Fire-cracked Rock	Hammerstone	Heat Spalls	Native Ceramic	Unmodified Debitage	European Ceramic	Glass	Total
19						7		1	7				15
20										4			4
21						2		1		2			5
22						2							2
23										1			1
24								1		2			3
26										1			1
28										1			1
29								1					1
31	1							1		7			9
32						1		1	11	6			19
33			1			1		2	5	1			10
34								1		1			2
35						1							1
37								1		6			7
38										1			1
39								1		5			6
40					1	1		2		2			6
42						1							1
43						1				1			2
44										3			3
46						1			1	1			3
47								1		3			4
48						7		2		1			10
49						1		1		3			5
50								1		2	1	1	5
51						2				2	2		6
6-A (50x50)					1	11			1	20			33
81										6			6
82		1								3			4
83					1	4		1		2			8
84						1			1	5			7
85						2			4	5			11
86				1						3			4
87						2		1		2			5
88								1		6			7
89						1			4	3			8
90									2	4			6
91							2			5			7
92									3	1			4
94		1						1	1	6			9
BHT4 TU3						21		2		4			27
Total	1	2	1	1	3	70	2	24	40	131	3	1	279

Table D-6. Artifacts Recovered from 41LR187

	Prehistoric										Historic									
ST#	Biface	Animal Bone	Core	Dart Point	End Scraper	Expedient Scraper	Fire-cracked Rock	Heat Spalls	Native Ceramic	Unmodified Debitage	Bullet	Cartridge Case	European Ceramic	Glass	Fasteners	Nail	Personal Fasteners	Miscellaneous	Unidentified Metal Object	Total
1										1		1	3	1		3			3	12
10							1			2										3
11														1						1
14		1					4	3	15	8										30
15			1				4			4										9
16	1		1	1			5		7	9										26
17							3	1	1	4										9
2							1			3										9
3									1				1							2
4					1	1	2		3	3	1									13
5							6	3	5	7			2							28
6										1										1
7		4					3	2	7	3										22
7-08										1										1
7-96		2					2	1	7	4										18
9			1							0			1	2	1	1	1	1		8
95							3	3		5										8
Total	1	7	3	1	1	1	34	13	46	55	1	1	7	4	1	4	1	1	3	200

Table D-7. Artifacts Recovered from 41LR190

	Prehistoric				Historic					
ST#	Dart Point	Fire-cracked Rock	Heat Spalls	Unmodified Debitage	Brick-Tile	European Ceramic	Glass	Nail	Unidentified Metal Object	Total
10 m sw of G6	1									1
10-01		3		2						5
10-02							1			1
10-03				1		1				2
10-04						8	5			13
10-05				4						4
10-06			1	7					4	12
10-09		2	2	3						7
10-10		3	1	3						7
10-11		2					1			3
10-13			1	1						2
B-09		1								1
D-09		1		1						2
D-10			1		1		1	3	1	7
E-08		3		4						7
G-06		3	1	4						8
H-07	1									1
Total	2	18	7	30	1	9	8	3	5	83

Table D-8. Artifacts Recovered from 41LR194

	Prehistoric				
ST#	Charcoal	Fire-cracked Rock	Nut Shell	Unmodified Debitage	Total
14-01				5	5
14-04		1			1
14-06				3	3
14-07	3		2	10	15
14-10	1	2		7	10
14-11	3	1		1	5
AA-7				1	1
AA-8				9	9
Total	7	4	2	36	49

Table D-9. Artifacts Recovered from 41LR196

	Prehistoric			
ST#	Fire-cracked Rock	Heat Spalls	Unmodified Debitage	Total
16-03	1		2	3
16-04	1		1	2
16-05			6	6
16-06		1	8	9
16-07		2	7	9
16-08			9	9
16-09		1	4	5
16-12			1	1
16-13			1	1
W-15	1			1
W-24		2		2
Y-11		2	3	5
Z-15	1			1
Z-16	7	5	11	23
Total	11	13	53	77

Table D-10. Artifacts Recovered from 41LR200

	Prehistoric			
ST#	Charcoal	Fire-cracked Rock	Unmodified Debitage	Total
20-10	2	2		4
20-12		2	4	6
20-13		1	4	5
Sweep 19		1	1	2
X-28			2	2
Total	2	6	11	19

