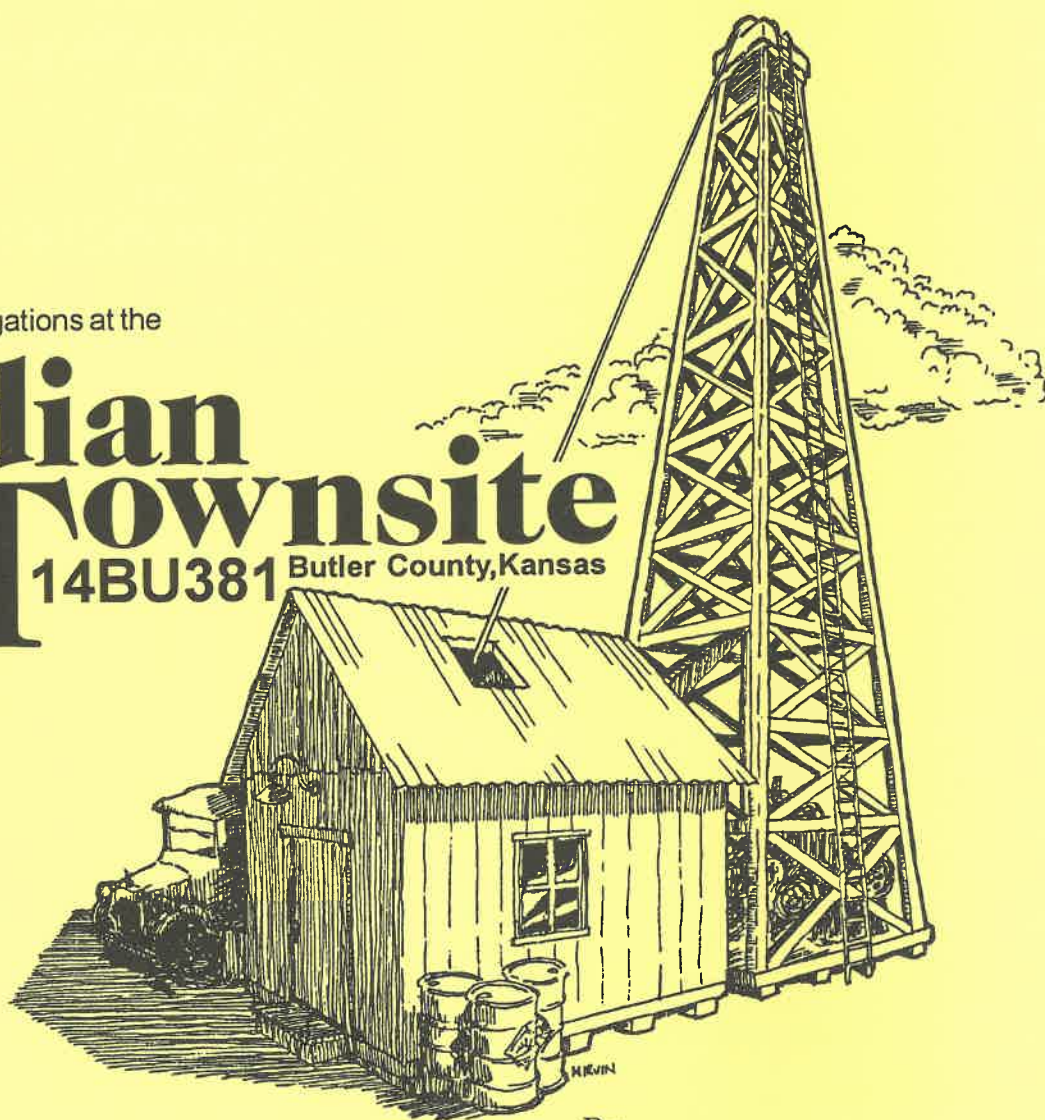


Results of Phase III
Archeological Investigations at the

Midian Townsite

14BU381 Butler County, Kansas



By
Marsha K. King

Kansas State Historical Society ▼ Contract Archeology Publication ▼ Number 13

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Illustration and Design by
Michael Irvin

Contract Archeology Publication Number 13
Kansas State Historical Society
Topeka 1996

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This report submitted to the Kansas Department of Transportation by the Kansas State Historical Society Archeology Office in partial fulfillment of Cooperative Agreement for the Highway Archeological Salvage Program, contract #254 K-5060-01.

Archeology Office of the Kansas State Historical Society
Contract Publication Number 13

ABSTRACT

In accordance with the goals and procedures of the Cooperative Agreement for the Highway Archeological Salvage Program, Phase III archeological investigations were completed at one site within the 254 K-5060-01 project area during the fall of 1996. Fieldwork was undertaken in advance of highway construction activities which involved rehabilitating two existing lanes of US 254 and grading and constructing two additional lanes from approximately 1.5 miles east of Santa Fe Lake Road east to one mile west of the junction with K-196.

The Midian Townsite (14BU381) was one of several oil field towns which developed during the early decades of the twentieth century in association with the El Dorado pool of the Mid Continent oil fields. A small portion of the oil field boom town of Midian, Kansas was excavated by a crew from the Kansas State Historical Society.

Phase II survey of the 254 K-5060-01 project

area suggested that the Midian Townsite (14BU381) had sufficient integrity and archeological resource potential for additional archeological investigations at the Phase III level to be recommended for the portion of the site lying within the proposed highway project area. The purpose of the additional investigations was to determine whether intact subsurface features associated with the oil field town were present and whether they were eligible for inclusion in the National Register of Historic Places.

Results of the Phase III archeological investigations at the Midian Townsite revealed that the small portion of the townsite included within the project area appeared to retain only partial subsurface integrity. The process of site abandonment and/or subsequent oil field "clean up" activities appeared to have impacted the project area. Several above-ground oil field-related features and one subsurface utility-related feature were identified during the fieldwork. A small

quantity of artifacts dating to the early twentieth century occupation of the site were recovered. However, a major portion of the project area appeared to have been graded and leveled. A lens of compacted limestone and concrete rubble pavement may have been added after town abandonment. No building foundations or significant deposits of period cultural material were recovered from the project area on either side of Shumway Road.

As a result of the investigations, no further archeological investigations were recommended at the Midian Townsite (14BU381), and project clearance was recommended.

C O N T E N T S

ABSTRACT	III
ACKNOWLEDGMENTS	IX
INTRODUCTION	1
ENVIRONMENTAL SETTING	5
CULTURAL-HISTORICAL SETTING	7
RESEARCH METHODOLOGY	15
HISTORICAL BACKGROUND	
The El Dorado Oilfield	17
Midian	26
PHASE III FINDINGS	43
Area 951	44
Area 952	56
Recovered Cultural Material	63
CONCLUSIONS	69
REFERENCES CITED	70

LIST OF T

Table 1.	Phase III Archeological Testing Conducted at the Midian Townsite (14BU381) by Area.
Table 2.	Excavation Units within Area 951, Midian Townsite (14BU381).
Table 3.	Distribution of Historical Cultural Material Recovered from Area 951 of the Midian Townsite (14BU381) by Excavation Unit and Cultural Material Category.
Table 4.	Brief Description of Features Identified at the Midian Townsite (14BU381) by Area.
Table 5.	Historical Cultural Material Recovered from Feature #1, Midian Townsite (14BU381).
Table 6.	Historical Cultural Material Recovered from Feature #2, Midian Townsite (14BU381).
Table 7.	Historical Cultural Material Surface Collected near Feature #5, Midian Townsite (14BU381).
Table 8.	Excavation Units within Area 952, Midian Townsite (14BU381).
Table 9.	Distribution of Historical Cultural Material Recovered from Area 952 of the Midian Townsite (14BU381) by Excavation Unit and Cultural Material Category.
Table 10.	Cultural Material Recovered from Metal Detector Shovel Test Units.
Table 11.	Historical Cultural Material Recovered from the Midian Townsite (14BU381) by Category and Area.
Table 12.	Distribution of Containers from Midian Townsite (14BU381) by Area.
Table 13.	Distribution of Hardware Fasteners from Midian Townsite (14BU381) by Area.
Table 14.	Distribution of Table and Utilitarian Wares from Midian Townsite (14BU381) by Area.

LIST OF FIGURES

Figure 1.	2
Section of Butler County Highway Map (KDOT 1987), showing the location of primary road project 254 K-5060-01.	
Figure 2.	3
Section of USGS (1955, 1961) topographic maps (Benton and El Dorado SW, Kans. quadrangles), showing the location of the 254 K-5060-01 project.	
Figure 3.	8
Section of USGS (1955) topographic map (Benton, Kans. quadrangle), showing the location of recorded prehistoric sites within the 254 K-5060-01 project.	
Figure 4.	10
Section of USGS (1955, 1961) topographic maps (Benton and El Dorado SW, Kans. quadrangles), showing the location of four potentially significant historic archeological sites within the 254 K-5060-01 project.	
Figure 5.	11
1885 (McGinnis and Thomas) atlas showing locations of the Horace Maynard (14BU382) and H. Vanhise (or Van Huss) (14BU383) farmsteads.	
Figure 6.	12
1905 (Ogle) atlas showing locations of the James W. Robison and H. Vanhise (or Van Huss) (14BU383) farmsteads.	
Figure 7.	13
Project 254 K-5060-01 plans (Professional Engineering Consultants 1993) showing location of Midian Townsite (14BU381) between Station Nos. 620-630.	
Figure 8.	22
Map of the Midian School District showing oil leases around the Midian Townsite (after Green 1964).	
Figure 9.	27
Map of the Midian School District showing the location of the Midian Townsite at the intersection of Shumway and 10th streets.	
Figure 10.	29
Plan of the oil field town of Midian, Kansas (Green 1964).	
Figure 11.	31
Sketch map of the Midian Townsite from the circa 1918 panoramic photographs.	
Figure 12.	32
Panoramic view of Midian Townsite facing northwest from the southeast corner of the main intersection, dated June 28, 1918 (courtesy of the Butler County Historical Society).	

LIST OF FIGURES

- Figure 13.
Panoramic view of Midian Townsite facing east from derrick located northwest of the intersection, ca. 1918 (courtesy of the Butler County Historical Society).
- Figure 14.
Panoramic view of the oil field town of Midian, Kansas, looking northwest from the top of an oil derrick ca. 1918 (courtesy of the Butler County Historical Society).
- Figure 15.
Panoramic view of the oil field town of Midian, Kansas, looking northwest from the top of an oil derrick ca. early 1920s (courtesy of the Butler County Historical Society).
- Figure 16.
Sketch map of the Midian Townsite from the 1938 aerial photograph.
- Figure 17.
Map of the Midian Townsite project area showing excavation units in Areas 951 and 952.
- Figure 18.
Plan of X-1 showing Feature #1 (utility pipe and trench) at 40 cm bgs.
- Figure 19.
Plan of Feature #3, two concrete pads for oilfield machinery.
- Figure 20.
Plan of Feature #4, three concrete pads for oilfield machinery.
- Figure 21.
Plan of Feature #5, remains of a central power system.
- Figure 22.
Profile of pulley wheel shaft located in feature #5
- Figure 23.
Profile of support shaft located in feature #5
- Figure 24.
Map of the Midian Townsite project area showing excavation units in Area 952.

ACKNOWLEDGMENTS

Sincere appreciation is extended to everyone who assisted in the successful completion of the Phase III archeological investigations of the Midian Townsite project area. Both landowners graciously granted access to their property for the fieldwork and provided information concerning past and modern activities in the area. In his capacity as director of the Butler County Historical Society, Robert J. Burgess, provided access to photographic collections, historical background, and information on oil field technology. Bob also volunteered his time helping in the field and assisted in borrowing a stadia rod from the City of El Dorado.

The Kansas Department of Transportation supported the archeological investigations through the Cooperative Agreement for Highway Archeological Salvage Program. In particular, G. David Comstock, P.E., Scott P. Vogel, and E. Dale Newton, Senior Engineering Technician, have been

instrumental in making the program work efficiently and effectively.

The field crew for the Phase III investigations consisted of Cleta Mulder, Dean Sather, Daryl Walters, and Roger Ward. Their assistance with this and other projects is much appreciated.

The draft report was edited and reviewed by Dr. Timothy Weston, Highway Archeologist, and John Reynolds, State Archeologist. Cover art, graphics, report layout, and production assistance was provided by Mike Irvin.

The author would also like to thank her father, Joe C. King, a native of El Dorado, who first stimulated an interest in history, provided an introduction to the oil field boom town of Midian, and served as the crew on her previous investigations of Midian in 1980.

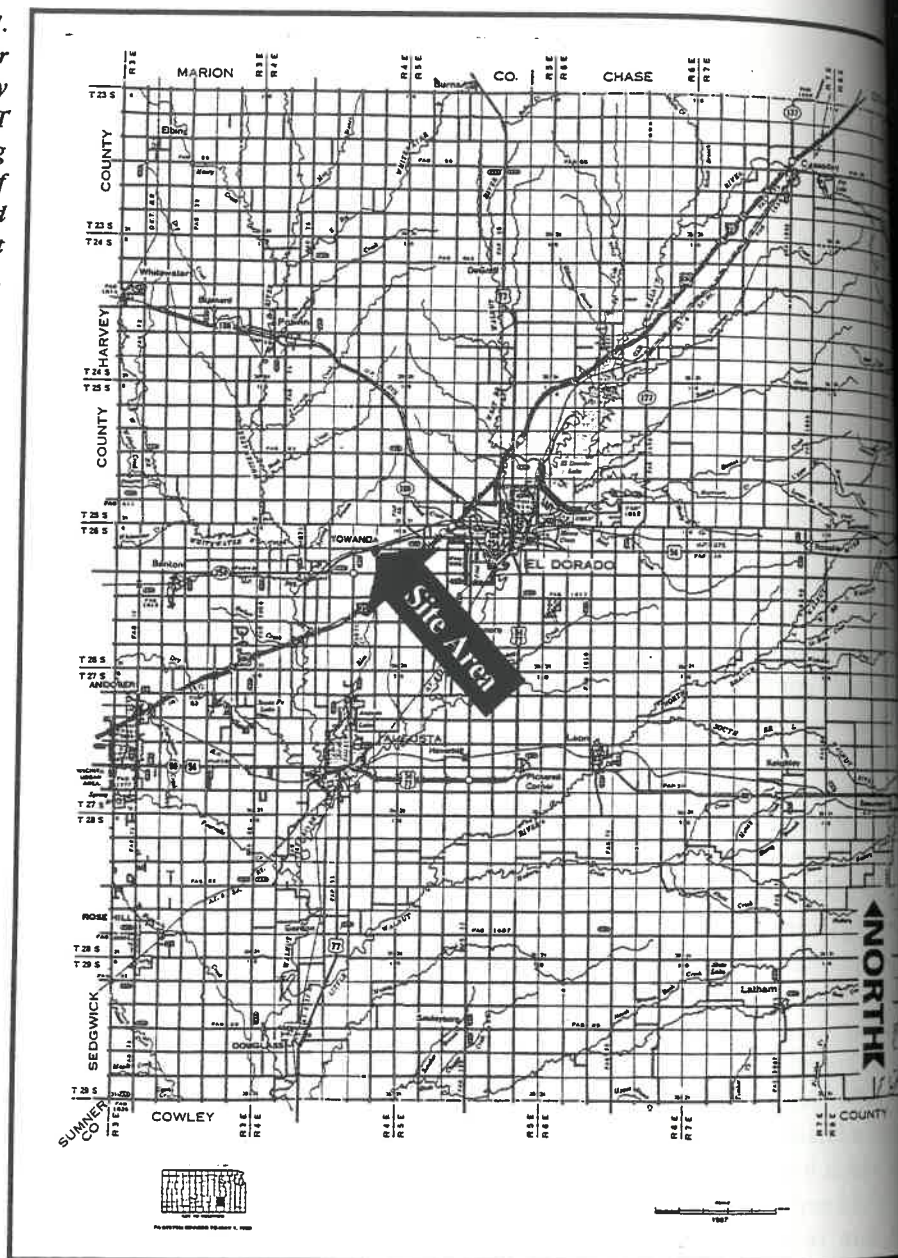
INTRODUCTION

In accordance with the goals and procedures of the Cooperative Agreement for Highway Archeological Salvage Program, the Society recently completed Phase III archeological field investigations at the Midian Townsite (14BU381) within primary road project number 254-8 K-5060-01. The Phase III investigations were authorized by the Kansas Department of Transportation (KDOT) in a letter dated October 2, 1995. The investigation was initiated by earlier correspondence between the Society and KDOT relating to the potential impact of the project on cultural resources. A Phase I review was requested by KDOT on February 17, 1994. The Society subsequently submitted a Phase I report, dated June 22, 1994, in which it was recommended that a Phase II field survey investigation be performed due to the potential of the proposed project impacting prehistoric and historic archeological sites. Phase II field survey of the above referenced primary road project was authorized by the Kansas Department of Transportation (KDOT) in a letter dated July 12, 1994. The recommended Phase II fieldwork was carried out by Society staff

archeologists Timothy Weston and Marsha K. King on May 5 and September 14, 1995. The report of the Phase II investigations, submitted to KDOT on September 20, 1995, recommended that Phase III archeological investigations be conducted at the portion of the Midian Townsite (14BU381) which would be impacted by this highway project. Phase III fieldwork was conducted by Society staff archeologist Marsha K. King and a small crew of Engineering Technician Associates between September 25 and October 6, 1995. The purpose of the investigation was to determine whether any intact subsurface features associated with the oil field town were present and whether the site was eligible for inclusion in the National Register of Historic Places.

As planned, the project involves grading of four lanes of K-254, rehabilitating two existing lanes, construction of two new lanes from approximately 1.5 miles east of Santa Fe Lake Road east to one mile west of the junction of K-196, and includes construction of a bypass at Towanda (Figures 1 and 2).

Figure 1.
Section of Butler
County Highway
Map (KDOT
1987), showing
the location of
primary road
project
254 K-5060-01.



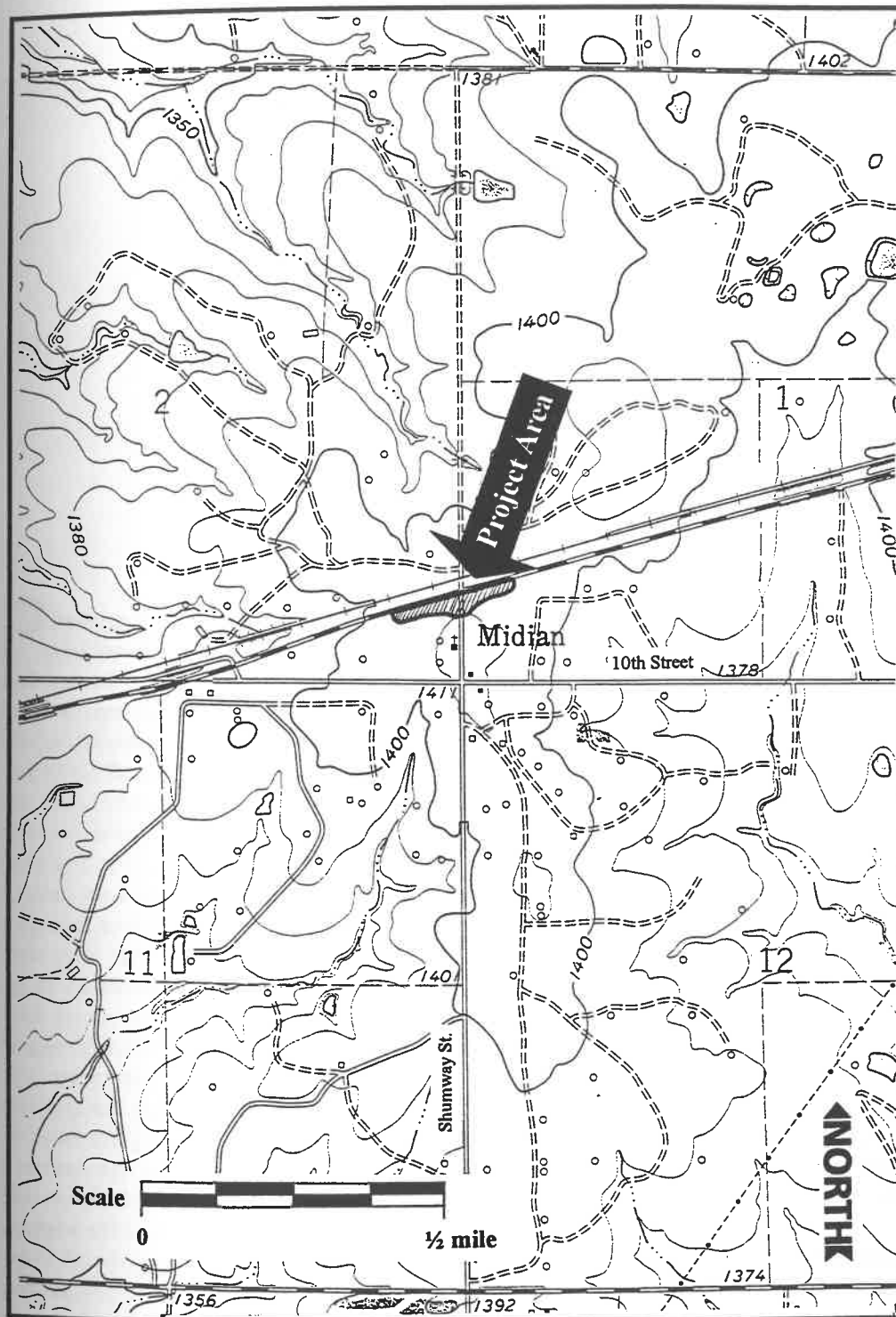


Figure 2.
Section of USGS
(1955, 1961)
topographic maps
(Benton and El
Dorado SW, Kans.
quadrangles),
showing the
location of the
254 K-5060-01
project.