Table D-11. Artifacts Recovered from 41LR202

	Prehistoric					Historic						
ST#	Animal Bone	Charcoal	Fire-cracked Rock	Heat Spalls	Unmodified Debitage	European Ceramic	Fasteners	Glass	Nail	Shotgun Shell	Unidentified Metal Object	Total
25		1		2	3					1		7
60	2				1	1	1	4	6		5	15
BHT3 TU2			6		3							9
Bog 1					1							1
Bog 3			1	2	2							5
J-10			3									3
O-9						1						1
P-4					1							1
R-2				1	2							3
R-5					1							1
S-0	5		9		1							15
Total	7	1	19	5	15	2	1	4	6	1	5	61

Table D-12. Artifacts Recovered from 41LR203

	Prehistoric				
ST#	Fire-cracked Rock	Heat Spalls	Nut Shell	Unmodified Debitage	Total
23-02				1	1
23-03		1		1	2
23-09				1	1
23-10			1		1
23-12		1			1
23-13				1	1
23-17	1				1
B-12		1		1	2
C-08				1	1
D-12				1	1
Total	1	3	1	7	12

Table D-13. Artifacts Recovered from 41LR204

	Prehistoric							
ST#	Animal Bone	Chopper	Fire-cracked Rock	Heat Spalls	Native Ceramic	Biface	Unmodified Debitage	Total
24-01			1		2	1	0	4
24-02		1						1
24-03							1	1
24-05							6	6
24-07							2	2
24-08							1	1
24-09	1							1
24-13							2	2
24-16							1	1
24-18			3		1		12	16
24-23							3	3
F-08				1				1
G-08			1				0	1
G-10			1	1			5	7
Total	1	1	6	2	3	1	33	47

Table D-14. Artifacts Recovered from 41LR207

	Prehistoric		Historic	
ST#	Fire-cracked Rock	Unmodified Debitage	Bullet	Total
27-01		3		3
27-02		3	1	4
27-03	1			1
BB-05		2		2
BB-07		6		6
BB-10		2		2
BB-15		1		1
Total	1	17	1	19

Table D-15. Artifacts Recovered from 41LR208

	Prehistoric						
ST#	Biface	Charcoal	Dart Point	Fire-cracked Rock	Heat Spalls	Unmodified Debitage	Total
28-01				3		4	7
28-02	1	3	1	23	1	2	31
28-03				1		1	2
28-05						3	3
28-06						2	2
28-07		1		1		3	5
28-08				2	1	0	3
28-09		3		14	2	5	24
28-10						7	7
28-12				2			2
BHT16 Unit 6				5	1	5	11
Total	1	7	1	51	5	32	97

Table D-16. Artifacts Recovered from 41LR212

	Prehistoric				
ST#	Biface	Fire-cracked Rock	Native Ceramic	Unmodified Debitage	Total
35-03		2	1	3	6
35-04		1			1
K-01		2	1	1	4
UI 6	1				1
Total	1	5	2	4	12

Table D-17. Artifacts Recovered from 41LR213

	Prehistoric			
ST#	Dart Point	Fire-cracked Rock	Unmodified Debitage	Total
37-01		1		1
37-01UI H-9	1			1
DD-05			1	1
GG-01			1	1
GG-1b			4	4
HH-0			1	1
Total	1	1	7	9

Table D-18. Artifacts Recovered from 41LR214

	Prehistoric					Historic		
ST#	Dart Point	Fire-cracked Rock	Hammerstone	Heat Spalls	Unmodified Debitage	Bullet	Glass	Total
38-02		1		3				4
38-03					1			1
38-05		1	1	3	6	1		12
38-07		2						2
38-12		1						1
38-13				2	1			3
38-14		2			3			5
II-08					2			2
JJ-09					1			1
JJ-10					2			2
KK-10	1	1			2			4
MM-06c		1						1
NN-13					1			1
UI 12							1	1
Total	1	9	1	8	19	1	1	40

Table D-19. Artifacts Recovered from 41LR222

	Prehistoric			Historic	
ST#	Arrow Point	Fire-cracked Rock	Unmodified Debitage	Bullet	Total
46-01			1		1
46-03			1		1
B-23		2	1	1	4
C-18			3		3
C-20			1	1	2
E-15	1	3			4
G-10				1	1
Total	1	5	7	3	16

Table D-20. Artifacts Recovered from 41LR225

	Prehistoric							Historic					
ST#	Arrow Point	Core	Dart Point	Edge Modified	Fire-cracked Rock	Heat Spalls	Unmodified Debitage	Fasteners	Glass	Nail	Unidentified Metal Object	Wire	Total
49-01					2	1			1			1	5
49-03		1			7	2	4						14
49-03 UI 19	1												1
49-05				1			7						8
49-06					3	1	2						6
A-41					4		2						6
C-41			1				2						3
C-42					1		1						2
D-41											1		1
D-42							3						3
D-43								1					1
E-41					1			1	3	1			6
E-42									4	1	1		6
E-43			1		1								2
E-47							1						1
Total	1	1	2	1	19	4	22	2	8	2	2	1	65