ENVIRONMENTAL SETTING

Physiographically, the K-5060-01 project area lies within the Flint Hills Upland division of the Osage Plains section of the Central Low-land province of the Interior Plains division of North America (Schoewe 1949:291). Ranging from 20 to 80 miles wide, the Flint Hills Upland stretches from north to south across the eastern half of Kansas, taking in such towns as Clay Center, Manhattan, Junction City, Abilene, El Dorado, Augusta, and Winfield. This linear physiographic unit consists of a series of north-south irregularly trending escarpments with steep, terraced eastern faces and flat to gently inclined western slopes. The topography was formed by the exposure and consequent erosion at the ground surface of alternating beds of unequally resistant Permian-age limestones, sandstones, and shales, which dip gently to the west. Stream courses within the region are generally eastward flowing and typically have deeply entrenched channels lined with outcropping rock ledges. Valleys are usually asymmetri-

cal with the steeper slopes located on the south sides. In places where the streams pass through resistant limestones, narrow box-like channels have been incised. In locations where the streams have cut through weaker shales, the valleys are wider, and the slopes are much gentler.

The abundance of flint or chert bands in the limestones is perhaps the most important characteristic of the Flint Hills environment from an archeological perspective. Due to its superior flaking qualities, Flint Hills chert provided excellent raw material for chipped stone tools, and it was heavily exploited by prehistoric inhabitants of the region. Weathering of chert-bearing limestones has produced gravelly soils that mantle the rocky uplands and slow erosion. On sloping land over much of the Flint Hills the soils are only a few centimeters thick above bedrock. Ridge tops and divides have moderately deep clay-rich soils. The Udic Ustolls of the Mollisol order are character-

ized by deep to shallow, dark grayish brown silt loams, silty clay loams, and silty clays (Mandel 1987:3.5, 3.28).

Kuchler (1974) has described the potential natural vegetation of the Flint Hills as tall grass prairie, penetrated by narrow bands of riverine forest. This vegetation community is dominated by warm season grasses, the most important being big and little bluestem, switchgrass, and Indian grass. Moderate rainfall, long growing season (170–190 days), and rich soils provide conditions suitable for many other grasses, including sideoats gramma, sand dropseed, wiregrass, panic grass, and June grass, and for numerous annual and perennial herbs. The early season species are generally small plants that last only a few weeks, and their fruits are rarely edible. Through the mid-summer blooming plants decrease in numbers, but by mid-August grasses and herbaceous plants have matured, and many begin to flower. Most evident are the goldenrods, blazing stars, and sunflowers. By mid-September the asters signal the approaching end of the growing season (Mandel 1987:3.21–3.22).

Gallery forests grow in narrow bands along major streams. The vegetation in these riparian forests is dominated by medium tall to tall broadleaf deciduous trees like cottonwood, hackberry, willow, and elm. Periodically flooded shallow depressions host wetland communities that are dominated by prairie cordgrass, and mud flats are preferred sites for smartweeds, docks, purslane, and chenopods. Hillsides and ravines along the edges of river valleys support woodlands of bur oak with scattered individuals of bitternut hickory and shagbark hickory. Black walnut, green ash, and sycamore prevail in the lower, more mesic

areas. The understory is mostly blackberry and Missouri gooseberry, and the herbaceous flora is similar to that found in oak forests to the east. The total flora of the region includes approximately 700 species (Mandel 1987:3.22).

According to Wedel (1959:14), the history of the Osage Plains provided shelter and food for an abundant mammalian fauna including such large game animals as bison, elk, deer, antelope, and bear, and smaller animals such as cougar, coyote, fox, beaver, otter, muskrat, opossum, badger, squirrel, and rabbit. Turkey, prairie chicken, ruffed grouse, and quail were also present, and the streams yielded an abundance of eel and shellfish.

The natural ecology of the region has been greatly altered by modern land-use patterns. Today, most of the lands within the project area and the rest of the region have been converted for agricultural purposes, primarily for raising of cattle, with crops such as corn, milo, and soybeans cultivated in the fertile stream valleys and bottom lands. The natural ecology within the project area itself, is a mix of pasture and cultivated land, primarily producing wheat, soybeans, and milo. Portions of the project area have been altered by activities associated with the extraction of petroleum and construction of modern residences.

CULTURAL-HISTORICAL SETTING

Archeologically, research in this region of Kansas has yielded evidence of prehistoric human occupation dating from around 10,000 years ago and extending up to the modern era, and certainly has the potential for yielding more such evidence. Sites in the region usually represent habitation areas or small workshops and more rarely occur as villages or burial mounds. While the full extent of the area's archeological resources has yet to be determined, it is clear that the region contains materials deriving from all of the major cultural periods thus far identified in Kansas, i.e.,

Paleo-Indian

circa 20,000 B.C. to 6,000 B.C.

Archaic

circa 8,000 B.C. to A.D. 1

Early Ceramic

circa A.D. 1 to A.D. 1000

Middle Ceramic

circa A.D. 1000 to A.D. 1500

Late Ceramic

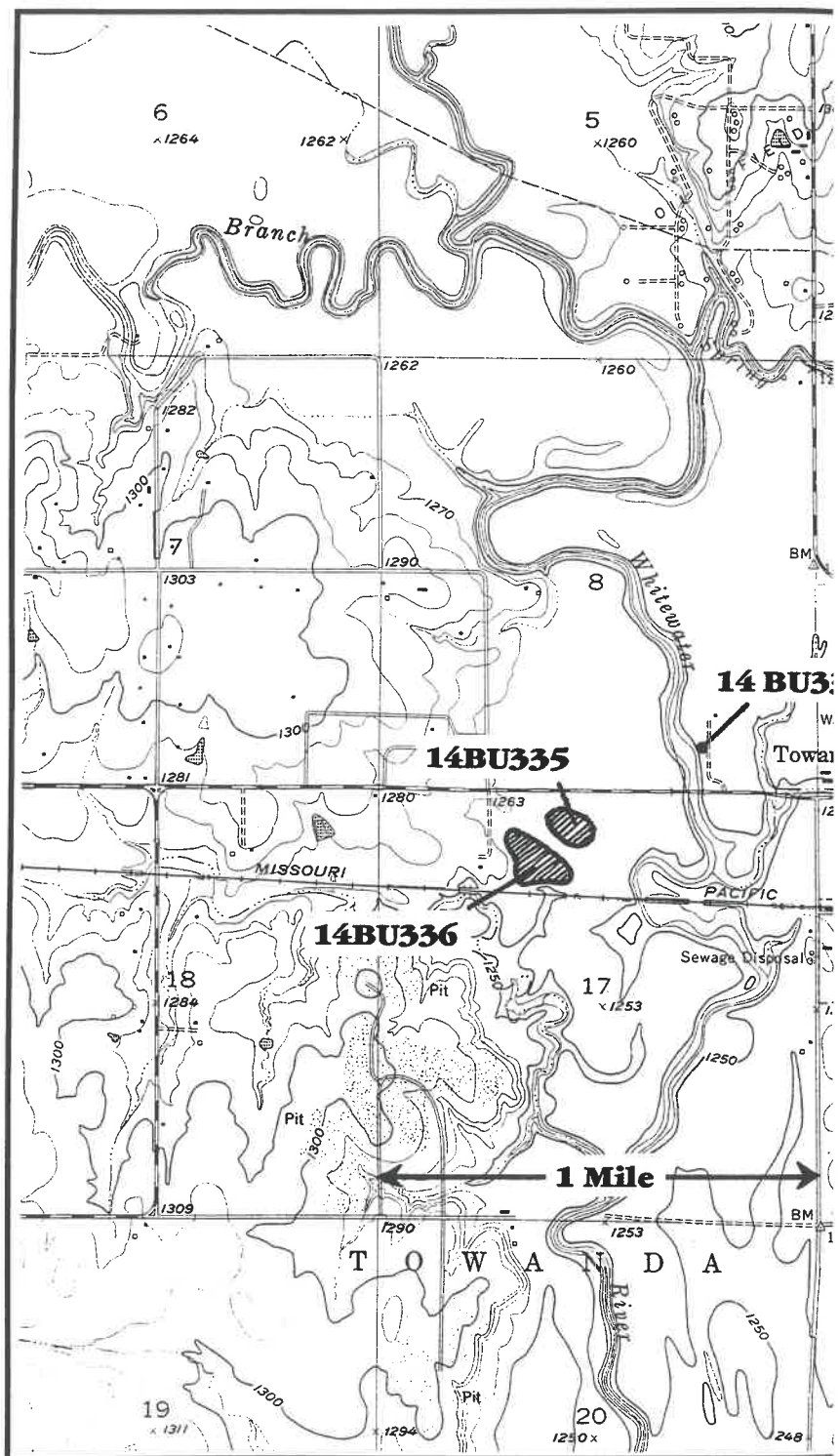
circa A.D. 1500 to A.D. 1800

Historic

A.D. 1541 to present

The list consists of broad and somewhat artificial categories, and there is some temporal overlap between periods. As might be expected, more is known about the most recent inhabitants than is known about the earliest. Phase I review noted that three prehistoric archeological sites had been reported within the vicinity of the 254 K-5060-01 project area (Figure 3). In May of 1979, while conducting a survey for primary road project 254-8-KR-048-1 (7), Society archeologist John D. Reynolds reported three sites, 14BU334, 14BU335, and 14BU336, near the Whitewater River west of Towanda. One of these sites, 14BU334, was located in a cultivated field on the north side of K-254 highway, on the east side of the Whitewater River, and just west of a farm driveway, in the SE1/4 of the SW1/4 of the SE1/4 of Sect.

Figure 3.
Section of USGS
(1955)
topographic map
(Benton, Kans.
quadrangle),
showing the
location of
recorded
prehistoric sites
within the 254
K-5060-01
project.



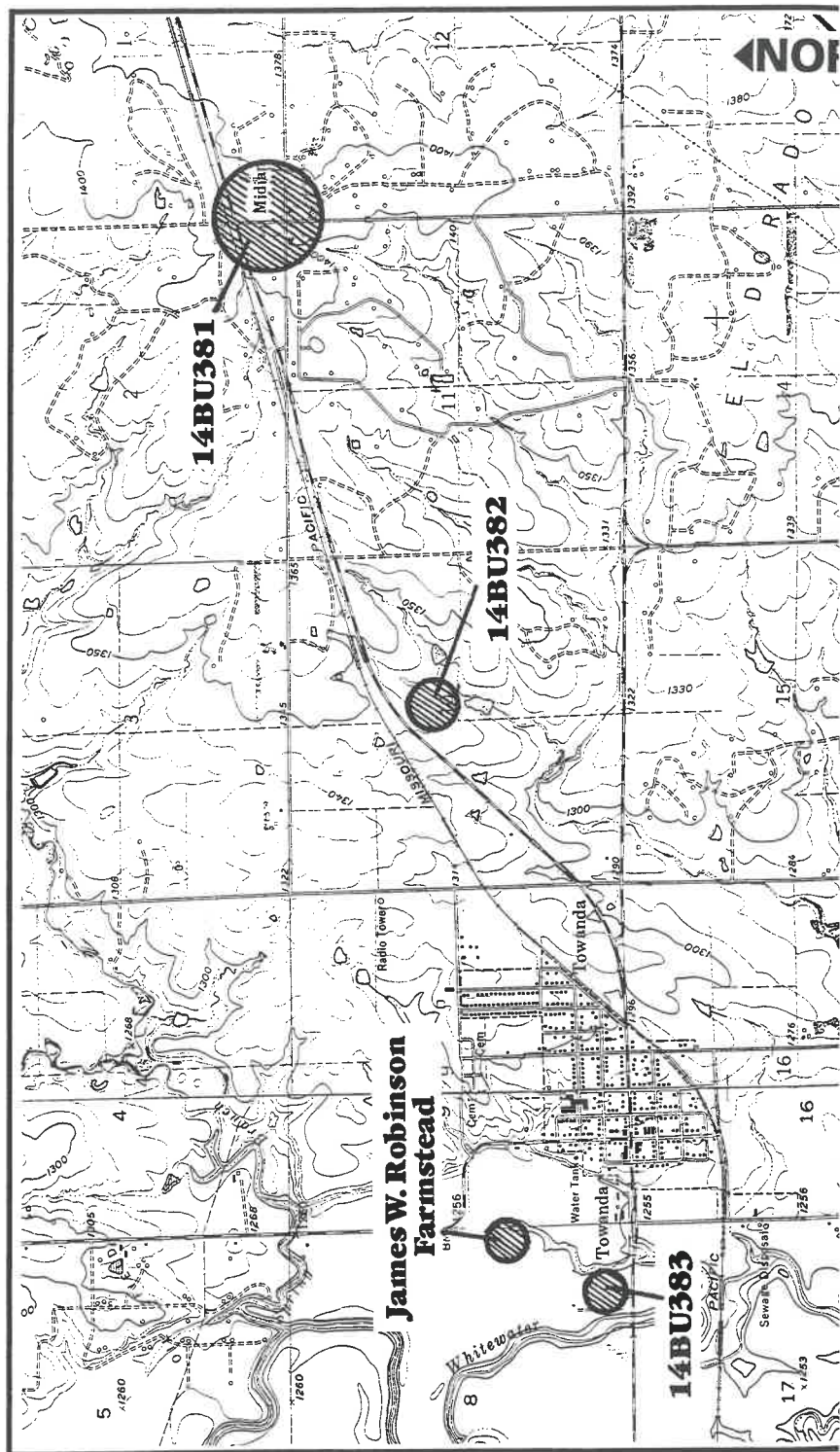
8, Twp. 26S, R. 4E. A single well made, medium sized dart point with the stem missing was recovered from this site. Reynolds did not observe any other prehistoric cultural material in the field. Site 14BU334 is situated immediately north of and outside the proposed project right-of-way, between Station Nos. 435-438. The other two prehistoric sites identified by Reynolds in the project vicinity in 1979 were both located on the south side of K-254 highway and west of the Whitewater River. Site 14BU335, a possible Archaic habitation site, was located in the SW1/4 of the NE1/4 of the NW1/4 of Sect. 17, Twp. 26S, R. 4E. Projectile point sections, a drill section, bifaces in varying thicknesses, end scrapers, scrapers, chert flakes, cores, and some historic debris were recovered from a four to five acre area on an orange terrace remnant in a cultivated field. An abandoned river channel was noted as separating 14BU335 from 14BU336, which was located slightly to the north in the NE1/4 of the NW1/4 of Sect. 17, Twp. 26S, R. 4E. Site 14BU336 was similar to 14BU335 in that it was also a possibly Archaic habitation site situated on an orange colored terrace remnant. Prehistoric cultural material recovered from 14BU336 included: base, midsection, and tips from several projectile points, bifaces of varying thicknesses, side scrapers, end scrapers, chert flakes, and cores. Phase II survey indicated that none of these sites will be impacted by the 254 K-5060-01 project.

Review of the historical atlas maps of Butler County (McGinnis & Thomas 1885; Ogle 1905) indicated the presence of several sites along the K-5060-01 project area. Three farmsteads noted on these atlases were considered to be potentially significant historical archeological sites due to their limited periods of occupation and locations on

undeveloped parcels (Figure 4). The Horace Maynard Farmstead (14BU382) appeared on the 1885 (McGinnis & Thomas) atlas in the SW1/4 of the NE1/4 of Sect. 10, Twp. 26S, R. 4E (Figure 5). This site, which was not shown on the 1905 (Ogle) map, is located between Station Nos. 540 and 545. A farmstead was shown in the SW1/4, SE1/4, SE1/4 of Sect. 8, Twp. 26S, R. 4E on both atlases. This site was attributed to H. Vanhise in 1885 (McGinnis & Thomas) (Figure 5) and to J. W. Robison in 1905 (Ogle) (Figure 6). The Vanhise/Robison Farmstead (14BU383) is situated between Station Nos. 435-440. The third farmstead, located in the NE1/4 of the SE1/4 of Sect. 8, Twp. 26S, R. 4E, was shown on the 1905 (Ogle) map as belonging to J. W. Robison (Figure 6). This site did not appear on the earlier atlas. It is located along Relocated FAS 75, between Station Nos. 34-39.

Phase II survey indicated that the only archeological site which would be impacted by the K-5060-01 project was a portion of the Midian Townsite (14BU381). This site, a ca. 1915-1950s oil field boomtown, is located at the junction of Sections 1, 2, 11, and 12, Township 26 South, Range 4 East. The townsite does not appear on the two early historical atlases, but is labeled as "Midian" on the USGS quadrangle map (Figure 4). Midian, and the neighboring oil field town of Oil Hill, have been the subjects of local histories (Green 1964; Klintworth 1977) and newspaper reports, and limited of archeological survey (King 1981). The old townsite lies between Station Nos. 620 and 630 (Figure 7). In this vicinity the project plans call for construction of two new lanes on the south side of the existing highway and a temporary easement, all within the area of the townsite.

*Figure 4.
Section of USGS
(1955, 1961)
topographic maps
(Benton and El
Dorado SW, Kans.
quadrangles),
showing the
location of four
potentially
significant
historic
archeological
sites within the
254 K-5060-01
project.*



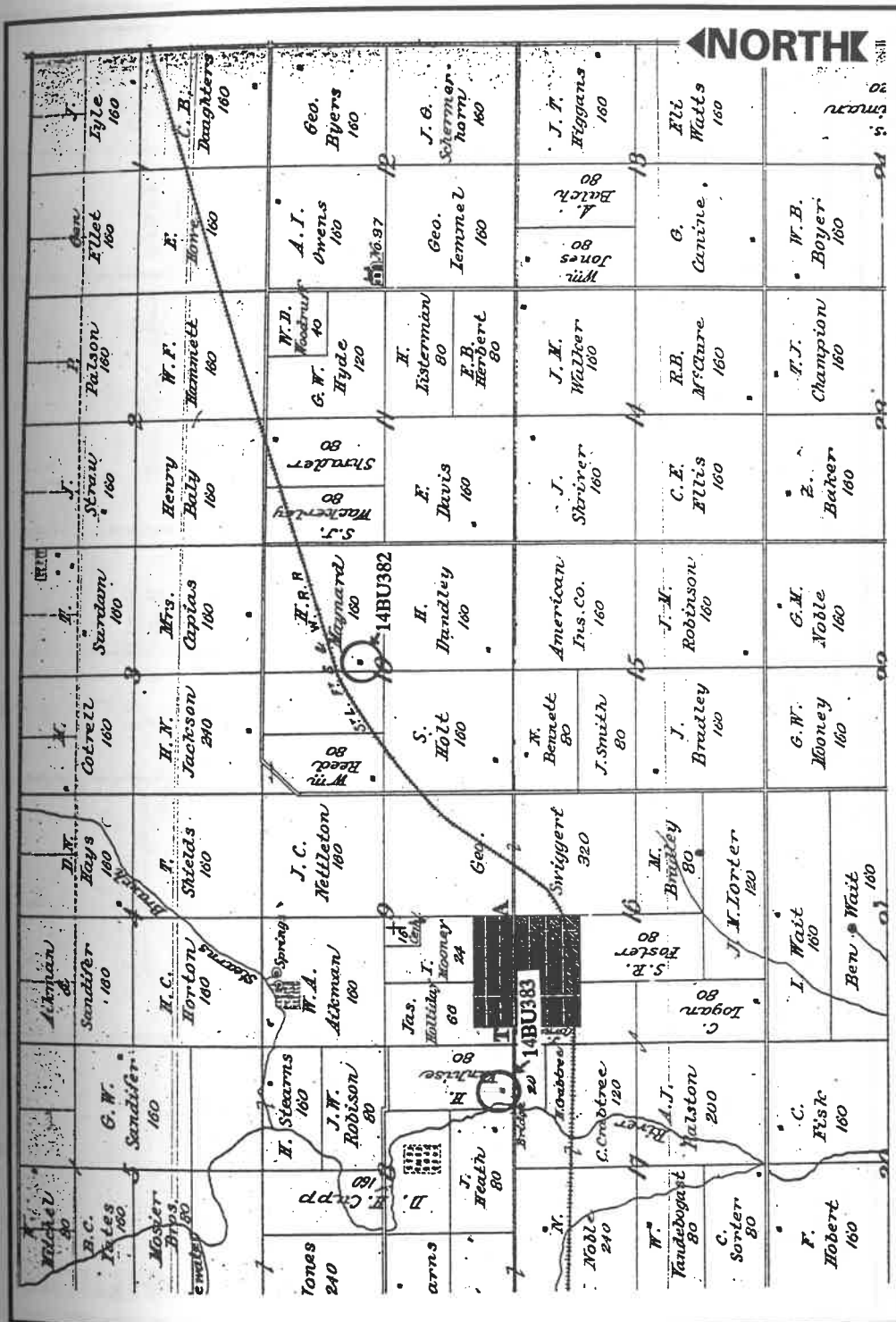


Figure 5.
1885 (McGinnis
and Thomas) atlas
showing locations
of the Horace
Maynard
(14BU382) and H.
Vanbise (or Van
Huss) (14BU383)
farmsteads.