Table D-21. Artifacts Recovered from 41LR226

	Prehistoric				
ST#	Fire-cracked Rock	Heat Spalls	Native Ceramic	Unmodified Debitage	Total
50-07		1			1
50-08			1		1
A-28	4		4	3	11
E-28				1	1
F-26		1			1
Total	4	2	5	4	15

Table D-22. Artifacts Recovered from 41LR233

	Prehistoric				
ST#	Fire-cracked Rock	Heat Spalls	Native Ceramic	Unmodified Debitage	Total
57-01			1		1
57-03		1			1
57-06				2	2
T-11	1			1	2
U-11	1				1
Total	2	1	1	3	7

Table D-23. Artifacts Recovered from 41LR238

	Prehistoric			Historic		
ST#	Dart Point	Drill-Perforator	Burnt Clay	Bullet	Unidentified Metal Object	Total
62-07				1		1
62-08	1					1
CC-04			1		1	2
CC-06		1				1
CC-07				1		1
Total	1	1	1	2	1	6

Table D-24. Artifacts Recovered from 41LR244

	Prehistoric			
ST#	Heat Spalls	Native Ceramic	Unmodified Debitage	Total
68-01		1		1
68-03	1		2	3
GG-07			2	2
Total	1	1	4	6

Table D-25. Artifacts Recovered from 41LR254

	Prehistoric					Historic		
ST#	Core	Dart Point	Fire-cracked Rock	Heat Spalls	Unmodified Debitage	Bullet	European Ceramic	Total
P-02						1		1
P-03	2				3			5
P-04		1	1	1	4			7
P-05				1	3			4
P-07				1			1	2
P-09			8		1			9
P-10					3			3
P-11					1			1
P-12						1		1
P-13			3	1		2		6
UI#24							1	1
Total	2	1	12	4	15	4	2	40

Table D-26. Artifacts Recovered from 41LR258

	Prehistoric				Historic		
ST#	Biface	Fire-cracked Rock	Heat Spalls	Unmodified Debitage	Bullet	Cartridge Case	Total
A-06		2					2
A-07				1			1
A-08					1	1	2
A-09		2					2
A-10		2					2
A-12		1					1
A-14				1			1
A-15		1		2			3
A-16			1	1			2
B-05				1			1
B-07		5		1			6
B-08		1		3			4
C-08		3		2			5
C-09		5		3			8
C-10		1		2			3
D-07				1			1
D-09	1	4	1	4			10
E-01		1					1
G-02				1			1
H-01				2	1		3
I-02		4		1	1		6
Total	1	32	2	26	3	1	65

Table D-27. Artifacts Recovered from 41LR259

	Prehistoric					Historic		
ST#	Fire-cracked Rock	Heat Spalls	Mussel Shell	Native Ceramic	Unmodified Debitage	Bullet	Grenade	Total
A-05					1		1	2
B-01			1	1	5			7
B-02	4	1						5
C-01	1							1
C-02	1				1			2
D-01							1	1
D-02	1							1
E-01	9	1			1	1		12
E-02	6			1	1		1	9
Total	22	2	1	2	9	1	3	40

Table D-28. Artifacts Recovered from 41LR260

	Prehistoric					
ST#	Core	Fire-cracked Rock	Heat Spalls	Native Ceramic	Unmodified Debitage	Total
84-01	1	2		1	6	10
84-02		1			6	7
84-04					1	1
D-26					1	1
G-08		1	1		2	4
H-02	1	2			4	7
I-0		6	5		11	22
I-01		1			3	4
I-05					1	1
K-01		1	5		1	7
off G-2		2	4		22	28
Total	2	16	15	1	58	92

Table D-29. Artifacts Recovered from 41LR266

	Prehistoric			
ST#	Fire-cracked Rock	Heat Spalls	Unmodified Debitage	Total
90-01	2	2		4
90-03			2	2
90-77			1	1
90-78			2	2
90-79			3	3
90-80			1	1
Total	2	2	9	13

Table D-30. Artifacts Recovered from 41LR268

	Prehistoric					
ST#	Core	Dart Point	Fire-cracked Rock	Heat Spalls	Unmodified Debitage	Total
92-01					1	1
92-02	1	1				2
92-04				1	3	4
JJ-19			2		1	3
Total	1	1	2	1	5	10

Appendix E

Camp Maxey II

Catalog of Artifacts Recovered from Sites not Recommended for Further Work

Table E-1. Catalog of Artifacts Recovered from Sites not Recommended for Further Work