RESEARCH METHODOLOGY

The Phase III investigation that is the subject of this report involved background research consisting of a review of project plans, topographic maps, soil survey maps, and various archeological records pertinent to the project area. Historical background research included examination of county atlases, histories, directories, and censuses. Land evidence records at the county courthouse were also examined. Photographs in the collections of the Butler County Historical Museum and the Kansas State Historical Society were scrutinized for views showing the project area. In addition, brief interviews were conducted with the current landowners of the portions of the Midian Townsite to be impacted by the K-5060-01 project, Mr. John Hogoboom and Mrs. Gloria Tucker. Both landowners had lived, worked, and/or gone to school in Midian during the period of the oil boom. They provided insight into the locations of structures and utilities, oil field activities, and daily life in the oil field community. Mr. Bob

Burgess, director of the Butler County Historical Museum, was also interviewed. He provided information concerning various aspects of oil field technology, access to oil field equipment catalogs, and details on the size and construction of typical oil field houses.

Archeological fieldwork conducted within the Midian Townsite project area consisted of a combination of metal detector survey, hand excavation of trenches and units, and mapping. Two different methods were used with the metal detector. In one portion of the project area all "hits" made with the metal detector were examined through excavation of small shovel tests to identify and collect the object found. The location of each shovel test was mapped. The detector also was used to locate concentrations of subsurface metal objects to help determine placement of excavation units. The units were hand excavated through the culture-bearing strata and into culturally sterile subsoil. Generally, units were excavated in

HISTORICAL BACKGROUND

The El Dorado Oil Field

Before the discovery and development of the El Dorado Oil Field, El Dorado, the county seat of Butler County, was a quiet agriculture and ranching center. The population of the town varied from 3,462 in 1905 to 2,710 in 1915. The population of the surrounding area enclosed within El Dorado Township decreased from 672 in 1905 to 552 in 1915 (KSBA 1905-06:1012; KSBA 1915-16:382). Rocky upland soil and the lack of any permanent water sources limited the agricultural potential and development of the Midian area lying to the west of El Dorado. The location on the edge of the Flint Hills region of the state encouraged development and growth of a cattle industry, as the rocky land was much better suited for grazing than for tilling. By 1916, cattle grazing had become an important factor in the region's economy. However, the rich bottom lands of the narrow Walnut River Valley, in which El Dorado lies, were planted in corn, kafir, alfalfa, wheat, and other grain and feed crops.

Historical atlases (McGinnis 1885; Ogle 1905) indicated that some eleven households were located within Midian during the late-nineteenth and very early twentieth century. Most probably these families were exploiting the pastures and possibly engaging in limited farming. The total human population supported by at Midian during this period probably did not exceed 75 individuals. The 1905 and 1915 state censuses show that the percentage of the population over 21 years of age who were engaged in agriculture and farming remained stable during this period. In 1905 (KSC) 67.38 per cent of the adult population reported their occupation as agriculture, while in 1915 (KSC) this figure was 67.25 per cent.

For decades oil had been sought in Butler County, and in the El Dorado area in particular. The first drilling company organized in the county began to drill in 1878 at Oil City, a site southwest of El Dorado which

was selected by a medium as being favorable for oil. The effort was short lived; at the 200 foot level funds ran out, the well was abandoned, and the town disappeared (Yeager 1916:281). In 1882, a group of El Dorado businessmen drilled a 900 foot well in Riverside Park, on the east edge of town. No oil was encountered, but an artesian flow of salt water was struck and put to advantage with the construction of an evaporation plant to remove the salt (Fisher 1930:25).

The 1906 discovery of a commercially productive gas well in Augusta, a nearby town with which El Dorado was continually in competition, encouraged El Dorado speculators to attempt another well (Green 1964:18). In late 1909, the city drilled on the Holderman tract (SW 1/4, Section 3, Township 26 South, Range 5 East) to a depth of 1,557 feet. No showings of oil were found, and the well was abandoned. A second well was drilled on the east bank of the Walnut River in the city park in the fall of 1910, but was abandoned as a failure at a depth of 1,695 feet (Fath 1921:18). On March 6, 1914 oil was discovered on the Frank Varner farm, five miles southwest of Augusta at a depth of 2,460 feet (Stratford and Klintworth 1970:117-118). Once again Augusta had beaten her arch rival to the glory.

On Friday, July 10, 1914 six El Dorado men, representing the city council and the Commercial Club, met to consider drilling another test well. A budget of \$12,894 was available from a \$20,000 bond issue voted for civic improvements. The committee made two decisions: to send someone to Oklahoma oil country to check on a contract for a 2,500 foot test well; and to seek the advice of a competent geologist (Green 1964:21-22). Dr. Erasmus Haworth, a professor at the Uni-

versity of Kansas and the State Geologist was contracted to survey the area and make suggestions for the location of a test well. "The fact that El Dorado employed a geologist was in itself unusual. The practice at that time was more towards 'witch'—just closing one's eyes and pointing to a spot where the drill would be the spot where the drill would start spudding" (Green 1964:22-23). Haworth received \$148.97 for his services and was responsible for the discovery of the largest oil field discovered up to that time (Green 1964:24-26).

Dr. Haworth recommended that the city drill a test area consisting of 790 acres, four miles west of El Dorado (Fath 1921:18). The city took his advice and purchased land on approximately 800 acres of land on the Fowler farm, located four to six miles west of the center of El Dorado, and approximately one mile northeast of the project area (Figure 8). Thursday, November 5, 1914 the city council voted to accept the bid of drilling contractor Goodnow and Crabb of Bristow, Oklahoma, for \$10,750, with the work to begin within 40 days from the date the contract was signed. Saturday, December 5, 1914 drilling was begun 4.5 miles west of El Dorado on the Fowler lease. The depth of 2,600 feet was reached June 1, 1915 with a \$10,000 expenditure. The lease was extended, but at the 2,825 feet depth salt water was reached—an extra \$2,000 had been spent for 225 feet to find only salt water (Green 1964:28).

Wichita Natural Gas Company, the fast growing Cities Service gas company, and the electric utility network being put together by Henry L. Doherty and his associates offered to buy out the city's leases (Green 1964:28).

HISTORICAL BACKGROUND

Times 1965:3). August 28, 1915 an agreement was signed between the company and the city of El Dorado in which the city assigned its leases to the company and agreed not to prospect or drill for oil or gas. In return, Wichita Natural paid the city \$800 in cash and promised to pay half of the net proceeds of any producing wells found up to the sum of \$15,000 (Green 1964:41-42).

By September 3, a location for Wichita Natural's first well had been decided upon with advice from the company's geologist, and staked out by Herbert R. Straight and F. L. Frankenberter, also with Doherty's organization (*El Dorado Times* 1965:3). On September 29th the rig was completed and the drilling began on the Stapleton lease, located northwest of El Dorado. Within a week oil was encountered in sand at a depth of 549 to 557 feet, and commercial production, 50 to 200 barrels per day (1 barrel=42 gallons), was found in sand at 660 to 678 feet (Fath 1921:19). This well opened the El Dorado pool of the Mid Continent field (API 1928:28).

El Dorado citizens watched the drilling operation, read of it in the local newspapers, and talked of it daily. For many of them a commercial production would prove personally profitable, either through leasing land or through the increased business which oil field workers would bring to El Dorado and the surrounding area. Once the discovery was certain, the talk changed from possibilities of oil to a discussion of the best leases to purchase, the price which should be demanded for a lease, and the future extension of the field. As news of the oil strike became widespread, oil men and lease speculators began to arrive in El Dorado. The *Walnut Valley Times* (1915:1) reported

the situation:

The craze for leases has wiped out talk of anticlines and other geological conditions. Lease takers are combing the country north and northwest of El Dorado. Lease holders are beginning to believe they can make a better thing by holding on than by selling at a high advance—and the prices are soaring....The Metropolitan Hotel is overflowing with capitalists, near-capitalists, oil men and near-oil men. The corridors ring with oily talk, and now and then a weary guest rolls up to the front and alights after a trip to the country in pursuit of the festive lease.

The purchase price of leases in the El Dorado field usually consisted of two main considerations: 1) the bonus, the cost for the execution or transfer of the lease; and 2) the yearly rental, the amount to be paid by the oil company until the termination of the well or until commercial production was obtained. The bonus depended upon the distance of the lease from proven oil or gas developments, and resulted from a bargain between the lessee and the landowner. Wildcat acreage, land far from the main field, paid a low bonus, possibly as little as \$1.00 per acre. Acreage near a proven lease could pay several thousand dollars per acre. The yearly rental charged by the landowner usually ranged from \$0.50 to \$1.00 an acre, with occasional higher prices set by landowners as a stimulus to rapid development. When oil or gas production was obtained, the yearly rental was supplanted by the royalty payment. For a gas well the royalty was definite proportion of the gas marketed or a yearly well rental fee and usually included

gas to be supplied to the landowner for his use. The royalty paid on an oil well was usually 1/8th of the oil marketed.

When it became apparent that the field would be expanded to include nearby lands, the owners of these properties began to negotiate for higher lease prices.

The price of leases continued to climb. At the time of the Stapleton strike the average lease went for one dollar an acre. By January 4, 1916 a farmer by the name of A. Kuster reported leasing his 175 acres of ground for forty dollars an acre.... The highest price paid for an acre was \$3,750. The total price for the lease was \$300,000. This was the Linn Lease which consisted of 80 acres and was leased by the Sinclair Oil Company (Green 1964:48-49).

As available lands near the field were hastily purchased, the volume of land lease sales in the area increased tremendously (Green 1964:54).

Many different oil companies operated in the El Dorado field. These included: the Carter Oil Company, a subsidiary of the Standard Oil Corporation; the Sinclair Oil Company; the Gypsy Oil Company, a branch of the Gulf Oil Company; and the major developers of the field, Wichita Natural Gas Company (Green 1964:55). In 1916 the Wichita Natural Gas Company, the south central Kansas drilling subsidiary of Cities Service, combined with the Western Distributing Company, another Cities Service subsidiary organized to pipe the oil from the field, to form the Continental Oil Company, which lasted for six months. The company subsequently underwent several

other name changes. The names Empire and Fuel Company and Empire Oil Refining Company were in use until 1930. City Service Oil Company, Cities Service Petroleum Company, and CITCO names used after 1930 (Green 1964:56).

Expansion of the El Dorado field began soon after the Stapleton No. 1 was announced. By the end of 1915 other wells were producing from the low sand depth, with Stapleton No. 1 only well producing at the Stapleton zone (Moore and Haynes 1917:230). Major extensions of the field took place between 1915 and 1917:

1. December 1915 saw the field extended two miles southwest of the Stapleton well, on to the Linn Lease where a 50 barrel well was brought in at the 660 foot depth (Fath 1921:18).
2. In February 1916, the Adams Lease yielded a 100 barrel well for the Sunflower Oil Company (later the Sinclair Oil Company) (Stratford 1934:92).
3. A. L. Derby and others developed a 500 to 1,000 barrel well in the 2,000 foot pay sand on the Wilson Lease east of the Stapleton site, in April or May of 1916 (Stratford 1934:92).
4. An extension of the field two miles south occurred in July with the discovery of a 150 barrel well at a depth of 1,650 feet on the Boyer Lease (Stratford 1934:92).
5. March 23, 1917 a 350 barrel

production was achieved on the Wilson Dome formation (Green 1964:60).

6. The Ralston Lease was also brought in during March of 1917 and produced 250 to 500 barrels per day (Green 1964:60). The eastern portion of the Midian project area is located within this lease, which comprised the W 1/2 of the SW 1/4 of Section 1, Township 26 South, Range 4 East (Figure 8).

7. The Eureka-Trapshooter No. 1 brought in on May 15, 1917 by the Trapshooter Oil Company (later sold to the Eureka Oil Company) was one of the first productive wells in the Midian area. The Trapshooter well was drilled on the H. M. Williams and W. W. Walker Lease, the W 1/2 of the NW 1/4 of Section 11, Township 26 South, Range 4 East (Figure 8). It was the first gusher to be discovered in the El Dorado field, coming in at an estimated 15,000 barrels per day. "They were not prepared for it, and had not expected it, and because of inadequate tankage facilities its initial production can only be estimated" (Stratford 1934:93).

A further extension of the field to the south took place in May of 1917 with the Koogler No. 1 drilled by the Page-Lewis Oil Company on the Koogler Lease.

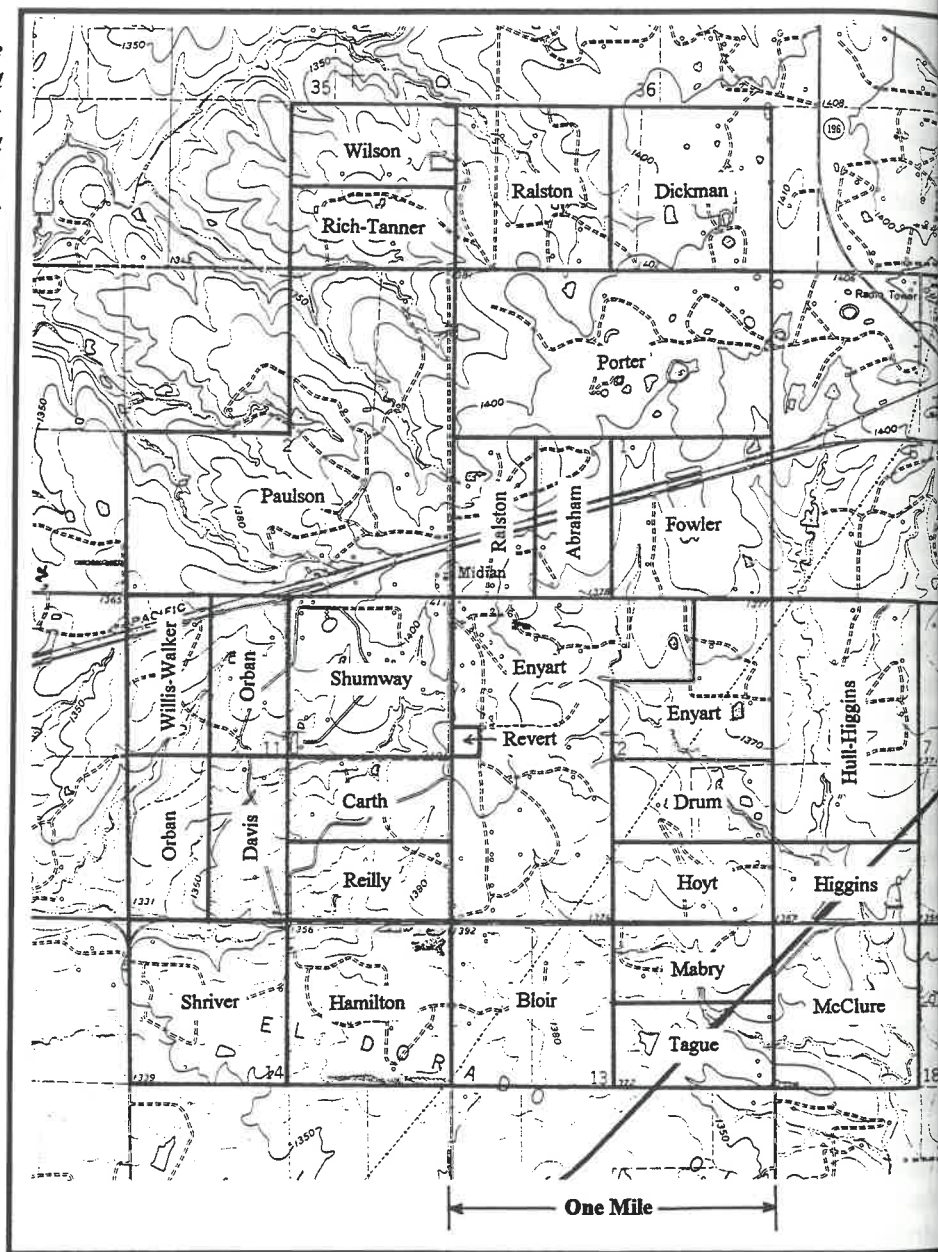
The El Dorado field reached maximum production in 1917, at a rate of 109,000 barrels per day (API 1928:28). By the end of that year, seven of the most productive oil wells in the United States, producing 60,000 bar-

rels per day, were located in Section 11, Township 26 South, Range 4 East, approximately one mile southwest of the center of Midian, and within the Midian School District. These wells included Trapshooters Nos. 3, 6, and 9, a Carter Oil Company well in the Oban lease, two Sinclair offsets, and a Gypsy well on the Stanley royalty (Minor 1987:140). The most productive well in the Mid-Continent field was brought in on July 17, 1917 on the Shumway Lease. This lease encompassed the NW 1/4 of Section 11, including the southwest corner of the Midian intersection. Gypsy's No. 1 well on the Shumway Lease had an initial flow of 180 barrels per hour. The Gypsy No. 5 well on this lease came in at 800 barrels per hour, and produced 2,500,000 barrels in 222 days, the field record (Minor 1987:140-141). Another early producing well in the Midian area was the Enyart No. 1, brought in on September 5, 1917 (Green 1964). The Enyart Lease formed the southeast corner of the Midian intersection (Figure 8).

The El Dorado oil field after these extensions was defined by a 1917 bulletin of the State Geological Survey (Moore and Haynes 1917:231) as: the area which "lies chiefly west and northwest of the town of El Dorado, and includes most of T. 25 S., R. 5 E., and the northeastern part of T. 26 S., R. 4 E., and the northern part of R. 5 E." Some articles discussed the western edge of the El Dorado field, including the Trapshooter wells, as being in a Towanda district:

...implying that they constitute a new field. It is true that they are in the municipal township named Towanda, but it is much more important to note that they are on part of the El Dorado anticline, and

*Figure 8.
Map of the
Midian School
District showing
oil leases around
the Midian
Townsite (after
Green 1964).*



are, therefore, geologically and geographically a part of the great El Dorado field, and from every standpoint should be referred to in that way (Haworth 1917:23).

The following years of the field's development did little to extend the boundaries of the field. The only major extensions were the opening of the Robinson Dome, northwest of the Stapleton Lease (Stratford 1934:93). Development of existing leases followed the mad rush of the 1915 to 1917 opening of the field.

Production during the first few years (ca. 1917 to 1920/21) in the Midian portion of the El Dorado field was based upon the use of large numbers of unskilled workers, horses and horse-drawn wagons, steam engines, wooden rigs, and the standard cable tools method of drilling. One worker described the working conditions at Midian in 1918:

All digging, filling, and pipe work was done by hand and pipe was loaded on wagons the same way. There were no winches. To get rock out of the ditches, pick and shovel and sometimes dynamite was used. The rigs were built of wood. There were no cars or trucks and teams of horses pulling wagons loaded with wood and pipe were everywhere (Bill Lovern quoted in Green 1964:164-165).

In the early days of the El Dorado field, drilling a well was a major undertaking and required several weeks to complete. Three to five days were spent constructing the rig or derrick. "All rigs were wooden until the late twenties and early thirties" (Green 1964:84).

The operation of drilling an oil well as

practiced in the Midcontinent field may be described briefly. After the rig has been built the preliminary drilling, known as "spudding," is begun....

After the hole has been deepened by spudding sufficiently to permit the use of the regular string of drilling tools, this distance amounting on the average to about 75 or 100 feet, the drilling cable is rigged to the walking beam....and the regular work of drilling is begun....

The operation of drilling is frequently interrupted by the occurrence of an accident which necessitates the use of fishing tools of various sorts. If the fishing is successful, drilling is resumed, but if unsuccessful the well must be abandoned, often after weeks or months of labor (Moore and Haynes 1917:67-68).

The rotary drilling method, requiring less time and fewer people, replaced the old cable tools method in the late twenties and early thirties. Subsequently, the portable drilling unit was introduced (Green 1964:63-64). Also during this time a slow but steady changeover took place from the use of wooden derricks, which often toppled over in wind storms or burned, to the use of pipe or metal derricks (Andrus interview, quoted in King 1981:78). Steel derricks had been available to the industry since 1892, but primarily had been used only for deeper drilling (API 1961:180). The incorporation of these new technologies and techniques required less human labor expenditure than the previous methods, thereby reducing the number of people employed and affecting the occupa-

tional and demographic structure of Midian.

Oil production of the El Dorado field in 1918 was recorded as 28,807,680 barrels, with an estimated value of \$63 million (*El Dorado Times* 1965:2), as compared with the Butler County total of 36,069,670 barrels (Jewett 1954:117). El Dorado oil accounted for 64 per cent of the total Kansas output in 1918 (*El Dorado Times* 1965:2). The discovery of oil in El Dorado came at an important time. The city of El Dorado in a Chamber of Commerce pamphlet paraphrases a quote by Viscount George Nathaniel Curzon, saying that "the Allied war machine was floundering through lack of fuel and lubricants.... (T)he newly discovered El Dorado oil field provided the 'sea of oil' on which the Allies 'floated to victory.'" By 1918, the total cumulative oil production of the El Dorado field was approximately 36,550,000 barrels (Fisher 1930:26). The price of Mid-Continent crude oil during this time rose from 90 cents in 1916 to an average of \$2.20 in 1918, \$2.28 in 1919, and \$3.42 in 1920 (*El Dorado Times* 1965:8).