		Prehistoric																			Historic																															
Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*		Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR148	surface																		0							5		1									1			7	7
	36-01										1								1									1												1	2
	36-02																		0							2		5												7	7
	Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1		0	0	0	0	0	7	0	7	0	0	0	0	0	0	0	0	1	0	0	15	16
41LR181	1-02										1								1									3										2		5	6
	1-03																		0									1												1	1
	1-06												1					4	5																1					1	6
	ZZ-06												1						1							2														2	3
	Total	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	4	7		0	0	0	0	0	2	0	4	0	0	0	0	0	0	0	1	0	0	2	0	9	16
41LR182	AAA-0																	2	2																					0	2
	BBB-0																	2	2																					0	2
	ST 2-6																	2	2																					0	2
	ZZ-0										1							1	2																					0	2
	Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	7	8		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
41LR183	N 17												1						1																					0	1
	N-17																	2	2																					0	2
	RR 14																	1	1																					0	1
	RR 14 W3					1													1																					0	1
	RR-12												1						1																					0	1
	RR-14										2								2																					0	2
	RR-14 N2																	1	1																					0	1
	RR-14 N3					1												1	2																					0	2
	RR-14N1										1								1																					0	1
	W2																	3	3																					0	3
	Total	0	0	0	0	2	0	0	0	0	3	0	2	0	0	0	0	8	15		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15

Table E-1. continued…

Prehistoric

Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*
41LR185	5-03												1						1
	5-05										1								1
	B-05												1						1
	Total	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	3
41LR188	53										2							1	3
	54					1												2	3
	59												1						1
	62										3							3	6
	64																	1	1
	68																	1	1
	70										1							1	2
	Total	0	0	0	0	1	0	0	0	0	6	0	1	0	0	0	0	9	17
41LR189	72																	8	8
	73												1					1	2
	74										1								1
	Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	9	11
41LR191	11-01										6		2					1	9
	11-03										1								1
	11-04										1							4	5
	11-06																		0
	11-08										3							3	6
	11-11																		0
	11-14										3		3					3	9
	RR-6												1						1
	Total	0	0	0	0	0	0	0	0	0	14	0	6	0	0	0	0	11	31

Historic

Trinomial	ST#	Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR185	5-03																					0	1
	5-05																					0	1
	B-05																					0	1
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
41LR188	53																					0	3
	54																					0	3
	59																					0	1
	62																					0	6
	64																					0	1
	68																					0	1
	70																					0	2
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
41LR189	72																					0	8
	73																					0	2
	74																					0	1
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
41LR191	11-01																					0	9
	11-03																					0	1
	11-04																					0	5
	11-06								1													1	1
	11-08																					0	6
	11-11						1		1													2	2
	11-14																					0	9
	RR-6																					0	1
	Total	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	34

Table E-1. continued…

		Prehistoric																		Historic																								
Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*	Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR192*	surface														4				4								1													1	5
	12-05												2					3	5																					0	5
	12-06												1					2	3																					0	3
	12-07																	1	1																					0	1
	12-08										1								1																					0	1
	12-11																	1	1																					0	1
	KK-8												6					3	9																					0	9
	Total	0	0	0	0	0	0	0	0	0	1	0	9	0	4	0	0	10	24	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	25
41LR193	13-04																	1	1																					0	1
	13-05																	1	1																					0	1
	KK-11												2						2																					0	2
	KK-12												5					1	6																					0	6
	KK-13										2		2					1	5																					0	5
	Total	0	0	0	0	0	0	0	0	0	2	0	9	0	0	0	0	4	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
41LR195	15-06																	1	1		1																			1	2
	15-09												1					1	2																					0	2
	15-10																	3	3																					0	3
	BB-12																	2	2																					0	2
	Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	7	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9
41LR197	17-02																	1	1																					0	1
	17-04										1		1					1	3																					0	3
	17-07										2								2																					0	2
	17-11			1														3	4																					0	4
	W-24																	2	2																					0	2
	W-25																	1	1																					0	1
	Total	0	0	1	0	0	0	0	0	0	3	0	1	0	0	0	0	8	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13

* The four surface artifacts listed as Native Ceramic are daub (site 41LR192).