The development of the field had a major impact upon the growth and development of the city of El Dorado, as well as the surrounding area. Many new businesses and new jobs were created due to the influx of people brought by the oil. The population of El Dorado and El Dorado Township, which included much of the oil field, increased from 3,262 in 1915 to 5,153 in 1916 (KSBA 1915:382). The population of the city and township by 1920 had increased to 14,459 persons. When broken down between the city and township, these figures show that the population of the area outside the city limits had realized a tremendous increase, from 588 individuals in 1916 to 3,192

in 1920. Meanwhile the city had more than doubled its population from 4,565 in 1916 to 11,267 in 1920 (KSBA 1915:382, 1919-20:326). Among the people flocking to the El Dorado field were leaseholders, speculators, oil men, oil field workers and their families, and other businessmen hoping to cash in on the needs of the oil industry and the growing population.

The oil companies, refineries, and other related companies provided a significant input into the local and regional economy. By 1920 six refineries were operating in the El Dorado vicinity (Minor 1987:138). Numerous drilling contractors, oil field suppliers, and other oil field support services and companies operated in the El Dorado area. The Wichita Natural, or Empire Oil, was one of the companies which played an important part in the development of the El Dorado oil field and in the economy of the area.

How it [Empire] has benefited Butler County directly in sharing the wealth it has tapped is told graphically by its royalty figures. From 1916 to 1929 inclusive, royalty oil production for land owners of Butler reached a total of 14,556,000 barrels with a market value of \$26,516,000. During the same period the Empire has paid out to employees \$27,000,000 while its Butler County taxes for the same time amounted to \$2,400,000. (Stratford 1934:94).

The height of the El Dorado oil boom had been reached by 1925. The economy of El Dorado and the surrounding area, including Midian, began to stabilize. The population, which had increased rapidly during the boom years, decreased from 14,459

to 12,436 in 1925 (KSBA 1920:326; KSBA 1925-26:296). The decline of Midian was caused by many factors: the changed status of the oil field; the achievement of full production; technological advances which led to the automation of oil production and the need for fewer oil field workers; and the withdrawal of the manufacturing and administrative offices of the oil companies and refineries. Oil workers had become an important part of the regional economy. They constituted a substantial proportion of the population and of the work force. The 1905 census showed that only 0.62 per cent of the working population was engaged in some form of mining. The Decennial Census of 1925 showed a significant percentage of 22.1 per cent engaged in the extraction of minerals, including oil (KSBA 1905:52; KSBA 1915:730; KSBA 1925:682). These statistics for the entire county may be misleading, as the actual percentage of the population in the vicinity of the oil fields engaged in oil related occupations was likely to have been higher. These figures become more significant when considered in context. The percentage of the population engaged in agriculture had decreased over the same period from 67.25 per cent in 1915 to 32.3 per cent in 1925 (KSBA 1915:728; KSBA 1925:296). Another factor which must be considered when dealing with these statistics is the increase in the population of the area that occurred between 1915 and 1925, from 3,262 to 12,436 (KSBA 1915; KSBA 1925). This tends to make the change in the occupational percentages even greater.

By the early 1920s automobiles began to be used in the oil field. Roads were constructed across leases connecting wells to each other, to the county roads, and to Midian. One informant recalled that during the middle

to late 1920s both horses and trucks were in use, they "used horse teams to dig ponds, while trucks took men to the wells" (Brown interview, quoted in King 1981:75). Bulldozers and backhoes were later introduced to dig ditches, large sludge pits, and ponds. During this same period gasoline or diesel fueled combustion engines also replaced steam and gas engines to power pumping and drilling operations (Andrus interview, quoted in King 1981:76). In 1917 steam power was "almost universally used in the drilling of oil wells, the steam being supplied by a boiler located at a distance from the well in order to decrease the danger of fire" (Moore and Haynes 1917:66). With the combustion engine, the risk of fire was significantly reduced, though derricks did occasionally catch fire. The combustion engine, whether as a source of energy, or as the driving force in a vehicle, greatly increased the efficiency of production. Put simply "one man could do more" (Andrus interview, quoted in King 1981:76).

The El Dorado Oil Field was the location of the first electric drilling and pumping operation in the Mid-Continent region. The introduction of electricity had major ramifications on the production of oil, as well as on the daily lives of residents of Midian and other oil field communities. An electric line was built between Wichita and El Dorado by the Kansas Gas and Electric Company in 1915 to provide power for El Dorado and the surrounding oil fields. Cities Service (then Empire) was the first company to electrify their portion of the field. The Barnhill (or Midian) Substation was constructed in 1923, 1.5 miles east of the Midian intersection. It reduced voltage of the main line from 69,000 to 12,500 volts, which could then be used in the fields. Cities Service and other

companies had to construct their own lines out to the wells (Borger interview, quoted in King 1981:76). The company set its priorities early, and initially ran lines directly to the producing portions of the fields. After the field was electrified, they "finally ran lines to the houses" (Andrus interview, quoted in King 1981:77).

Midian

The oil field town of Midian was located halfway between El Dorado and Towanda, in Butler County, Kansas near a passing track of the Missouri Pacific Railroad from which the town took its name. Located on prairie upland between the Walnut and Whitewater rivers, the community lay on rolling land above an anticlinal structure, the Shumway Dome, associated with the oil deposits of this portion of the El Dorado Oil Field. The center of the town was the intersection of Sections 1, 2, 11, and 12 of Township 26 South, Range 4 East (Figure 9). The establishment, growth, and decline of the town were intimately tied to the development of this oil field. The activities of the Empire Gas and Fuel Company (later Cities Service Petroleum Company or CITGO) and the Gypsy Oil Company (later Gulf Oil Company), which built and maintained the town, were especially linked to this development.

By simply looking at the spatial distribution of houses built by the four oil companies, it was difficult to determine where one town ended and another began. Residents of Midian indicated that there had been: "houses everywhere—one deep along all roads, one-half mile north and south, and one-half mile east and west, with more

houses in the fields" (Green interview, quoted in King 1981:69); "houses all over the place" (Andrus interview, quoted in King 1981:77). For the purposes of this report the name Midian was used to refer to the area encompassed by the school district. The Midian School District, Butler County School District No. 1, covered an area of some 6.5 square miles in a slightly irregular rectangle around the Midian intersection (Figure 9). The schools served as an important community center for the residents, housing many educational activities for the children, religious services, entertainment, and social gatherings (Green 1964:4; King 1981:77). The term Midian Townsite, or 14BU, was used to refer to the town center, the portion of Midian lying immediately adjacent to the main intersection and railroad tracks. The townsite included the SW 1/4 of the SW 1/4 of Section 1, the NE 1/4 of the SE 1/4 of Section 2, the N 1/2 of the NE 1/4 of the NE 1/4 of Section 11, and the N 1/2 of the NW 1/4 of the NW 1/4 of Section 12, all in Township 26 South, Range 4 East. The small portion of the Midian townsite examined during the Phase I archeological investigations, that portion lying within and immediately adjacent to the K-5060-01 project area, will be referred to as the project area.

The Eureka-Trapshooter strikes, beginning during the spring of 1917 in Section 1, led to the wells which began the race for the development of the Midian section of the El Dorado oil field. These wells, along with those on the Ralston, Enyart, and Shumway leases, precipitated the rapid growth of the oil field town of Midian. One resident recalled the sudden growth of Midian as follows:

In a matter of days the great iron

HISTORICAL BACKGROUND

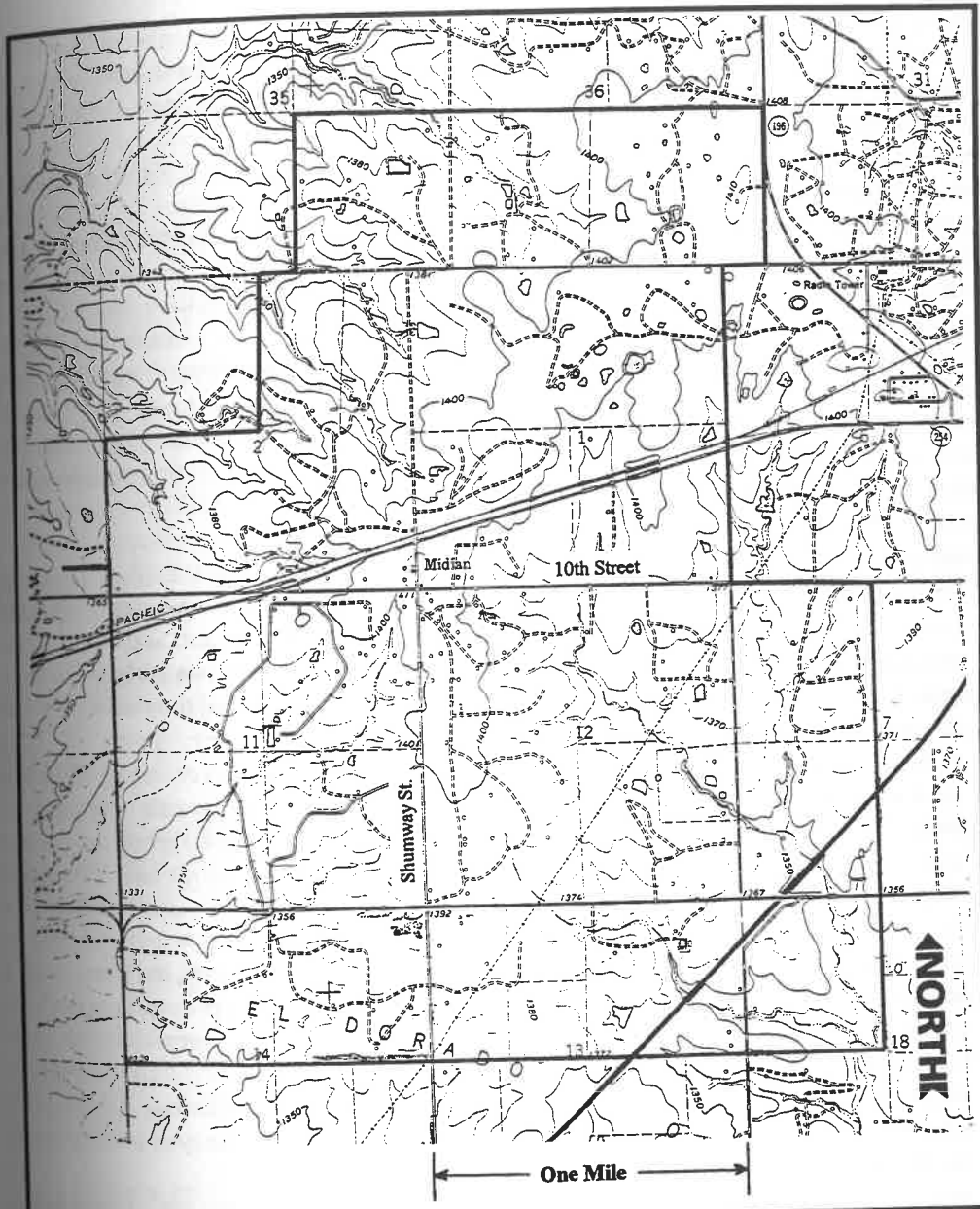


*Figure 9.
Map of the
Midian School
District showing
the location of
the Midian
Townsite at the
intersection of
Shumway and
10th streets.*

production were on the ground vying for leases. Soon these were followed by men seeking jobs. From all directions and from all walks of life they came. Good people, fine people they were too. The oil boom was on. Men went from door to door seeking a place to sleep, be it a home, a barn, a cave; just anywhere to get protection from the elements. Soon the population of the vicinity was increased by 1,500 or more, most of whom lived in quickly erected one or two room shacks or small oil field houses (Edminston quoted in Green 1964:98).

Empire Oil was especially important in the development of Midian in that the company controlled the major share of the 28 oil leases encompassed within the Midian School District (Figure 8). The majority of the persons living in and adjoining the center of Midian were employed by Empire Oil in one capacity or another. The major labor classifications were oil well drillers, tool dressers, carpenters, plumbers, truckers, rig builders, casing crews, and roustabouts (Fisher 1930:206).

The first buildings were constructed at Midian at the same time as the first derricks and wells in 1917. Among the first structures built at Midian were boarding houses for single men. The boarding houses were long buildings with many bunks and a large room for eating. Boarding house meals, which cost 40 cents and were served family-style, typically included: boiled beef, corned beef, potatoes and brown gravy, cabbage, kraut, onions, corn, tomatoes, white and corn bread, custard or rice pudding, coffee, iced tea, and milk. A model home was also built and furnished to show families what was available and the prevailing

prices of various furnishing items. The oil companies also provided a doctor, nurse, and emergency hospital (Midwest 1983:72-73).

Crews built houses as fast as possible to provide accommodations for the burgeoning population, but could not keep up with the demand. When Mr. and Mrs. Cyril Green arrived in Midian with their young family in 1918 they were lucky and received "a two room box car house," and were able to move in immediately, even though the windows and roof had not yet been completed. Years later the Greens moved into a three room house (Green 1957).

Houses, and most of the other buildings built by the oil companies were constructed of the cheapest materials and in the quickest possible manner available at the time. "Wood was cheap and they used plenty of it" (Andrus interview, quoted in Midwest 1981:68). Foundations consisted of timbers or 2 x 8s laid on edge directly on the ground surface. Wall framing was set on top of the boards, with floor boards nailed on top of this frame approximately one foot above ground. Exterior walls were constructed by nailing vertical 1 x 12s to the frame, with horizontal 1 x 4 on the outside to hold the 1 x 12s together. Interior walls were made of "beaver board," a type of compressed cardboard similar to masonite. Houses were equipped with a chimney of brick or masonry.

By the end of the boom period, most buildings were connected to both water and natural gas through a system of pipes, most of which was laid directly on the ground surface. The water and gas were provided by the company. Water was piped into houses from a reservoir for washing and laundry. Drinking water was hauled through

HISTORICAL BACKGROUND

the town in a wooden tank on a wagon, with each family filling enough buckets for their needs. Pets were prohibited due to sanitary considerations, in order to reduce odor and flies (Midwest 1983:73).

In its heyday, the town contained a number of businesses. A Post Office was established in Midian on November 5, 1918, with serving as the first official post master (Baughman 1961:83,164). Prior to this date, Mrs. Lillie N. Johnson, who operated a hamburger stand at the main intersection, served as an unofficial post master, providing a box in her shop for letters to be delivered and collected (Midwest 1983:74). Mail service was discontinued on July 22, 1950 (Baughman 1961:83,164). A railroad station was estab-

lished early in the boom, with passenger trains passing through the town five times per day. A boxcar served as the first depot (Midwest 1983:74). It was later replaced by a two-story building which had five upstairs rooms to house the agent and his family (Green 1957). General stores were operated by Charles H. Thuma and Ray Wright. A butcher shop was run by Miley Groves, and Mr. Sims was the barber. Other buildings housed: oil field supply businesses; a doctor's office; a fire station; a water and ice plant; pool hall; theater; and a welfare hall used for dances, picture shows, and sometimes as a church. A three-story brick grade school; a gymnasium; and a three-story brick dormitory for teachers were also built near Midian's main intersection (Green 1964).

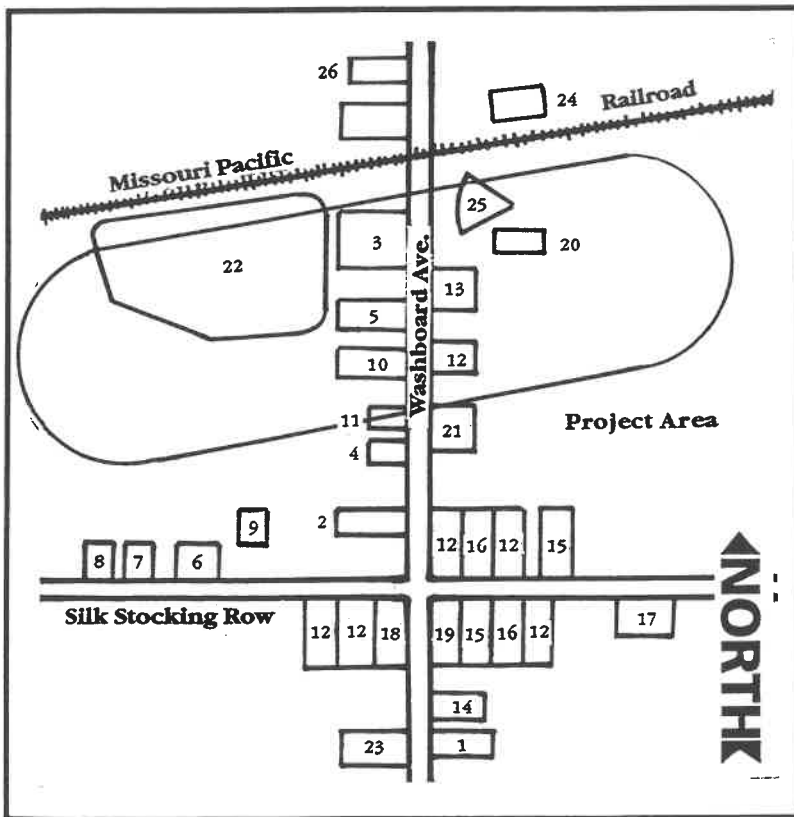


Figure 10.

Plan of the oil field town of Midian, Kansas (Green 1964).

KEY

1. Post Office
2. Fire Station (later Filling Station)
3. Cities Service Offices
4. Doctor's Office & Nurse's Quarters
5. Community (Welfare Hall)
6. Elementary School
7. High School
8. Teacherage (Home of Teachers)
9. School Gymnasium
10. Water Plant
11. Model Home
12. Grocery
13. Lumber Yard
14. Bakery
15. Restaurant
16. Pool Hall
17. Garage
18. Barber Shop
19. Drug Store
20. Movie House
21. Pipe Yards
22. Pipe Yards & Lumber
23. Filling Station
24. Depot
25. Baseball Diamond
26. House

William Green, the son of Mr. and Mrs. Cyril Green, grew up in Midian. In his history of the community he provided a "Close-up Map of the Midian Corner Showing where some of the Business Establishments were Located from 1920 to 1925" (Figure 10). Green's map shows six structures on the west side of "Washboard Avenue" (now Shumway Road). Beginning at the intersection and continuing north these include: the fire station (later Steven's filling station); Dr. McClure's office and nurse's quarters; the model home; the water plant; the community hall (and part time movie house); and Cities Service offices. Pipe and lumber yards were shown to the west of the community hall and company offices. Three structures were shown on the east side and facing Shumway Road: pipe yards (across from the doctor's office); a grocery (across from the water plant); and a lumber yard to the north. The baseball diamond and another movie house were located north and east of this lumber yard. Four commercial establishments were shown at the northeast corner of the main intersection facing south. These were, from west to east: a grocery, a pool hall, another grocery, and a restaurant. Green's map showed five businesses on the southeast corner facing north: a drug store, a restaurant, a grocery, and a garage. A bakery and the post office were shown south of these businesses on the east side of what is now Shumway Road. A filling station was located on the west side of this road across from the post office. Three commercial establishments were shown on the southwest corner of the main intersection, facing north: a barber shop, and two groceries. The school structures were located on the north side of the road identified by Green as "Silk Stocking Row." From east to west the school buildings included: the gymna-

sium, the elementary school, the high school, and the teacherage. Two additional commercial structures were shown on the north side of the Missouri Pacific Railroad tracks: a ceremony on the west side of Shumway Road and the depot on the east side (Green 1947).

Photographers took numerous panoramic views of the El Dorado oil field, including several panoramic photographs of Midian. Due to the large number of oil derricks, storage tanks, and limited number of landmarks, it is often difficult to determine exactly what portion of Midian is shown in these photographs. Three panoramic photographs were located, two of which clearly show the portion of the boom town at and immediately north of the main intersection. These pictures provide information about the layout and types of buildings, outbuildings, and other structures present or under construction at Midian at three distinct periods.

The first of these views, taken on July 1, 1918, was taken facing west from the east corner of the main intersection (Green 1987:132-133). The focus of the photograph is the flag raising ceremony at the fire station (Figure 11a). This building is located on the northwest corner of the main intersection. The sign on the structure reads "EMPIRE," "Fire Station No. 14." A flag to the fire station on the north was flying a Red Cross flag, presumably for an emergency hospital or doctor's office. Unfortunately the area north of this, in the Midian project area, is not shown in this photograph. Two business buildings were shown facing north on the southwest corner of the intersection. The larger building at the corner has a sign indicating it was "LANGSTON'S CASH STORE." A rectangular building to the west of the

HISTORICAL BACKGROUND

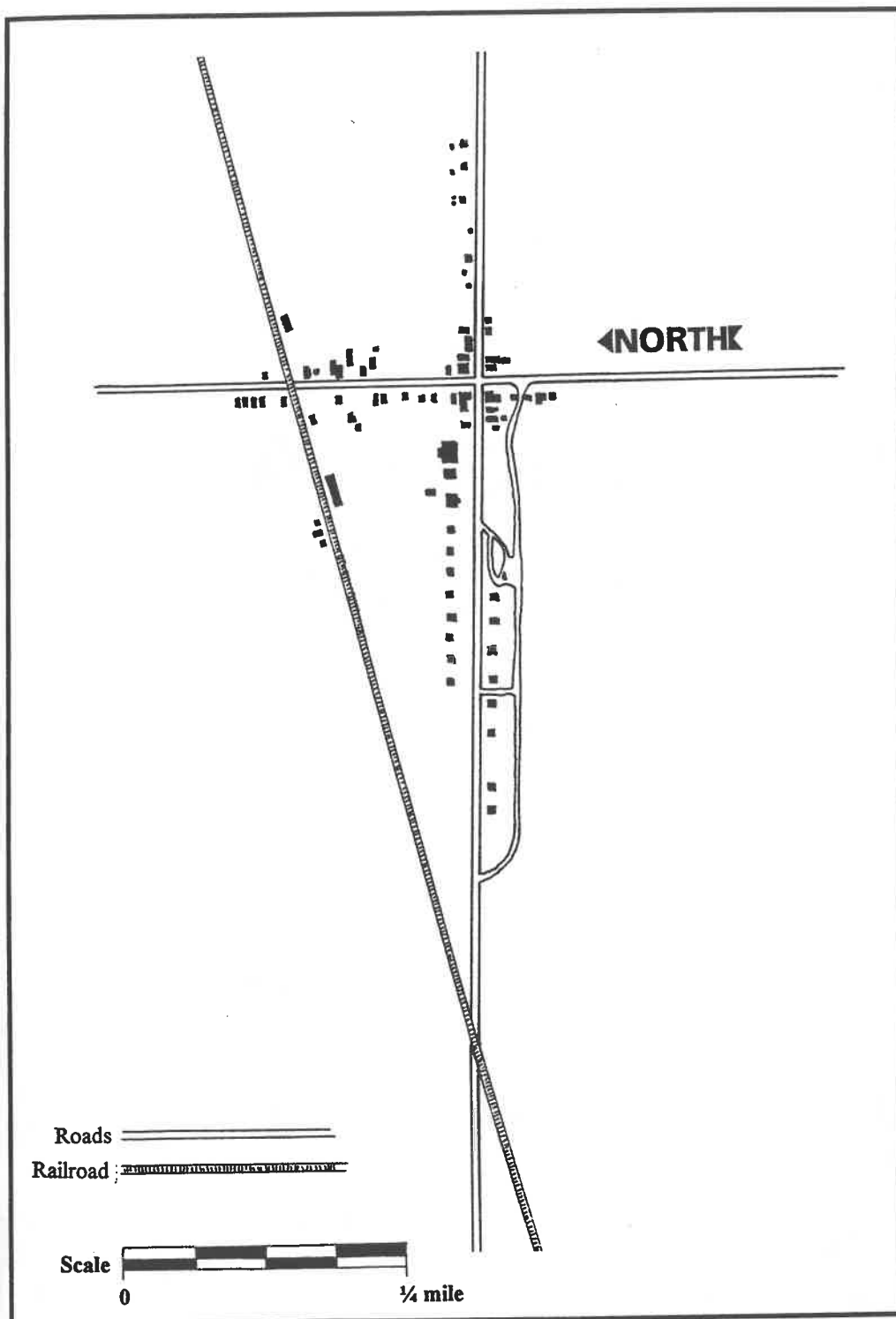
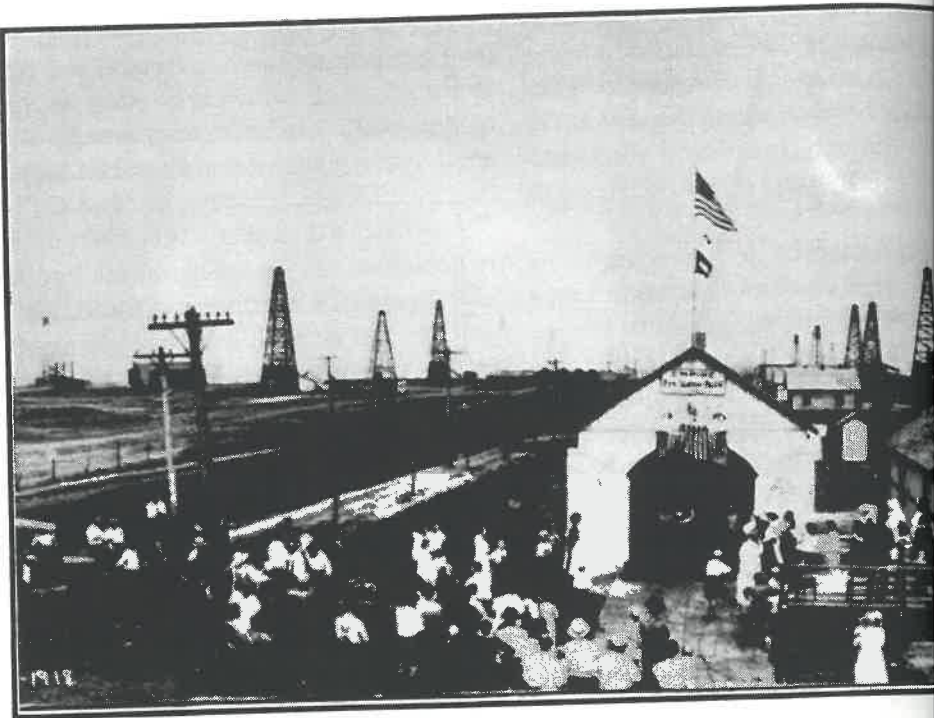


*Figure 11.
Sketch map of the
Midlan Townsite
from the circa
1918 panoramic
photographs.*

*Figure 12.
Panoramic view
of Midian
Townsite facing
northwest from
the southeast
corner of the
main
intersection,
dated June 28,
1918 (courtesy
of the Butler
County
Historical
Society).*



HISTORICAL BACKGROUND

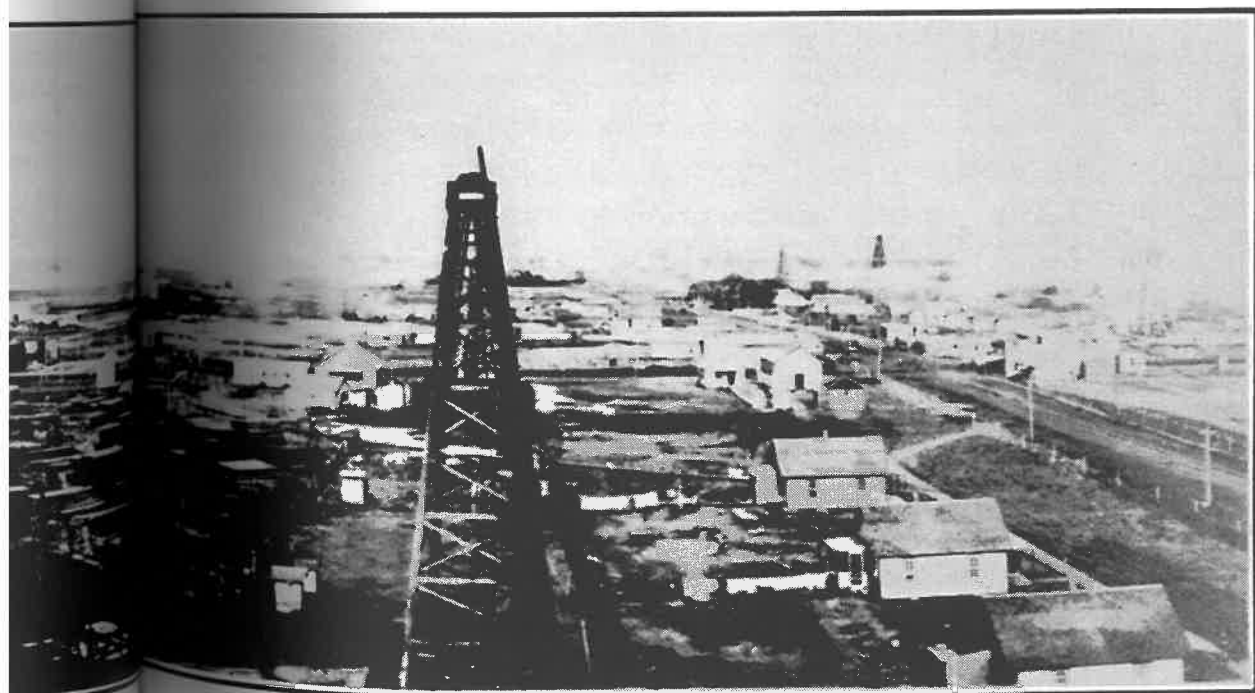


*Figure 13.
Panoramic view
of Midian
Townsite facing
east from derrick
located northwest
of the main
intersection, ca.
1918 (courtesy
of the Butler
County Historical
Society).*

*Figure 14.
Panoramic view
of the oil field
town of Midian,
Kansas, looking
northwest from
the top of an oil
derrick ca. 1918
(courtesy of the
Butler County
Historical
Society).*



HISTORICAL BACKGROUND



*Figure 15.
Panoramic view
of the oil field
town of Midian,
Kansas, looking
northwest from
the top of an oil
derrick ca. early
1920s (courtesy
of the Butler
County
Historical
Society).*

have two doors, possibly indicating two businesses. A barber pole is shown near the east door. The sign near the west door is not legible. When this photograph was taken the brick school building and teacher's dormitory had not yet been started. An oil derrick is shown a short distance northwest of the fire station, near where the school gymnasium was later built. At least five structures are shown to the north of the fire station in this photograph, within the Midian Townsite project area (Figure 11b). One of these appears to be a shed, another a warehouse, and the remaining buildings may be offices. Quantities of wood and/or pipe appears to be stacked west of Shumway Street in this vicinity. Figure 12 provides a map view of the Midian Townsite showing the approximate layout of buildings circa 1918 based upon the aerial photographs.

Another view taken about the same time from a derrick looking northnortheast shows the main intersection and Midian Townsite project area (Figure 13). This picture appears to show four structures along the east side of Shumway Street between the railroad tracks and 10th Street. The fire station and doctor's office are shown on the northwest corner of the main intersection. To their north on the west side of Shumway Street are at least seven buildings and the large pipe and/or lumber yard.

The next panoramic photograph appears to have been taken during the winter of 1918-1919 (BCHS). The three-story brick school is shown under construction, the brick "teacherage" had not yet been started, and there is snow on the ground (Figure 14). At least eight buildings are shown adjacent to the west side of Shumway Road between

the main intersection and the railroad tracks. The fire station and probable medical building are located on the northeast corner of the intersection. Four structures are lined up to the north, probably including the nurse's quarters, the model home, and the water plant (Green 1964). To the north, the photograph shows a vacant lot, two small buildings set back from the road, either one or two buildings adjacent to the west side of the road, then the railroad tracks. Some or all of the buildings in this location may have been Empire (later Cities Service) offices (Green 1964). There appear to be only five buildings facing the street on the east side of Shumway Road in this photograph. One is located nearly half-way to the railroad crossing and is surrounded by vacant lots to the south and north. North of the vacant area are what appear to be three or four buildings, possibly warehouses, and the railroad tracks. Two businesses are shown facing south at the northeast corner of the main intersection. The corner structure has a sign indicating it is a "CASH STORE," while the smaller building to the east is labelled merely "COLD DRINKS." Two businesses are shown on the southeast corner of the intersection. Since these buildings faced north it is not possible to read any signs. There were also two buildings on the southwest corner, again facing north without any visible signage to indicate the nature of the businesses occupying these structures.

The last panoramic view found showing Midian probably was taken during the early 1920s (Figure 15). Both the school and the teacherage had been completed. The school gymnasium does not appear on this photograph. The line of buildings on the west side of Shumway Road from the main intersection to the railroad tracks appears almost

HISTORICAL BACKGROUND

identical to the previous view. The only difference being a single new structure shown in the previously vacant area at the north end of the row of four buildings. Two new structures also appear on the east side of Shumway Road intermingled with the three or four probable warehouses shown in the previous view. This panoramic view shows a row of four business facing south on the southeast corner of the main intersection. At the corner is the earlier "Cash Store," now shown as "RICHARDSON GEN'L MDSE." The vacant lot between the two earlier structures has been filled in with a new storefront. The next building to the east still has new "Coca Cola" signs as well as the, now extremely faded, "COLD DRINKS" sign. The other new business is at the east end of the row with this sign: "GROCERIES—AND—MEAT—MARKET." The same two commercial buildings are shown facing north on the southeast corner, again with the signs facing away from the camera. A vacant lot, third building, possibly commercial, and a derrick appear to the east. There appear to be four commercial structures on the southwest corner facing north, the two which appeared on both earlier views and two new buildings to the west of a vacant space. No signs are visible on these buildings as they are facing away from the camera.

During its peak period of highest population and greatest oil production (ca. 1917 to 1925), Midian housed several thousand individuals, mostly oil field workers and their families. No accurate population figures were collected for Midian, probably due, at least in part, to the extremely high rates of turnover and change in the composition of the Midian community. Varying population estimates have been given by people who lived in the town, but all agreed on two

things: 1) large numbers of people came to Midian; and 2) many of them stayed only a short period, decided it was not what they expected, or too much of what they had expected, and left (Green 1964:98; Andrus and Mrs. Green interviews, quoted in King 1981:107). Some of the El Dorado city directories published between 1917 and 1950 (Page 1923, 1925; Polk 1929 through 1949) included a supplemental "Directory of Midian, Kansas." Unfortunately, although not stated in the directories, they appear to have been made up of subscription entries (i.e., only those individuals or families buying a copy were included in the directory). As a result, the number of entries per year and the names of those included do not correspond closely to population estimates from other sources or with names collected from school and tax records.

Company records of employment, wages, and hiring policy in Midian were unavailable. The only sources of information on these issues were general oil field labor statistics, interview and historical data. Wages in the El Dorado field were comparable to those in Oklahoma and other oil fields. Each rig builder was paid \$10.00 per day. A rig building crew included six to eight men, and took from eight to ten days to complete a rig. Drillers, who operated the drill rig, earned \$9.00 a day. Tool dressers, who maintained the bits, earned \$8.00. Roustabouts, whose job it was to see that the wells remained operating at peak efficiency, earned approximately \$3.00 per day. Pumpers, who checked on a number of wells each day, kept production records, and reported problems to the roustabout, made about \$4.00 a day (Green 1964:85–86; Midwest 1983:73). These wages seem to have been typical of the El Dorado field, and were vir-

tually the same regardless of which oil company was paying. Typically they worked nine hours per day and seven days per week, with records kept by the Paymaster in a large ledger (Midwest 1983:73).

The abandonment of Midian was not rapid, as that caused by a natural disaster or catastrophe, nor was the town abandoned gradually over many generations. The decline was systematic and planned, but sudden in the sense that it was spread out over less than twenty years. Following the companies' decision to move and the subsequent departure of large numbers of workers and their families to other oil fields, the community declined steadily. This decline began originally in 1921, when the population experienced its first and most dramatic decrease. During 1921 very few persons were hired, and the first big lay-off occurred during 1921 to 1922 (Andrus interview, quoted in King 1981:110). This lay-off coincides with a decline in the price of oil, from an average of \$3.13 per barrel in 1920, to an average of only \$2.25 in 1921, and to a low of only \$1.45 in 1923 (Beebe 1929:309). The rapid decline in population noted between 1920 and 1921 was most likely a direct result of this 1921 termination of oil field workers by the companies, stemming from the reduced price of crude oil. "After 1925 the town went into a slow decline that was never to let up until the early 1950s when the last of the oil field families moved away..." (Green 1964:5).

The effects of the Great Depression did not go unnoticed at Midian. "Many people were laid off and the population dropped, wages were low and were cut back" (Brown interview, quoted in King 1981:110). Mr. Andrus (interview, quoted in King 1981:110) recalled

that during the depression, for the most part only men over 21 years of age were hired and the company tended to keep married men before single men when workers had to be laid off. Sometime around 1938 most of the single men and some of the young married men were laid off as their services were no longer required.

Actual abandonment of Midian began in the 1930s. Abandonment does not appear to have been a decision that was much thought over and planned by oil company executives. A combination of factors affected the decision to abandon the town, most important of which were the advances in technology and the production stage of the field. The new methods used required fewer men to accomplish the same results as older, more labor intensive methods. The oil field surrounding Midian had reached the stage of steady production by the late 1920s, with very few new wells being drilled. Only a few gaugers and pumpers were needed to check on the production quantities and maintain the machinery. By the late twenties these workers drove trucks through the fields, enabling them to service many more wells per day than their 1918 counterparts. The company "gradually closed down some pump houses and needed fewer men—fewer cars [made a difference]" (Brown interview, quoted in King 1981:82). Company offices were moved and consolidated in Oil Field and later moved to Oklahoma.

By the mid-1930s Midian had contracted from its originally far-flung dispersed settlement pattern, into a ring of settlements surrounding the main intersection (R. Green and Andrus interviews, quoted in King 1981:82). "The first houses to be sold and moved were those on the outskirts" (Brown

HISTORICAL BACKGROUND

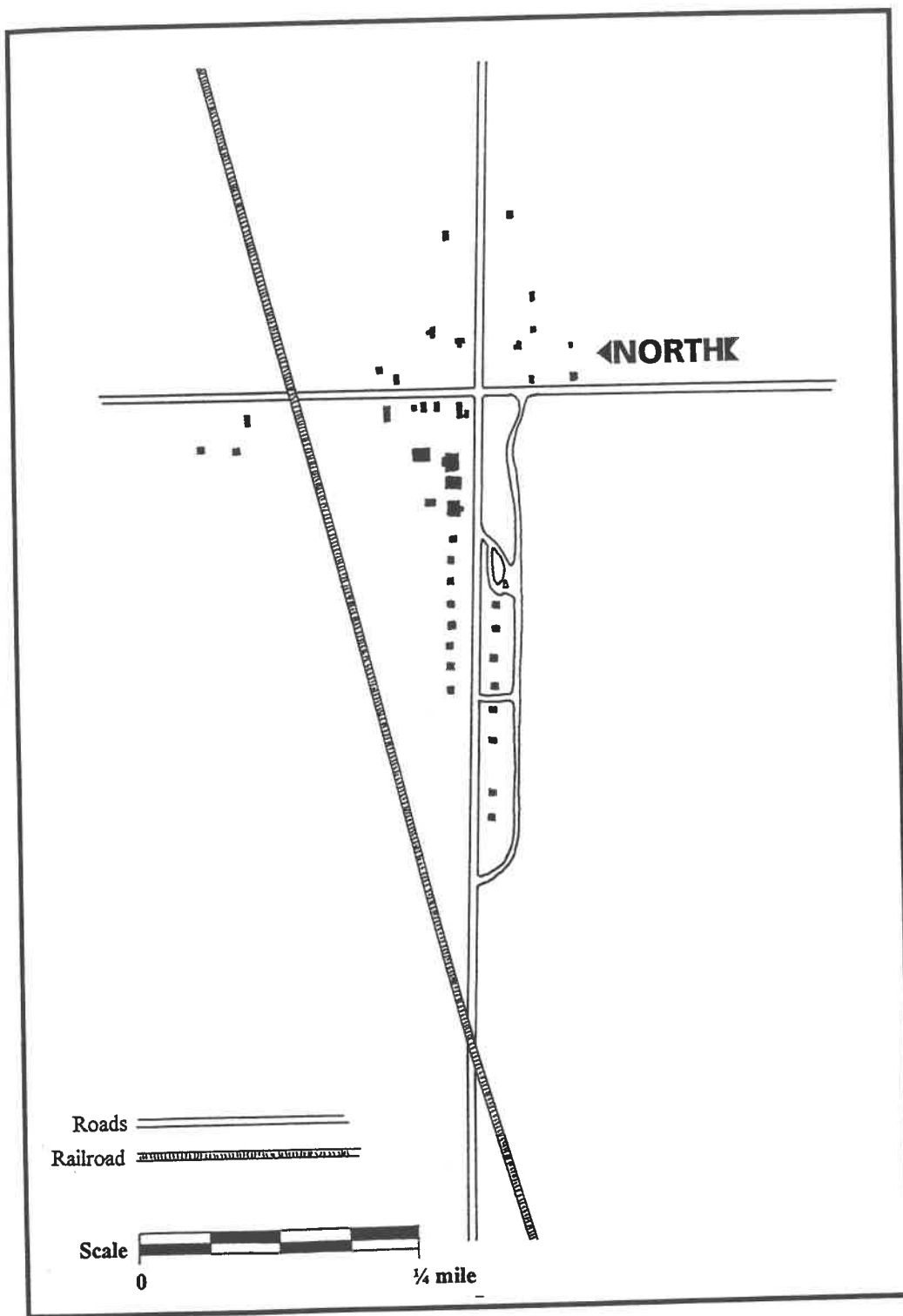


*Figure 16.
Sketch map of
the Midlan
Townsite from
the 1938 aerial
photograph.*

98.33

interview, quoted in King 1981:82). An aerial photograph taken July 4, 1938 shows the oil fields and the Midian intersection (Figure 16). Apparently by this time some abandonment had already occurred. The school buildings, gymnasium, teachers dormitory, and fire station were all clearly shown. However, the commercial establishments on the northeast, southeast, and southwest corners of the main intersection had been removed or razed. Most of the company offices and the lumber and pipe yards between the main intersection and the railroad tracks were no longer present. Seventeen houses were located along the road running west from the main intersection, eight on the north side and nine on the south side, starting west of the teacherage. At least eight houses were situated along this road east of the intersection. Several vacant house yards (i.e., a drive, trees, bushes and out-buildings, but no house) were located on the east side of the intersection.

The Midian schools were closed in 1940, due to rapidly declining enrollments. The large well-built brick school buildings were sold to a wrecking company and razed (Butler County 1940; Green 1957; Green 1964:128). With the removal of the company offices and the transferral of many employees and their families to other parts of the Mid-Continent field, Midian lost its population, its economic base, and its purpose for being. The town withered from the edges, with the central core remaining as the final scene of activity. With the demise of the school in 1940, even the central core wasted away. The town shrank, and finally died.