Table E-1. continued…

Trinomial	ST#	Prehistoric: Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*	Historic: Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR199	19																		0								3													3	3
	UI 3																		0																			1		1	1
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	4	4
41LR201	21-03																	1	1																					0	1
	21-07										5							4	9																					0	9
	M-12																	1	1																					0	1
	O-15																		0		1																			1	1
	P-12																	2	2																					0	2
	Sweep 09																	1	1																					0	1
	Sweep 11																	4	4																					0	4
	Total	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	13	18	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	19
41LR205	25-03												1					2	3																					0	3
	25-04																	1	1																					0	1
	25-05																	1	1																					0	1
	O-13																	2	2																					0	2
	Q-05																	2	2																					0	2
	Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	8	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
41LR206	26-04												1						1																					0	1
	S-15					1					1								2																					0	2
	Total	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
41LR209	30																		0								1													1	1
	30-01			1															1				1		10		7				5									23	24
	30-02																		0						1		2				1									4	4
	30-04																		0								1							1						2	2
	30-06																		0								2													2	2
	30-07																		0								2				5							1	3	11	11
	G-13																	1	1			1			2	1	1				1									6	7
	Total	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	1	0	13	1	16	0	0	0	12	0	0	1	0	0	0	1	3	49	51

Table E-1. continued…

Prehistoric

Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*
41LR210	32-01																		0
	32-03																		0
	32-05																		0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41LR211	34-06																	1	1
	34-08												1					1	2
	34-12																	1	1
	34-13										1		1						2
	BB-16												1						1
	BB-17																	1	1
	Total	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	4	8
41LR215	39-11																	2	2
	39-14																		0
	JJ-15												1					1	2
	LL-09												1						1
	LL-10										1							3	4
	MM-09																	2	2
	OO-01																		0
	Total	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	8	11
41LR216	40-04																	1	1
	40-08																		0
	QQ-03												1					1	2
	SS-01																	1	1
	TT-12						1											2	3
	Total	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	5	7

Historic

Trinomial	ST#	Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR210	32-01								1													1	1
	32-03						12	1	27	10			5	1	2					4		62	62
	32-05	4																		4		8	8
	Total	4	0	0	0	0	12	1	28	10	0	0	5	1	2	0	0	0	0	8	0	71	71
41LR211	34-06																					0	1
	34-08																					0	2
	34-12																					0	1
	34-13																					0	2
	BB-16																					0	1
	BB-17																					0	1
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
41LR215	39-11																					0	2
	39-14		1																			1	1
	JJ-15																					0	2
	LL-09																					0	1
	LL-10																					0	4
	MM-09																					0	2
	OO-01		1																			1	1
	Total	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	13
41LR216	40-04																					0	1
	40-08		3																			3	3
	QQ-03																					0	2
	SS-01																					0	1
	TT-12																					0	3
	Total	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	10

Table E-1. continued…

Prehistoric

Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*
41LR217	41-01																	1	1
	PP-06																	1	1
	QQ-06					1													1
	SS-13																	1	1
	VV-10																		0
	WW-07																	1	1
	XX-10																		0
	Total	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	5
41LR218	CCC-08																	1	1
	UI 14																1		1
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
41LR219	43-01																		0
	43-02																		0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41LR220	44-01										1							2	3
	44-04																	2	2
	44-05										1								1
	44-06																	2	2
	D-07																	1	1
	E-03																	1	1
	O-14																	3	3
	O-14b																	1	1
	Sweep 01										1							2	3
	Sweep 02																	1	1
	Sweep 03										1							2	3
	Total	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	17	21

Historic

Trinomial	ST#	Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR217	41-01																					0	1
	PP-06																					0	1
	QQ-06		1																			1	2
	SS-13																					0	1
	VV-10		2																			2	2
	WW-07																					0	1
	XX-10		1																			1	1
	Total	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	10
41LR218	CCC-08																					0	1
	UI 14																					0	1
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
41LR219	43-01							1	10											1		12	12
	43-02								1													1	1
	Total	0	0	0	0	0	0	1	11	0	0	0	0	0	0	0	0	0	0	1	0	13	13
41LR220	44-01																					0	3
	44-04																					0	2
	44-05																					0	1
	44-06																					0	2
	D-07																					0	1
	E-03																					0	1
	O-14																					0	3
	O-14b																					0	1
	Sweep 01																					0	3
	Sweep 02																					0	1
	Sweep 03																					0	3
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21