Following the collapse of Midian, lease owners and cattlemen requested that their lands be cleared of oil field debris. "Clean up"

activities were ordered by the oil men to placate these individuals (King 1981:92). These activities varied depending upon the lease, the oil company, and the workers carrying out the orders. In general, drilling and pumping debris were hauled off, remaining oil field houses were sold and moved to other locations, and on some leases loose trash was collected in surface dumps (e.g., a dump on the Enyart Lease). By 1980 little remained visible to the casual observer at the Midian intersection. Rubble from the school building, a few foundations, a side walk, a simple remodeled oil field house on the southeast corner of the main intersection, several painted wooden buildings, pumping wells, rose bushes, iris beds, and elm trees in an expanse of unplowed pasture were the most obvious reminders of the oil field boom town (King 1981:17). Several changes occurred near the center of Midian between 1980 and 1995, including: the oil field house was moved from the southeast to the northeast corner, a barn was built east of the house, a new house was constructed south of the ruins of the school building, and a barn was raised north of this rubble on the gymnasium foundation.

PHASE III FINDINGS

As proposed, the K-5060-01 project will impact only a small portion of the Midian Townsite (14BU381) on both sides of the main north-south road a short distance north of the town's main intersection. Historical sources and contemporary panoramic photographs (Figures 11a through 15) indicated that several structures and associated out buildings had been located within the vicinity of the project area. Among the possible structures lying within the portion of the project area on the west side of Shumway Road were: Cities Service offices, the community hall, the water plant, and the model home. Those structures potentially lying within the portion of the project area on the east side of Shumway Road were: a movie theater, a lumber yard, and a grocery store. In addition, it was considered possible that pipe and lumber yard storage areas, several oil derricks and well locations, and a variety of outbuildings and other potential features associated with these structures (e.g., privies, sheds, trash

deposits, etc.) would be located within the project area. During the Phase II survey several depressions and a well location were noted in this portion of the townsite. Surface visibility was limited due to the presence of thick pasture vegetation over most of the site. Small quantities of historical cultural material (e.g., whiteware, stoneware, bottle glass, brick, roofing slate, etc.) was noted, however, no cultural material was collected from this site during the Phase II survey. The site did not appear to have been significantly impacted by post-abandonment use and disturbance. The Midian Townsite (14BU381) appeared to have sufficient integrity and archeological resource potential to warrant further archeological investigations at the Phase III level. The purpose of these investigations was to determine whether intact subsurface features associated with the oil field town were present and whether it is eligible for inclusion in the National Register of Historic Places.

Phase III field investigations were conducted at 14BU381 between September 25 and October 6, 1995. For purposes of these investigations, the site was divided into two areas (Figure 17). The west side of Shumway Road, the main north-south road, was referred to as Area 951. The portion of the project area lying on the east side of this road was referred to as Area 952. Investigations included several tasks: walkover survey; excavation of two shallow hand trenches; hand excavation of fourteen units of varying sizes; metal detector survey with excavation of thirty-two shovel tests to recover detected items; documentation of above ground features; and mapping of site features, units, and piece-plotting of metal detected items (Table 1). Valuable volunteer assistance was received from Bob Burgess, Director of the Butler County Historical Society Museum.

Area 951

A total of eight units of varying sizes were excavated within Area 951, the portion of the project area on the west side of Shumway Road (Table 2). These included: a single hand excavated trench measuring 0.5 x 30.0 m (HT-1); three 1 x 1 m units (X-4, X-7, and X-8), one 1 x 2 m unit (X-1); a 0.3 x 0.7 m unit (X-3); a 0.5 x 1.0 m unit (X-2); a 0.7 x 1.2 m unit (X-6); and a 1.0 x 2.2 m unit (X-5) (Figure 17). Metal detector survey was conducted within Area 951. Shovel tests were not used within this portion of the project area to determine the identity of metal detector "finds." Results of this survey were used to help determine placement of excavation units, with units placed over concentrations of detector "hits." Unfortunately the metal detector was not able to detect deeper than approximately eight

*Table 1.
Phase III Archeological
Testing Conducted at
the Midian Townsite
(14BU381) by Area.*

Area	1x1 m Excavation Units	1x2m Excavation Units	Odd Sized Excavation Units	Hand Trenches	Metal Detector Shovel Tests
951	3 [X-4, X-7, X-8]	1 [X-1]	3 [X-2, 0.5 x 1.0 m; X-3, 0.3 x 0.7 m; X-5, 1.0 x 2.2 m; X-6, 0.7 x 1.2 m]	1 [HT-1, 0.5 x 30.0 m]	0
952	4 [X-9, X-11, X-12, X-13]	1 X-10	1 [X-14, 0.5 x 1.0 m 1.0 m]	1 [HT-2, 0.5 x 17.2 m]	32 [ST-1 to 32]
TOTALS 951 & 952	7	2	4	2	32

PHASE III FINDINGS

Excavation Unit	Dimensions	Maximum Depth	Associated Features
HT-1	0.5 x 30.0 m	20 cm	F#4
X-1	1.0 x 2.0 m	60 cm	F#1
X-2	0.5 x 1.0 m	40 cm	—
X-3	0.3 x 0.7 m	25 cm	—
X-4	1.0 x 1.0 m	20 cm	—
X-5	1.0 x 2.2 m	40 cm	F#2
X-6	0.7 x 1.2 m	15 cm	F#2
X-7	1.0 x 1.0 m	40 cm	—
X-8	1.0 x 1.0 m	40 cm	—

*Table 2.
Excavation Units
within Area 951,
Midian Townsite
(14BU381).*

ten inches (20.3 to 25.4 cm), and could not be used to identify buried utility lines.

Hand trench 1 (HT-1) was excavated south from the highway right-of-way fence approximately 32 m west of Shumway Road along a generally north-south orientation for a total length of 30 m. Feature #4, concrete above ground support bases for some type of oilfield machinery, was located between 25–30 m north of the south end of this hand trench. This feature is described in greater detail below. A total of 26 pieces of cultural material were recovered from HT-1 (Table 3). Most of the recovered artifacts were glass container fragments, tableware sherds, or hardware fasteners. Near the south end of this trench, 0–2 m north, two sherds of container glass, a wire staple, and two wire nails were recovered. A single piece of bottle or jar glass was collected from 2–4 m north along this hand trench. Between 6–8 m a glass container fragment and a whiteware tableware sherd were recovered. An unidentified

pipe fitting and a pipe end cap were recovered between 8–10 m north in HT-1. Between 12–14 m nine artifacts were collected, four glass bottle/jar fragments and five sherds of whiteware. A single earthenware flowerpot sherd was recovered from 16–18 m north. Three glass bottle/jar fragments and a piece of window glass were collected from the 18–20 m segment of HT-1. Between 22–24 m north along this trench a mower blade was recovered. A round cut-out section of oilfield pipe was recovered from the ground surface between 32–34 m north along the line of HT-1.

Excavation unit 1 (X-1) was placed in an area where multiple strong metal detector signals were received, approximately 42 m south of the existing right-of-way fence and 24 m west of Shumway Road. The unit was oriented with the long (2.0 m) axis running east to west and overlapping a very slight depression noted to the east of a large cottonwood tree. At 15 cm below the modern

Table 3.
*Distribution of
Historical Cultural
Material
Recovered from
Area 951 of the
Midian Townsite
(14BU381) by
Excavation Unit
and Cultural
Material Category.*

Cultural Material Category	Excavation Units								
	HT-1	X-1	X-2	X-3	X-4	X-5	X-7	X-8	Surface
Ammunition	0	2	0	0	0	0	0	0	0
Automotive	0	6	0	0	0	1	0	0	0
By Product	0	18	0	0	0	0	1	0	0
Clothing	0	31	0	0	0	0	0	0	0
Construction Material	0	48	0	1	4	0	0	0	1
Containers	11	138	5	25	21	193	16	2	31
Farm Machinery	1	0	0	0	0	0	0	0	0
Flatware & Utensils	0	2	0	0	0	2	0	0	0
Furniture & Appliances	0	1	0	0	0	0	0	0	0
Hardware Fasteners	3	199	2	1	0	85	15	4	0
Hardware & Misc.	0	23	0	0	0	2	0	0	1
Oil Production	1	1	0	0	0	0	0	0	0
Organics	0	19	0	0	0	0	1	0	0
Personal	0	6	0	0	0	4	0	0	0
Recreation	0	4	0	0	0	0	1	0	0
Table & Utilitarian Wares	7	21	0	7	8	1	0	0	16
Tools	0	0	1	0	0	0	0	0	0
Unidentified	1	15	2	0	0	0	0	0	0
Utility	1	7	0	0	0	0	0	0	1
Window Glass	1	48	18	2	6	25	3	6	0
TOTAL	26	589	28	36	39	313	37	12	54

ground surface (bgs) this unit came down on the top of a utility trench (Feature #1) containing a connected series of pipes, valves, and fittings. Feature #1 is described in more detail below. A moderate to high density of historical cultural material, 230 pieces, was recovered from the pipe trench fill matrix. Among the artifacts recovered above the pipe trench, 0–15 cm bgs, were: three buttons, a fork or spoon handle, eighteen sherds of whiteware, seventy-five glass fragments from bottles and/or jars, four pieces of canning jar lids, two pencil ferules, a .22 caliber cartridge, an iron jax game piece, a glass marble, a toy car wheel, a fishhook, three ceramic electrical insulators, two pieces of lamp chimney glass, sixteen sherds of window glass, and seventy-five hardware fasteners.

The second excavation unit (X-2) was a 0.5 x 1.0 m unit laid out approximately 17.5 m south of the existing right-of-way fence and approximately 20 m west of Shumway Road. It was excavated to a maximum depth of 40 cm bgs. Twenty-eight artifacts were recovered from X-2. In addition to 18 fragments of window glass, this unit yielded 3 sherds of bottle or jar glass, 2 rubber gasket closures from crocks, 2 wire nails, 2 unidentified pieces of rubber, and an incomplete flat bastard file.

Excavation unit 3 (X-3) was laid out within a section of HT-1, which contained a higher density of artifacts, between 14–16 m north along this hand trench. The unit measured 0.3 x 0.7 m, and was taken down to a maximum depth of 25 cm bgs. A total of 36 pieces of historic cultural material were recovered from this small unit, including: 25 sherds of bottle/jar glass, 7 ceramic tableware sherds (1 porcelain, 1 semi-por-

celain, and 5 whiteware sherds), two fragments of window glass, a single wire nail, and a piece of cement.

The fourth unit, X-4, was a 1.0 x 1.0 m excavation unit placed adjacent to the east edge of X-3, approximately 21 m south of the existing right-of-way fence and 17 m west of Shumway Road. It was excavated to a maximum depth of 20 cm bgs. Thirty-nine pieces of cultural material were recovered from X-4. This small assemblage included: 21 fragments of container glass, 8 tableware fragments (7 whiteware sherds and 1 fragment of a glass dish), 6 pieces of window glass, and four construction material items (brick fragments).

A fifth excavation unit (X-5), a 1.0 x 2.2 m, was placed over an area where a number of metal detector "hits" were noted. This unit was located approximately 40 m south of the existing right-of-way fence and 18 m west of Shumway Road. It was excavated to a maximum depth of 40 cm bgs. The upper 15 cm of X-5 consisted of a lens of densely compacted limestone, with a small quantity of concrete, mortar, and cultural material intermixed.

Excavation unit 6 (X-6), measuring 0.7 x 1.2 m, was laid out adjacent to the east edge of X-5 to determine whether the compact limestone lens or pavement continued in that direction. This unit was taken down to a maximum depth of 15 cm bgs, and it was determined that the limestone lens extended across this unit. No cultural material was recovered from X-6.

Excavation unit 7 (X-7) was a 1.0 x 1.0 m unit excavated approximately 31 m south of the existing right-of-way fence and 26

48.32 11

m west of Shumway Road. This unit was excavated to a maximum depth of 40 cm bgs. A total of 37 pieces of historic cultural material were recovered. The majority of the artifacts from this unit consisted of container fragments (24 fragments of bottle/jar glass and 5 sherds of melted bottle glass) and hardware fasteners (a bolt, a cut nail, a screw, and 12 wire nails). In addition, an iron jax, three pieces of window glass, a piece of coal, and a piece of shell were collected.

Excavation unit 8 (X-8), a 1.0 x 1.0 m unit, was excavated to a maximum depth of 40 cm bgs. This unit was placed approximately 15.5 m south of the existing highway right-of-way fence and 23 m west of Shumway Road. Only 12 artifacts were collected from X-8: two fragments of bottle/jar glass, four wire nails, and six sherds of window glass.

Five features were identified within the Area 951 portion of the Midian project area (Table 4). Two of these were subsurface features identified during excavation (Features #1 and #2). All three above-ground features (Features #3, #4, and #5) appeared to be related to the commercial production, storage, or transportation of petroleum products.

Feature #1 was identified within X-1, located 41.5 m south of the existing highway right-of-way and 24.1 m west of the Shumway Road fence line (Figure 17). This feature consisted of a pipe trench containing two 2 1/4 in (5.715 cm) diameter iron pipes, one entering the unit from the north and the other from the east (Figure 18). The pipes entered the unit a depth of approximately 48 cm (18.72 in) below the modern ground surface. These two pipes were joined at a straight T-junction. A 1 1/4 in (3.175 cm) diameter pipe extended west from the

T-junction. The pipe was reduced in diameter to 7/8 in (2.22 cm) after passing through a reducing coupling. A brass valve was located midway along the 7/8 in diameter pipe. The valve had a socketed valve stem on its upper face. An L-shaped bent iron rod, probably used to turn the valve, was present in the unit adjacent to, but not socketed to, the valve stem. On the west end of the valve, a 7/8 in diameter pipe extended a distance to the west into a U-junction, which changed the direction to vertical. No pipe was attached to the vertical end of the T-junction. Bricks were carefully laid in the bottom along the south side of the pipe trench on the northeast and northwest sides of the T-junction. Carefully stacked bricks were arranged in a triangular pattern over the trench, leaving the valve stem centered in the interior of this triangle. Bricks in the levels of X-1 were more haphazardly arranged, giving the appearance of a rubble pile rather than of careful placement. A badly deteriorated board, probably a section of 1 x 8 in lumber, was standing edge along the east side of the pile of bricks, apparently in an effort to maintain the

A total of 230 pieces of historical material were recovered from the Feature #1 pipe trench (Table 5). The majority of this material, 152 pieces (66 percent), was found between 15 and 40 cm below the modern ground surface, just below the top of the trench fill. Forty-three pieces (19 percent) of the material from this trench were collected between 30 and 40 cm depth, more than half of which consisted of window glass fragments. A single iron pipe, in such bad condition that the date was illegible, was also recovered from the trench within Feature #1. Hardware fasteners comprised the major portion of the artifacts

PHASE III FINDINGS

Table 4.
*Brief Description
of Features
Identified at the
Midian Townsite
(14BU381) by
Area.*

Fea. No.	Area	Excavation Unit(s)	Description
1	951	X-1	T-junction of iron pipes and brass valve with vertical metal handle/marker; bricks stacked along pipe in vicinity of T and valve; probably associated with gas or water utility.
2	951	X-2, X-5, X-6, X-7, X-8	Dense, compact layer composed of limestone with some concrete and mortar; ranges in depth from 10 to 25 cm across surface of northeast portion of Area 951; possible pavement; artifacts dating to the town period (1910s-late 1920s) are present below this feature in X-2, X-5, X-7, and X-8.
3	951	surface	Two rectangular poured concrete pads/foundations with ungraded gravel inclusions; each pad has off-center square hole (21 x 23 cm), the centers of which are 140 cm (4 ft 7 in) apart; no bolts or other hardware visible in pads; no artifacts noted in vicinity.
4	951	surface	Three square (50 x 50 cm) poured concrete pads/foundations; pads & HT-1 are roughly aligned in NW to SE line; the northern and southern pads each has a short segment of vertical pipe (12 cm diam.) extending up from the center, the centers of the 2 pipes are 10 ft apart; the middle concrete pad has 4 threaded iron bolts (1/4 in diam.) sticking up from the top near the corners, each of which is bent over.
5	951	surface	A 12.5 cm (5 in) diameter solid iron spindle stands 69 cm (2 ft 3.5 in) above a round convex iron base measuring 76 cm (2.5 ft) in diameter; base has raised lettering "PARKERSBURG RIG & REEL CO. WVA" and 10 regularly spaced, non-threaded lug holes in ring around outer edge with raised numbering "0.412"; the vertical spindle has at least 4 bands of belt-wear on the northeast face; the upper band of wear is approximately 6 in. wide, and 3 lower bands are 4 in. wide; the spindle rests on a concrete slab and is located in a circular depression approximately 3 m in diameter; A vertical iron pipe with an interior diameter of 16 cm (6.5 in) is located 8.15 m southwest of the solid spindle; the pipe has a 12.5 cm high "key-hole" slit near the base on both sides in line with the spindle; on northerly side facing the spindle the "key-hole" is cut in the pipe and in a 6 x 8 in rectangular plate welded onto the pipe surface; a 1.88 m (6 ft 2 in) long solid iron rod extends from, but is not attached to, the center of the pipe.

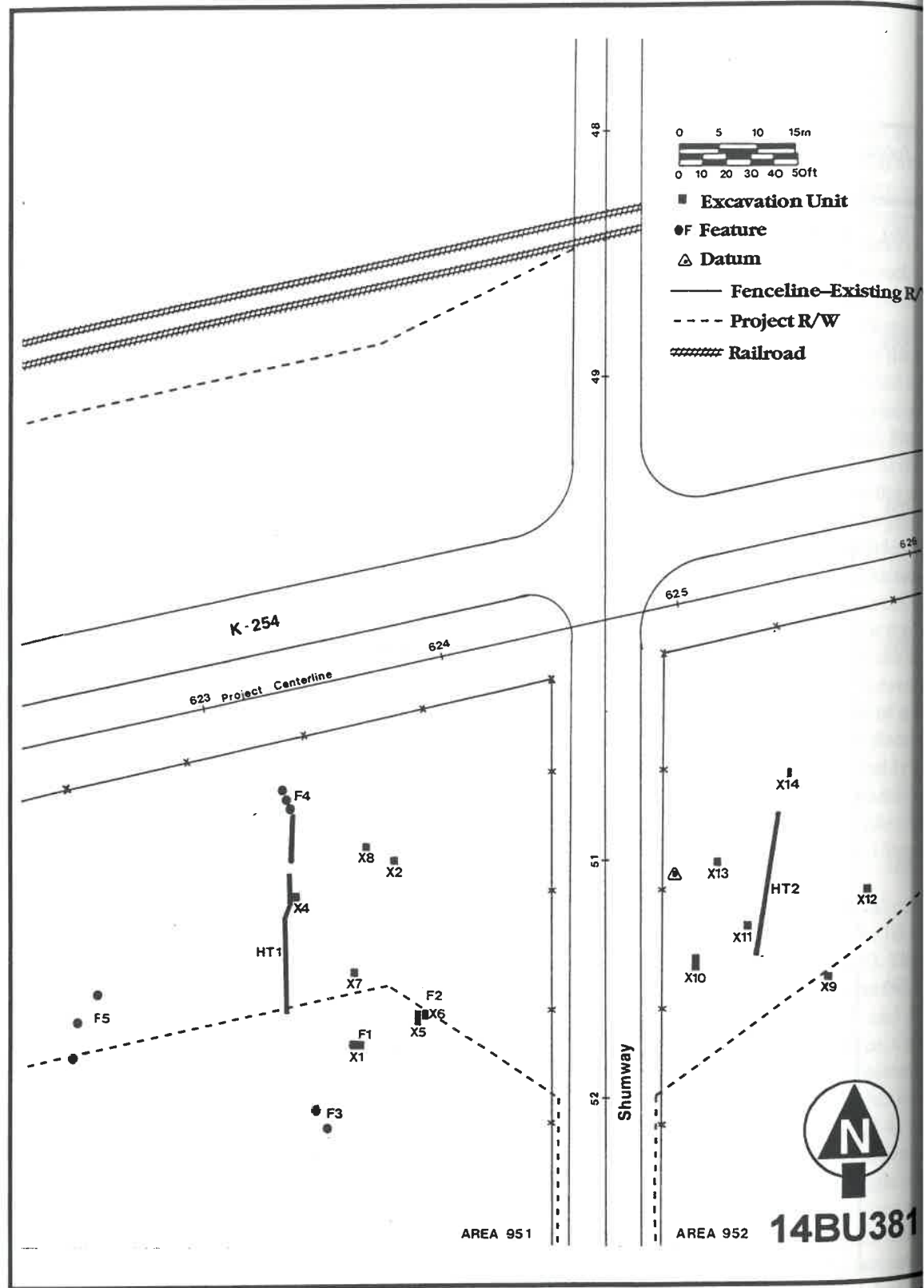


Figure 17. Map of the Midian Townsite Project Area Showing Excavation Units in Areas 951 and 952

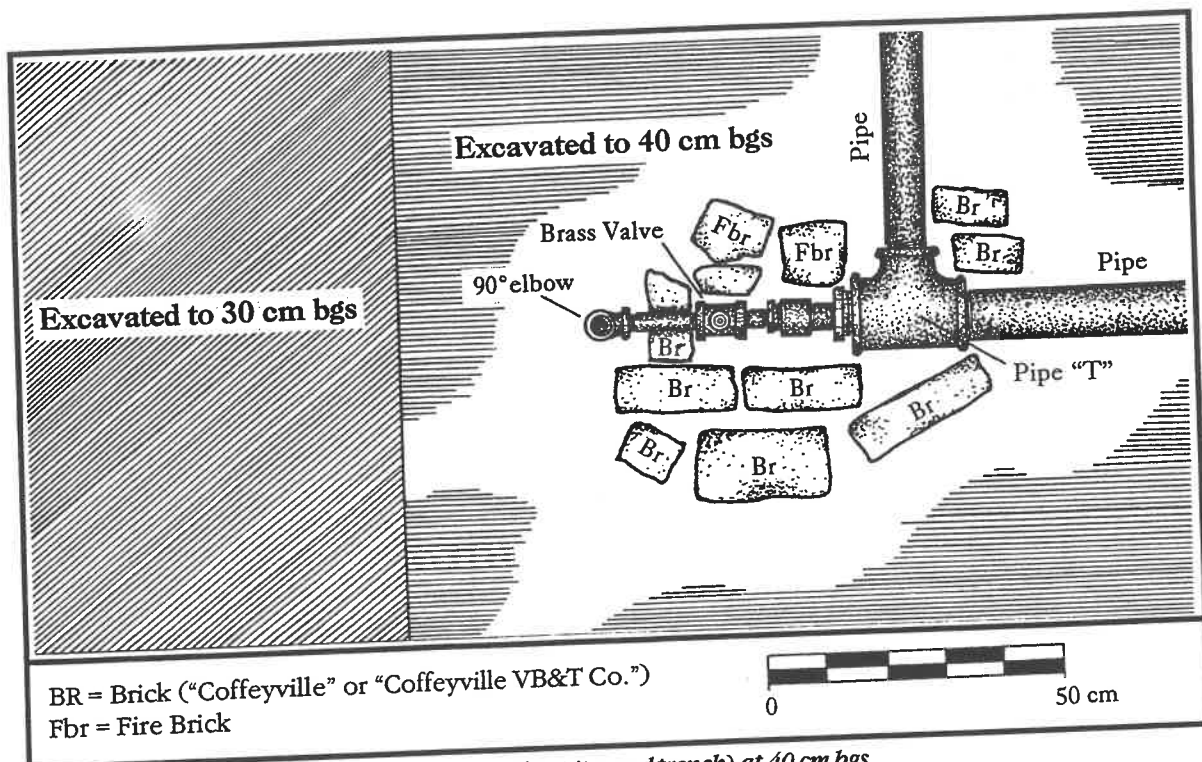


Figure 18. Plan of X-1 showing Feature #1 (utility pipe and trench) at 40 cm bgs.

lected from 40–50 cm (23 pieces, 10.0 per cent) and from 50–60 cm (12 pieces, 5.2 per cent) in the bottom of this feature.

Feature #1 was interpreted in the field as a probable gas line, with the reductions in size and direction changes indicating a location near a structure. Mr. Hogoboom (personal interview 1995) indicated that the pipe was most likely a gas utility pipe, providing gas service to a building in this location. Gas entered most oil field houses at the back, typically into the kitchen. This would suggest that if this structure was a typical house this feature was at or near the rear of the building. However, in this location near the south edge of the project area in Area 951, it is possible that the structure was not a typical oil field house. Based on the aerial photographs and

Green's (1964) plan, the building in this location may have been the water plant, community hall, or an oil company office.

Feature #2, consisted of a dense, compact layer of fractured limestone fragments. Some concrete and mortar fragments were mixed in with the limestone. No artifacts were recovered within the limestone layer. The surface of the limestone layer was irregular, with sharp points and deep channels. This feature was first identified within X-5 and X-6. The same, or a very similar concentration of limestone was also present in X-2, X-7, and X-8. This feature was not encountered in HT-1 or in X-1, suggesting that it was limited to only a portion of Area 951. It appeared that the compact layer of limestone and rubble extended across the surface of much of the northeastern por-

*Table 5.
Historical Cultural
Material Recovered
from Feature#1,
Midian Townsite
(14BU381)*

Cultural Material Category	Object	Quantity
By Product	coal clinkers	7
Clothing	buttons	4
Construction Material	board	1
	brick	1
	metal face plate	31
Containers	bottle	3
	bottle/jar	15
	closure	5
	unknown	8
Flatware and Utensils	handle	1
Furniture and Appliances	caster	1
Hardware Fasteners	cut nail	7
	screw	2
	staple	2
	wire nail	64
Hardware and	tie down buckle	1
Miscellaneous Items	metal fragments	10
	wire	5
Organics	bone	9
	wood	8
Personal	bead	2
	coin	1
	paper clip	1
Table and Utilitarian Wares	whiteware	1
Unidentified	(strap/scrap iron, rubber, etc.)	1
Utility	iron pipe	1
	cuprous nut	1
Window Glass	glass fragments	1
TOTAL		

tion of Area 951 at a depth of from approximately 10 to 25 cm below modern ground surface.

A total of 290 pieces of historic cultural material were collected from Feature #2 in X-5 and X-6 (Table 6). The recovered artifacts were nearly evenly distributed between the compact limestone layer and the soil beneath this lens. One hundred and thirty-six pieces (46.9 per cent of the F#2 assemblage) was recovered within the compact lens at a depth of between 0 and 15 cm. Of the 154 pieces (53.1 per cent) collected from beneath this lens, most (148 pieces) were from the 15–30 cm level and only 6 pieces were recovered from the 30–40 cm level. Bottle or jar fragments, wire nails, tin can fragments, and window glass fragments comprised the major artifacts collected from this feature.

Feature #2 was initially interpreted as an intentional pavement laid down to provide solid footing for driving, parking, and/or surface storage of pipe and lumber. The presence of historical cultural material dating to the boom period of Midian (ca. 1917–1925) in the soil beneath this feature, suggests that Feature #2 is actually the result of post-abandonment modifications. The dense layer may be the remains of rubble smeared over the ground surface and left after buildings were razed and/or removed. Alternatively this layer may be the result of disturbance caused during construction of existing K-254 in the late 1950s.

Feature #3 was an above-ground feature. It consisted of two rectangular poured concrete pads/foundations (Figure 19). This probable oil field machine base was located a short distance south of X-1, immediately

Cultural Material Category	Object	Quantity
Containers	bottle	2
	bottle/jar	155
	can	25
	can/tube	1
Flatware and Utensils	handle	2
Hardware Fasteners	cut nail	2
	washer	1
	wire nail	71
Hardware and Miscellaneous Items	wire	1
Personal	pencil ferrule	3
Table and Utilitarian Wares	whiteware	1
Window Glass	glass fragments	25
TOTAL		289

*Table 6.
Historical Cultural
Material Recovered
from Feature #2,
Midian Townsite
(14BU381).*

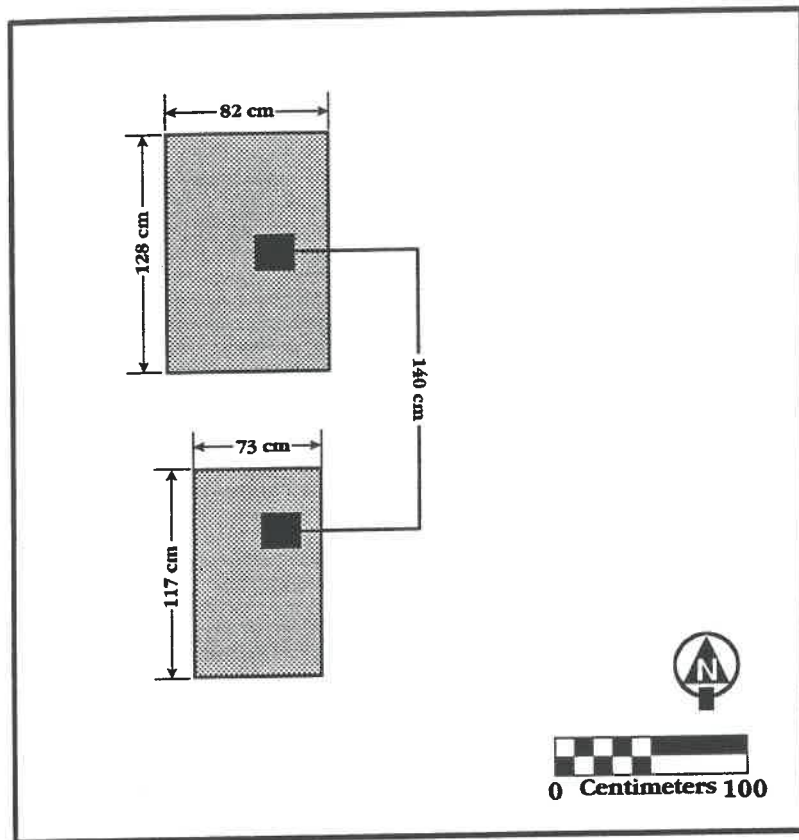


Figure 19.
*Plan of Feature #3,
Two Concrete Pads for
Oilfield Machinery.*

south of and outside the K-5060-01 project area. The concrete used to make these slabs contained ungraded gravel inclusions. The two concrete slabs were constructed in different sizes. The pad to the north measured 1.28 x 0.82 m (4.2 x 2.69 ft). The southern pad measured 1.17 x 0.73 m (3.83 x 2.39 ft). The slabs were aligned with their shorter sides facing each other and separated by approximately 50 cm (1.6 ft). Both pads had a deep square hole, measuring 21 x 23 cm (in), molded into the surface in an off-center position. The centers of the square holes in the two concrete slabs were situated 140 cm (4.59 ft) apart on a roughly north-south alignment. No bolts, hardware, or other attachments were visible on the pads. No other concrete slabs were found in close proxim-

ity to Feature #3. No artifacts were noted or collected in the vicinity of this feature. While it was considered probable that the concrete pads provided a base for a type of oil field machinery, the particular machine could not be determined. No particular item had been recovered in this position.

Feature #4 was located in the northern portion of the site, between approximately 25.4 m from the south end of the trench (Figure 20). This feature consisted of three square concrete pads or four identified as probable oil field machinery. The slabs, each of which measured 1.64 x 1.64 m (5.38 x 5.38 ft), were roughly aligned in a north-south-southeast line. The northern and southern pads each had a segment of vertical pipe

extending 12 cm (4.7 in) in diameter, extending a short distance up from the center of the concrete. The centers of these two pads were 3.05 m (10 ft) apart. Both the edge of the northern pad and the northern edge of the southern pad were situated 1.52 m (5 ft) from the nearest edge of the middle concrete slab. The center concrete pad had a threaded iron bolt, 0.076 cm (1/4 in) in diameter, sticking up from the top corner. All four bolts were bent. No additional concrete pads or other features were noted in the vicinity of Feature #4. This feature probably served as a base for a type of oil field machinery, however, the particular machine type could not be determined. A very small quantity of cultural material was recovered

northern portion of HT-1 in the vicinity of this feature.

Feature #5 was located approximately 57 m (187 ft) west of Shumway Road, 27.0 m (88.6 ft) south of the existing K-254 fence line, and 24.3 m (79.7 ft) west of the south end of HT-1 (Figure 17). This feature, identified as a probable central power facility serving one or more oil wells, consisted of two associated elements, a large iron spindle and a notched vertical pipe (Figure 21). The solid iron spindle had a diameter of 12.5 cm (5 in) and stood 69 cm (2.26 ft) above a round convex iron base measuring 76 cm (2.5 ft) in diameter. Raised lettering present in a ring on the base indicated the company which manufactured this item. The lettering read "PARKERSBURG RIG & REEL CO. WVA." Ten regularly spaced, non-threaded lug holes were situated in a depressed ring around the outer edge of the base. Between two of these holes additional raised figures were noted, "0.412," possibly referring to a part number. The Parkersburg Rig and Reel Company manufactured a variety of oil field machinery and parts. The number "0.412" was not found in any company catalog. At least four slightly indented and smoothed bands were noted on the northeast face of the vertical spindle. These smoothed area were identified as probable belt-wear. The upper band of wear measured approximately 15.24 cm (6 in) wide. The three lower bands were narrower, measuring only 10.16 cm (4 in) wide. The spindle base rests on a friable concrete slab only slightly larger than the iron base. It is located in a shallow circular depression approximately 3 m (9.84 ft) in diameter. The associated vertical iron pipe is located 8.15 m (26.73 ft) southwest of the solid spindle. This pipe had an interior diameter of 16 cm (6.5 in) and stood

approximately 1.0 m (3.28 ft) high. It had a 12.5 cm high "key-hole" slit cut through both sides near the base. The "key-hole" opening consisted of a 4.5 cm (1.75 in) diameter circle with an 8 x 3 cm (3.12 x 1.17 in) rectangle extending downward and a 5.5 x 3 cm (2.14 x 1.17 in) horizontal rectangular slit extending from the mid-portion of the vertical cut. The "key-hole" slits through the pipe are located in line with the solid iron spindle. On the northerly side of the pipe, facing the spindle, a 15.24 x 20.32 cm (6 x 8 in) rectangular plate was welded onto the pipe surface, with the "key-hole" cut through both this iron plate and the pipe. At the time of the field investigations, a 1.88 m (6.17 ft) long solid iron rod

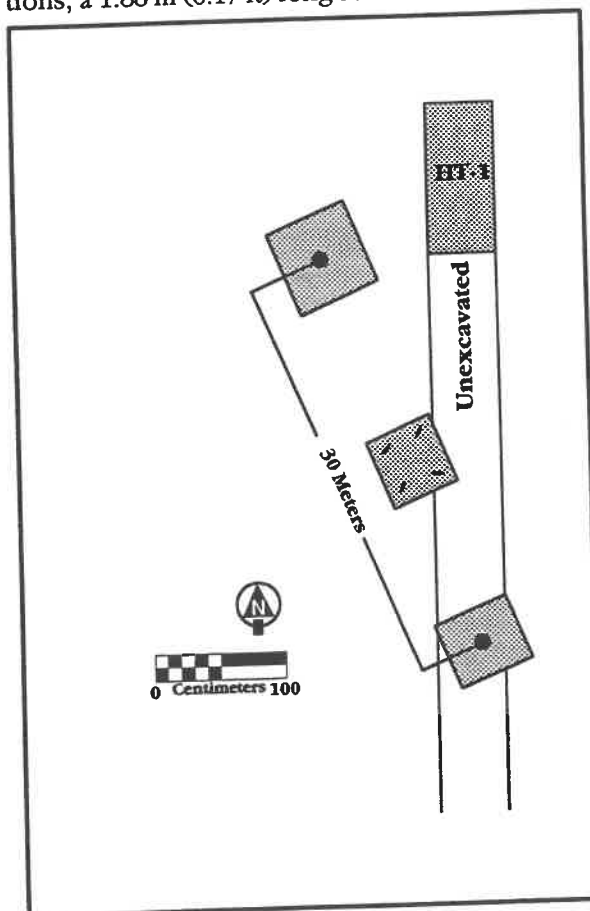


Figure 20.
Plan of Feature #4,
Three Concrete Pads
for Oilfield
Machinery.

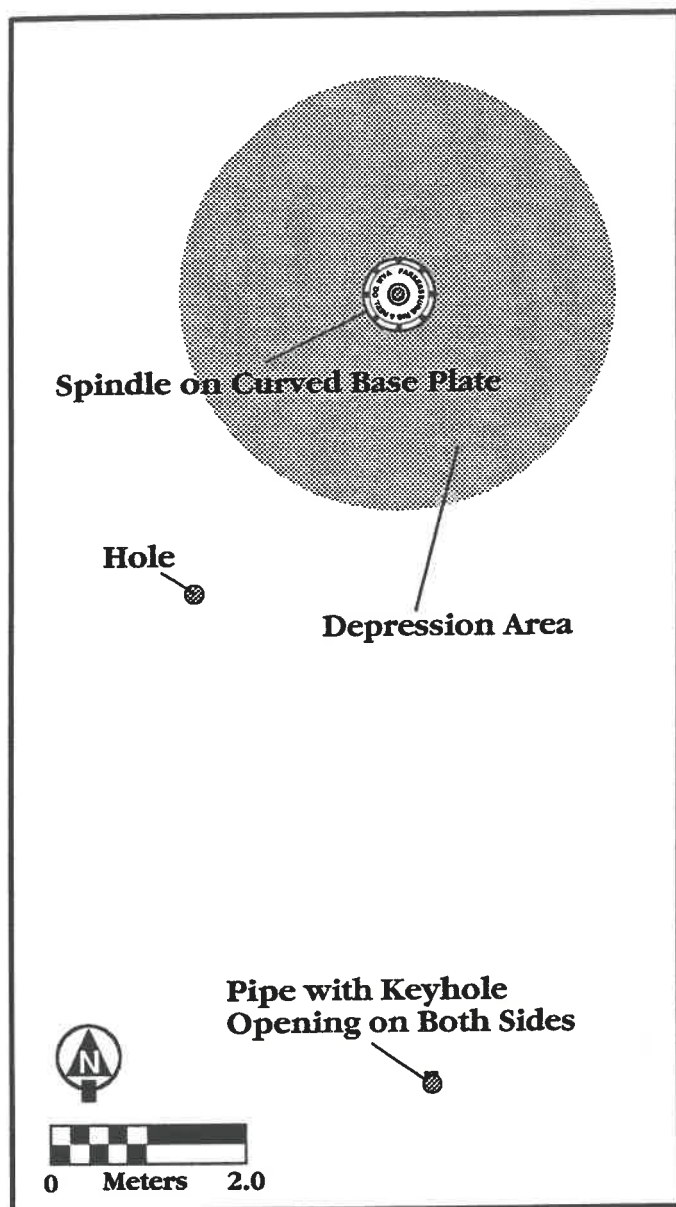


Figure 21. Plan of Feature #5, Remains of a Central Power System. This rod was not attached to the pipe, but only loosely standing inside it. A small, 25 cm (9.75 in) diameter, hole was noted in the ground slightly west of the direct line between the pipe and spindle, at a distance of 3.8 m (12.46 ft) from the spindle.

A total of 50 pieces of cultural material were collected from the ground surface within a four meter radius of the solid iron spindle (Table 7). This small assemblage consisted primarily of fragments of glass containers and ceramic vessels. No cultural material was noted in the vicinity of the pipe or the hole.

Feature #5 was tentatively identified as part of a central power system. This is defined as a "mechanism for pumping several wells by means of lines extending from central station to each of a group of wells" (Porter 1930:180). Central power systems of various types were in commercial use by the early 1880s. They provided an alternative to operating a separate steam engine and boiler to provide power at each well head (API 1961:651). Central power units consisted of an engine which turned a large diameter horizontal pulley wheel attached to a vertical shaft (Figure 22) with eccentrics. The pulley wheel operated one or more lines of pull rods (also referred to as pull lines, rod lines, or shackle lines). A line of pull rods connected together by shackles or clamps extended to and operated a pump jack at the well head. Pull lines running over long distances were supported by shafts (Figure 23), through which the pull rods ran. The shafts served to support the line and limit extraneous sideways motion (Porter 1930:181, 206).