Table E-1. continued…

		Prehistoric																		Historic																					
Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*	Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR221	45-01																	1	1																					0	1
	K-13C																	1	1																					0	1
	L-14										2								2																					0	2
	K-8																				1																			1	1
	Total	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
41LR223	47-01										1							1	2																					0	2
	47-03																	1	1																					0	1
	47-04										5					2			7																					0	7
	47-06																	1	1																					0	1
	A-12																	1	1																					0	1
	D-08					1												1	2																					0	2
	D-10												1						1																					0	1
	E-08										3								3																					0	3
	Total	0	0	0	0	1	0	0	0	0	9	0	1	0	0	2	0	5	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
41LR224	48-01						1				3							1	5																					0	5
	48-05																	1	1																					0	1
	48-07																	1	1																					0	1
	48-10										1								1																					0	1
	G-04																	1	1																					0	1
	Total	0	0	0	0	0	1	0	0	0	4	0	0	0	0	0	0	4	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
41LR227	51-01										2								2																					0	2
	51-02										2								2																					0	2
	51-03										3							1	4																					0	4
	51-04																		0																					0	0
	51-07										1								1																					0	1
	A-20 (50 x 50)										1		2					6	9																					0	9
	C-16										3								3																					0	3
	F-20										4								4																					0	4
	Total	0	0	0	0	0	0	0	0	0	16	0	2	0	0	0	0	7	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25

Table E-1. continued…

		Prehistoric																		Historic																															
Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*	Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR228	52-08										2								2																						0	2
	52-10										2		1					1	4																					0	4
	C-11																	1	1																					0	1
	F-12										1								1																					0	1
	H-15										4								4																					0	4
	Total	0	0	0	0	0	0	0	0	0	9	0	1	0	0	0	0	2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
41LR229	H-22																	1	1																					0	1
	K-15						1												1																					0	1
	Total	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
41LR230	54-01																	2	2																					0	2
	54-03																	1	1																					0	1
	54-04										1							2	3																					0	3
	54-06																	1	1																					0	1
	54-07										4							2	6																					0	6
	54-09										1								1																					0	1
	54-10					1													1		1																			1	2
	L-22																	1	1																					0	1
	Total	0	0	0	0	1	0	0	0	0	6	0	0	0	0	0	0	9	16	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17
41LR231	55-01																	1	1																					0	1
	BHT10 TU4										5							6	11																					0	11
	T-09																	1	1																					0	1
	Total	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	8	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13

Table E-1. continued…

		Prehistoric																		Historic																					
Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*	Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR232	56-01																	1	1																					0	1
	56-02										2								2																					0	2
	56-03					1													1																					0	1
	56-04										1								1																					0	1
	56-05												1						1																					0	1
	56-09																	1	1																					0	1
	A-14												1					3	4																					0	4
	Total	0	0	0	0	1	0	0	0	0	3	0	2	0	0	0	0	5	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
41LR234	58-01										1							1	2																					0	2
	58-06																	1	1																					0	1
	B-11																	1	1																					0	1
	Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
41LR236	60-03												1						1																					0	1
	W-17																	1	1																					0	1
	Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
41LR237	61-04																	1	1																					0	1
	T-17																	1	1																					0	1
	U-17										1							1	2																					0	2
	Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
41LR239	63-01																		0		1						1											8		10	10
	63-02																		0						1		1											1		3	3
	M-09																		0		1	1					2											5		9	9
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	4	0	0	0	0	0	0	0	0	0	0	14	0	22	22

Table E-1. continued…

		Prehistoric																		Historic																												
Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*	Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR240	64-09										2							1	3																					0	3
	64-05																	1	1																					0	1
	C-03												1					1	2																					0	2
	D-06																		0								4											8		12	12
	H-10																	3	3																					0	3
	H-11										2							1	3																					0	3
	Total	0	0	0	0	0	0	0	0	0	4	0	1	0	0	0	0	7	12	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	8	0	12	24
41LR241	65-01																		0							1	2							1				1		5	5
	65-03										1								1																				1	1	2
	65-04																		0																			6		6	6
	65-05																		0								1													1	1
	II-16										2								2																					0	2
	KK-20																		0						2															2	2
	Total	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0	2	1	3	0	0	0	0	0	0	1	0	0	7	1	15	18
41LR242	66-01												1					1	2																					0	2
	66-02										1		1					7	9																					0	9
	II-19																	5	5																					0	5
	Total	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	13	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
41LR243	67-01										4		1						5																					0	5
	67-02										2								2																					0	2
	67-08										6								6																					0	6
	67-10										1								1																					0	1
	67-11										8							1	9																					0	9
	67-13										1							2	3																					0	3
	FF-13										1		1						2																					0	2
	GG-12										1							1	2																					0	2
	GG-15																	1	1																					0	1
	HH-16										1		1						2																					0	2
	Total	0	0	0	0	0	0	0	0	0	25	0	3	0	0	0	0	5	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33

Table E-1. continued…

Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*	Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
		Prehistoric																		Historic																					
41LR245	69-02										1		1						2																					0	2
	69-03										1		1						2		1																			1	3
	69-06																	1	1																					0	1
	69-07												1						1																					0	1
	VV-08												1					1	2																					0	2
	VV-11										2								2																					0	2
	WW-10										1								1																					0	1
	WW-11										2		1						3																					0	3
	WW-12						1				1		6						8																					0	8
	Total	0	0	0	0	0	1	0	0	0	8	0	11	0	0	0	0	2	22	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	23
41LR246	70-01										1								1																					0	1
	70-02										3		1					1	5																					0	5
	SS-0																		0		1																			1	1
	TT-01										2								2																					0	2
	TT-02										4		2						6																					0	6
	UU-02										1		2						3																					0	3
	Total	0	0	0	0	0	0	0	0	0	11	0	5	0	0	0	0	1	17	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	18
41LR247	71-02												1						1																					0	1
	71-05												1						1																					0	1
	LL-14										1								1																					0	1
	LL-16										1							1	2																					0	2
	LL-17									1									1																					0	1
	LL-20																	1	1																					0	1
	LL-23										1								1																					0	1
	LL-24												3						3																					0	3
	LL-25										1		0						1		1																			1	2
	Total	0	0	0	0	0	0	0	0	1	4	0	5	0	0	0	0	2	12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13

Table E-1. continued…

		Prehistoric																		Historic																									
Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*	Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR248	72-04										1		1						2																						0	2
	72-06										1		1					1	3								1														1	4
	QQ-0										1		2					3	6																						0	6
	RR-01										2							2	4																						0	4
	Total	0	0	0	0	0	0	0	0	0	5	0	4	0	0	0	0	6	15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16
41LR249	73-01										1								1																						0	1
	73-02										1								1																						0	1
	RR-06										1							1	2																						0	2
	Total	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
41LR250	74-01										6							1	7																						0	7
	74-04																		0																						0	0
	74-05																		0		1																				1	1
	74-08										1		1						2																						0	2
	QQ-09										18		8						26																						0	26
	RR-11										2		2						4																						0	4
	SS-09										1							11	12																						0	12
	Total	0	0	0	0	0	0	0	0	0	28	0	11	0	0	0	0	12	51	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	52
41LR252	BBB-01																	2	2																						0	2
	BBB-03										1							8	9																						0	9
	BBB-05										2		2					1	5																						0	5
	BBB-06										1								1																						0	1
	Total	0	0	0	0	0	0	0	0	0	4	0	2	0	0	0	0	11	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17

Table E-1. continued…

		Prehistoric																		Historic																									
Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*	Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR253	N-06										1								1																					0	1
	N-07					1					3								4																					0	4
	N-10																	1	1																					0	1
	O-04																	3	3																					0	3
	O-07																		0		1																			1	1
	O-13																		0		1																			1	1
	Total	0	0	0	0	1	0	0	0	0	4	0	0	0	0	0	0	4	9	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	11
41LR254	P-02																		0		1																			1	1
	P-03					2												3	5																					0	5
	P-04						1				1		1					4	7																					0	7
	P-05												1					3	4																					0	4
	P-07												1						1						1															1	2
	P-09										8							1	9																					0	9
	P-10																	3	3																					0	3
	P-11																	1	1																					0	1
	P-12																		0		1																			1	1
	P-13										3		1						4		2																			2	6
	UI#24																		0						1															1	1
	Total	0	0	0	0	2	1	0	0	0	12	0	4	0	0	0	0	15	34	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6	40
41LR255	79-01										2							6	8																					0	8
	79-04										1							1	2																					0	2
	79-05										3							1	4																					0	4
	79-06										1								1																					0	1
	79-07										1							1	2																					0	2
	B-01																	1	1																					0	1
	B-03																		0																					0	0
	Q-01										1		2					3	6														1							1	7
	U-04										1								1																					0	1
	Total	0	0	0	0	0	0	0	0	0	10	0	2	0	0	0	0	13	25	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	26
41LR256	A-03																	1	1																					0	1
	A-03c										2								2																					0	2
	A-05										2							2	4																					0	4
	A-08a																		0										1											1	1
	Total	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	3	7	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	8

Table E-1. continued…

		Prehistoric																		Historic																								
Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*	Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR257	A-01										2								2		2																			2	4
	A-02										11							4	15		1				1															2	17
	A-03										1								1																					0	1
	A-06																		0																					0	0
	B-01										3								3																					0	3
	B-05										2								2																					0	2
	Total	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	4	23	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	27
41LR261	85-01					2					3							5	10																					0	10
	85-02																		0		1																			1	1
	C-20												1						1																					0	1
	C-21										1								1																					0	1
	OO-12																	5	5																					0	5
	Total	0	0	0	0	2	0	0	0	0	4	0	1	0	0	0	0	10	17	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	18
41LR262	86-01										4							7	11																					0	11
	HH-10					1					6							9	16																					0	16
	T-12																	5	5						2		2				2									6	11
	Total	0	0	0	0	1	0	0	0	0	10	0	0	0	0	0	0	21	32	0	0	0	0	0	2	0	2	0	0	0	2	0	0	0	0	0	0	0	0	6	38
41LR263	A-24										1		1						2																					0	2
	FF-10												1						1																					0	1
	GG-08										2							5	7																					0	7
	Total	0	0	0	0	0	0	0	0	0	3	0	2	0	0	0	0	5	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
41LR264	88-01																	1	1																					0	1
	88-02																		0								1													1	1
	88-03																		0						1															1	1
	DD-06																	2	2																					0	2
	EE-06																		0												1									1	1
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	3	6

Table E-1. continued…

		Prehistoric																		Historic																								
Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*	Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR265	89-01					1					1							1	3																					0	3
	89-02																	2	2								1													1	3
	A-25										1		1					1	3							1				1										2	5
	A-27										1								1						1															1	2
	EE-10																	2	2								1													1	3
	Total	0	0	0	0	1	0	0	0	0	3	0	1	0	0	0	0	6	11	0	0	0	0	0	1	1	2	0	0	0	1	0	0	0	0	0	0	0	0	5	16
41LR267	CM-02																	1	1																					0	1
	CM-03							1										2	3																					0	3
	JV-02																	1	1																					0	1
	KM-01										1								1																					0	1
	KM-02										4								4																					0	4
	Total	0	0	0	0	0	0	1	0	0	5	0	0	0	0	0	0	4	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
41LR269	93-02																	1	1																					0	1
	93-03										2							1	3																					0	3
	EEE-01																	3	3																					0	3
	HHH-01																	1	1																					0	1
	Total	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	6	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
41LR270	EEE-03																		0		1																			1	1
	GGG-02																		0		1																			1	1
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
41LR271	95-01												1						1																					0	1
	95-03																		0		1																			1	1
	95-05																	2	2																					0	2
	A-06					1					1							2	4																					0	4
	B-06																	1	1		2																			2	3
	C-03																		0		1																			1	1
	C-05																	1	1																					0	1
	Total	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	6	9	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	13

Table E-1. continued…

		Prehistoric																			Historic																												
Trinomial	ST#	Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*		Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR272	E-04																		0																			1		1	1
	F-05																		0								1											1		2	2
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	3	3
41LR273	D-01																		0				1					13				2								16	16
	E-01																	1	1																					0	1
	F-02										1							1	2																					0	2
	Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	3		0	0	1	0	0	0	0	13	0	0	0	2	0	0	0	0	0	0	0	16	19
41LR274	D-01																	1	1																					0	1
	D-02																	1	1																					0	1
	E-04																	1	1																					0	1
	F-03										1							2	3				1																	1	4
	Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5	6		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7
41LR275	A-01																	1	1																					0	1
	A-02										1								1																					0	1
	C-03																	1	1																		1			1	2
	Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
41LR276	K-13																	1	1																					0	1
	M-19												1						1																					0	1
	Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

Table E-1. continued…

Trinomial	ST#	Prehistoric: Biface	Bone	Charcoal	Charcoal sample	Core	Dart Point	Edge Modified	End Scraper	Expedient Scraper	Fire-cracked Rock	Grooved Stone	Heat Spalls	Mano	Native Ceramic	Nut Shell	Pitted Stone	Unmodified Debitage	*Total*	Historic: Brick-Tile	Bullet	Cartridge Case	Concrete	Crown Caps	European Ceramic	Fasteners	Glass	Homemade Brick	Hook	misc	Nail	Personal	Personal Fasteners	Plastic	Rubber	Sewer Pipe	Tableware	Unidentified Metal Object	Wire	*Total*	**Grand Total**
41LR277	A-02																	1	1																					0	1
	A-04										1								1																					0	1
	C-01																	1	1																					0	1
	C-03										3								3																					0	3
	C-06										8							1	9																					0	9
	C-07										1								1																					0	1
	Total	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	3	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
41LR278	0-17																	1	1																					0	1
	N-16																	1	1																					0	1
	O-17										3								3																					0	3
	Q-04										1							1	2																					0	2
	Total	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
41LR279	AA-13										1							2	3					2	3		3											1		9	12
	AA-14																	6	6																					0	6
	AA-17										2							5	7																					0	7
	Total	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	13	16	0	0	0	0	2	3	0	3	0	0	0	0	0	0	0	0	0	0	1	0	9	25
41LR280	I-37																	1	1																					0	1
	J-60												1						1																					0	1
	Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2