Area 952

A total of 39 units of widely disparate sizes were excavated within Area 952, the portion of the Midian project area lying on the east side of Shumway Road (Figure 24). The excavated units included: a hand trench (HT-2) measuring 0.5 x 17.2 m; four 1 x 1 m

*Figure 22.
Profile of pulley
wheel shaft
located in
feature #5*

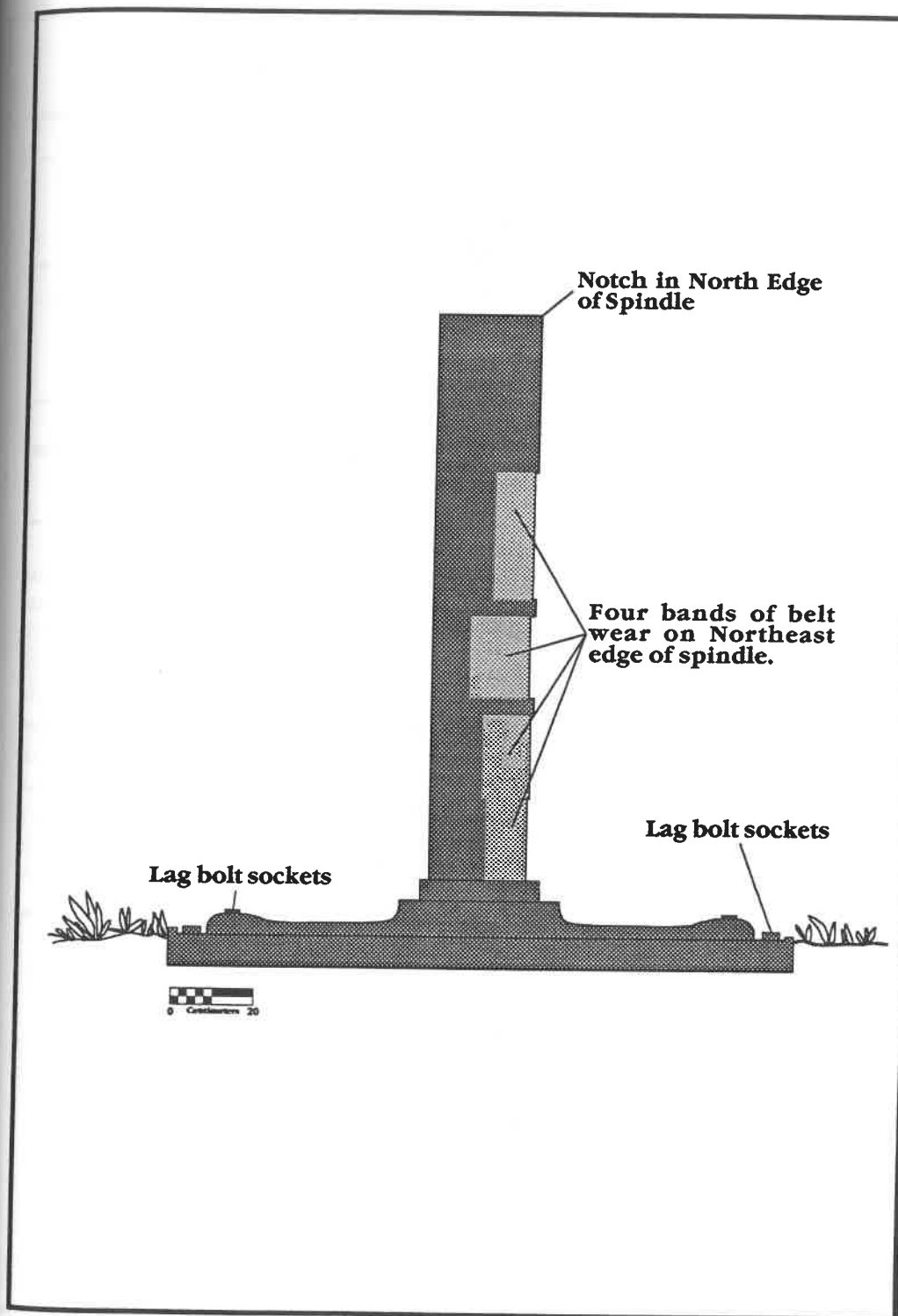
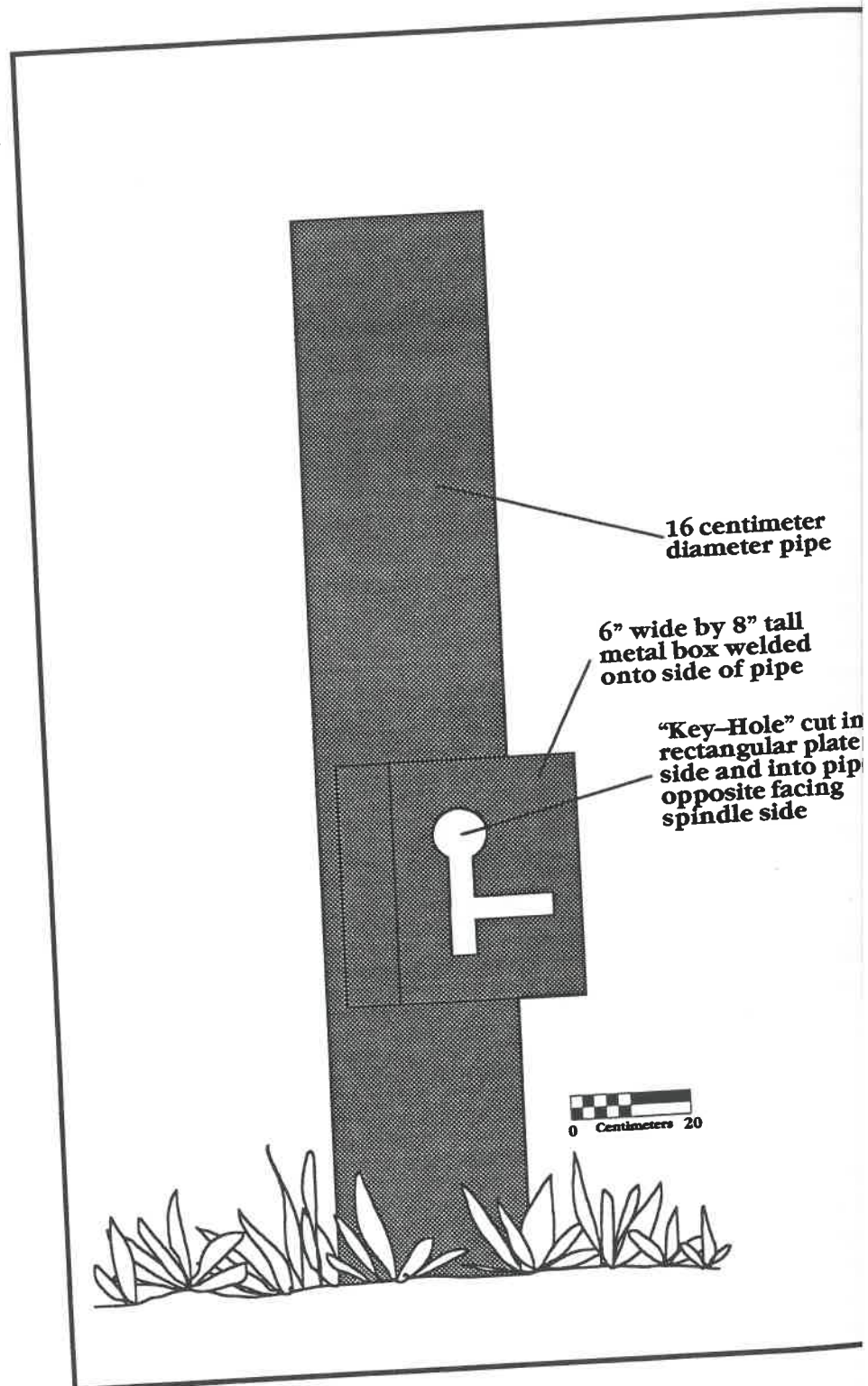


*Figure 23.
Profile of support
shaft located in
feature #5*



PHASE III FINDINGS

Cultural Material Category	Object	Quantity
Construction Material	mortar	1
Containers	bottle fragments	25
	bottle/jar fragments	1
	jar fragments	5
Hardware and Miscellaneous Items	spring	1
Table and Utilitarian Wares	porcelain	2
	stoneware	10
	whiteware	4
Utility	glass electrical insulator	1
TOTAL		50

*Table 7.
Historical Cultural
Material Surface
Collected Near
Feature #5, Midian
Townsite
(14BU381).*

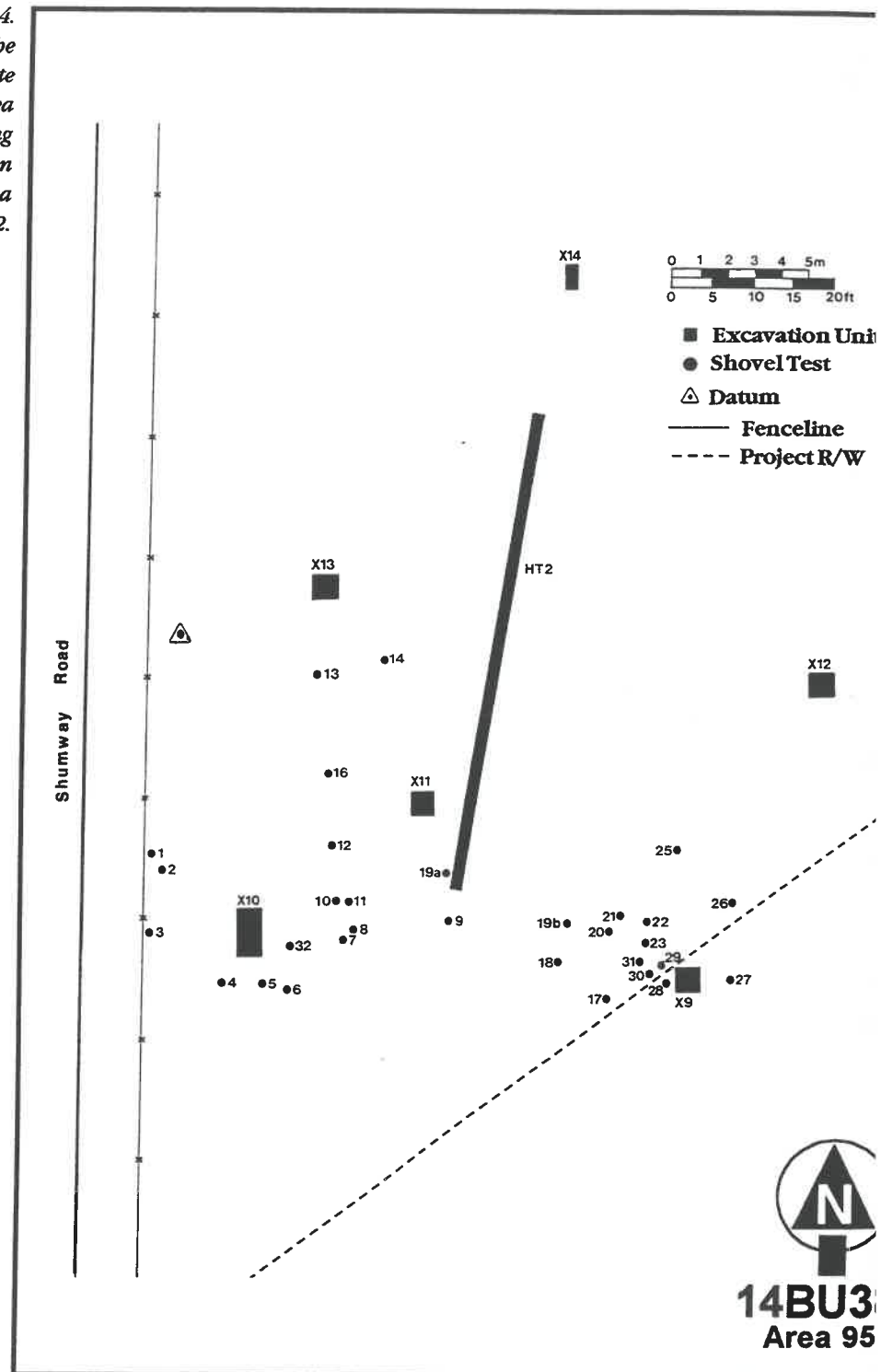
units (X-9, X-11, X-12, X-13); a single 1 x 2 m unit (X-10); and one 0.5 x 1.0 m unit (X-14) (Table 8). Metal detector survey was conducted within much of Area 952. Each detector "hit" was flagged and a shovel test was excavated to locate the metallic item, and any other cultural material noted. A total of 32 shovel tests were excavated in the course of the metal detector survey. Each detected artifact was then piece-plotted during the mapping of the site.

Hand Trench 2 (HT-2), which measured 0.5 x 17.2 m, was laid out with a slightly north-east-southwesterly orientation. The south end of the trench was located approximately 41 m (134.5 ft) south of the existing highway right-of-way fence and 15 m (49.2 ft) east of the east edge of Shumway Road. The north end of HT-2 was situated 23 m (75.5 ft) south of the highway and 17 m (55.8 ft) east of Shumway Road. This trench was ex-

Excavation Unit	Dimensions	Maximum Depth	Associated Features
HT-2	0.5 x 17.2 m	20 cm	—
X-9	1.0 x 1.0 m	20 cm	—
X-10	1.0 x 2.0 m	30 cm	—
X-11	1.0 x 1.0 m	20 cm	—
X-12	1.0 x 1.0 m	30 cm	—
X-13	1.0 x 1.0 m	20 cm	—
X-14	0.75x 1.0 m	20 cm	—
ST-1 to ST-32	various	various	—

*Table 8.
Excavation Units
within Area 952,
Midian Townsite
(14BU381).*

Figure 24.
Map of the
Midian Townsite
project area
showing
excavation
units in Area
952.



PHASE III FINDINGS

cavated to a maximum depth of 20 cm bgs. A very small quantity of historical cultural material was recovered from this unit, only seven pieces (Table 9). This assemblage included four glass container fragments, two sherds of window glass, and a single cut nail shank. No evidence of structural remains or

other features were identified in this trench.

Excavation unit X-9 was a 1.0 x 1.0 m unit placed over a slight depression near several small trees. It was located approximately 46 m (150.9 ft) south of the existing highway right-of-way fence and 23 m (75.5 ft) east

Cultural Material Category	Excavation Units							
	HT2	X-9	X-10	X-11	X-12	X-13	X-14	Shovel Tests
Clothing	0	0	0	0	0	0	0	1
Construction Material	0	0	4	0	0	0	0	0
Containers	4	12	12	6	1	3	4	2
Furniture & Appliances	0	1	0	0	0	0	0	1
Hardware Fasteners	1	3	22	3	1	5	0	16
Hardware & Misc.	0	0	0	0	0	5	1	5
Oil Production	0	1	1	1	0	0	0	2
Organics	0	0	0	0	1	0	0	0
Recreation	0	0	1	0	0	0	0	1
Table & Utilitarian Wares	0	4	2	0	0	0	0	1
Tools	0	0	1	0	0	0	0	1
Unidentified	0	0	6	0	0	0	1	8
Utility	0	0	0	0	0	0	0	1
Window Glass	2	4	157	8	0	0	0	9
TOTAL	7	24	206	18	3	13	6	48

Table 9.
Distribution of
Historical Cultural
Material
Recovered from
Area 952 of the
Midian Townsite
(14BU381) by
Excavation Unit
and Cultural
Material Category

of Shumway Road. It was excavated to a maximum depth of 20 cm bgs. No evidence of a structure was identified in this unit. A total of 24 pieces of cultural material were recovered from X-9. This assemblage included: 12 glass container fragments, 4 whiteware fragments, 4 pieces of window glass, 3 wire nails, and an iron bracket.

The tenth excavation unit (X-10), measuring 1.0 x 2.0 m, was laid out with a north-south orientation over an area where a number of metal detector "hits" were noted. This unit was located approximately 40 m (131.2 ft) south of the existing right-of-way fence and 7 m (23 ft) east of Shumway Road. It was excavated to a maximum depth of 30 cm bgs. A large quantity of historic cultural material was recovered from this excavation unit. The majority of the artifacts, 111 pieces (53.4 percent of the collection from this unit) were recovered from the upper level (0-10 cm bgs), including: 11 sherds of bottle or jar glass, 2 sherds of whiteware, a ceramic marble, a prybar or nail puller, a sparkplug, four fragments of caulking, a piece of a possible rubber ball, 5 fragments of scrap metal, 71 pieces of window glass, and 14 wire nails. Ninety-four artifacts (45.2 percent of the total assemblage) were recovered from 10-20 cm bgs. Most of these artifacts were window glass fragments (85 pieces). Seven wire nails, one screw, and one piece of bottle glass completed the collection from this level. Only three sherds of window glass were recovered from the deepest level of this unit (20-30 cm bgs).

Excavation unit 11 (X-11), measuring 1.0 x 1.0 m, was laid out approximately 1.0 m (3.3 ft) west of HT-2, 2.5 m (8.2 ft) north of the south end of this hand trench. It

was taken down to a maximum depth of 20 cm bgs. Eighteen artifacts were recovered from X-11, including: six glass container fragments, three wire nails, an iron bracket, and eight pieces of window glass. All of the cultural material except one sherd of window glass was recovered from the upper level (0-10 cm bgs).

Excavation unit 12 (X-12) was a 1.0 x 1.0 m unit excavated approximately 35 m (114.8 ft) south of the existing right-of-way fence and 28 m (91.9 ft) east of Shumway Road. This unit, which was laid out over a slight depression, was excavated to a maximum depth of 30 cm bgs. A total of three pieces of historic cultural material were recovered, a sherd of bottle glass, a cut nail shank, and a fragment of shell. No evidence of structural remains was identified.

Excavation unit 13 (X-13), a 1.0 x 1.0 m unit, was excavated to a maximum depth of 20 cm bgs. This unit was placed approximately 27 m (88.6 ft) south of the existing highway right-of-way fence and 9 m (29.5 ft) east of Shumway Road. Thirteen artifacts were collected from X-13: three glass container fragments, five wire nail shanks, and five pieces of wire.

The final excavation unit, X-14, measured 0.5 x 1.0 m. This unit, which was excavated to a maximum depth of 20 cm bgs, was placed approximately 18 m (59 ft) east of Shumway Road and 18 m (59 ft) south of the existing highway right-of-way fence. It was approximately 4.0 m (13.1 ft) northeast of the north end of HT-2. Only six artifacts were collected from X-14: four sherds of bottle/jar glass, a fragment of wire, and an unidentified piece of iron.

PHASE III FINDINGS

A total of thirty-two shovel tests were excavated over locations pinpointed by the metal detector. At least one artifact was recovered from all but two of these irregularly shaped test units. In some of the shovel tests more than one metallic item or additional non-metallic items were recovered. Table 10 provides a listing of the cultural material

recovered from the shovel tests.

Recovered Cultural Material

A total of 1,459 pieces of historical cultural material were recovered from the Midian Townsite (14BU381) project area (Table 11).

Shovel Test No.	Cultural Material
1	1 flat bastard file
2	2 wire nails, 1 sherd window glass
3	1 safety hasp, 1 wire nail
4	1 pipe collar
5	1 tin can rim and body fragment
6	1 sherd window glass, 1 piece baling wire
7	1 wire nail
8	1 piece barbed wire
9	1 bottle glass sherd
10	1 wire nail
11	2 wire nails, 1 sherd window glass
12	1 link of chain
13	1 wire nail
14	1 square-head bolt
15	[Nothing found]
16	1 piece iron bar stock
17	3 sherds window glass
18	1 cuprous snap
19	1 brass pipe bushing, 1 wire nail shank, 1 pc. baling wire
20	1 fragment scrap aluminum
21	1 fragment scrap aluminum
22	1 piece scrap lead
23	1 wire nail
24	3 wire nails
25	1 iron toy car wheel
26	2 pieces of scrap iron

*Table 10.
Cultural Material
Recovered from Metal
Detector Shovel Test Units.*

*Table 10.
Continued*

Shovel Test No.	Cultural Material
27	1 iron pipe bushing
28	1 wire nail
29	1 iron bracket, 1 sherd window glass
30	1 whiteware body sherd
31	1 pc. barbed wire, 1 iron fragment, 2 sherds window glass
32	[Nothing found]

*Table 11.
Historical Cultural
Material Recovered from
the Midian Townsite
(14BU381)
by Category and Area.*

Cultural Material Category	Area 951	Area 952	Total
Ammunition	2	0	2
Automotive	7	0	7
By Product	19	0	19
Clothing	31	0	32
Construction Material	54	4	58
Containers	455	44	499
Farm Machinery	1	0	1
Flatware and Utensils	4	0	4
Furniture and Appliances	1	1	2
Hardware Fasteners	300	51	351
Hardware and Miscellaneous Items	26	11	37
Oil Production	2	5	7
Organics	20	1	21
Personal	10	0	10
Recreation	5	2	7
Table and Utilitarian Wares	60	7	67
Tools	1	2	3
Unidentified	18	15	33
Utility	9	1	10
Window Glass	109	180	289
TOTAL	1,134	325	1,459

PHASE III FINDINGS

The majority of this material, 1,134 pieces (77.7 percent of the total assemblage), were collected from the west side of Shumway Street, Area 951. The remaining 325 pieces (22.3 percent of the assemblage) were recovered from Area 952, the east side of Shumway Street.

The artifact assemblage collected from the

Midian Townsite project area was cataloged into cultural material categories. Just four artifact categories contained 82.7 percent of the total cultural material assemblage recovered. These four categories were: containers with 499 pieces (34.2 percent of the total assemblage), hardware fasteners with 351 items (24.1 percent), window glass with 289 fragments (19.8 percent), and table and utili-

*Table 12.
Distribution of
Containers from
Midian Townsite
(14BU381) by Area.*

Container Type	Portion	Area 951	Area 952	Total
Bottle	Complete	0	1	1
	Neck/Finish	1	2	3
	Neck/Shoulder	1	0	1
	Body	52	17	69
	Body/Base	3	0	3
Jar	Neck	2	0	2
	Rim	3	0	3
	Rim/Body	4	0	4
	Body/Base	1	0	1
Bottle/Jar	Finish/Rim	2	2	4
	Body	313	21	334
	Base	2	1	3
Can	Body	30	0	30
	Lid	2	0	2
	Rim	3	0	3
	Rim/Body	4	1	5
Closure	Canning Jar Lid	4	0	4
	Rubber Canning Jar/ Crock Seal/ Gasket Fragments	6	0	6
	Bottle Cap	2	0	2
	Tube Cap	1	0	1
	Unidentifiable	19	0	19
TOTAL		455	45	500

tarian wares represented by 67 sherds (4.6 percent of the total assemblage).

Containers, with 500 pieces recovered, were the best represented artifact category from the Midian project area (Table 12). This single cultural material category comprised 34.2 percent of the entire artifact assemblage. The majority (428 pieces, 85.6 percent of the container assemblage) were glass containers. The container category also included 40 can fragments (8 percent of this assemblage), 13 container closures (2.6 percent), and 19 pieces of melted unidentifiable glass (3.8 percent). Of the 428 glass container, 77 (18 percent) were identified as being from bottles and 10 (2.3 percent) from jars. The vessel type could not be determined for the remaining 341 (79.7 percent of the glass containers) curved glass fragments, which were categorized as "bottle/jar" fragments. Four categories were distinguished among the 13 closures recovered. Six (46.2 percent of the closures) were cataloged as rubber seals or gaskets from canning jars or crocks. Four (30.8 percent) were glass canning jar lid liners. Two closures were identified as caps, one from a bottle and one from a tube.

The vast majority of the container items, 455 pieces (91 percent of the container assemblage), were recovered from Area 951. Most of these were glass container pieces, a total of 384 (84.4 percent of the Area 951 containers). Thirty-nine of the can fragments were recovered from Area 951, and all but one of the closures. Only 45 container fragments (9 percent) were collected from Area 952. Forty-four of these container artifacts consisted of curved glass sherds, with 20 (45.5 percent) identified as from bottles and 24 (54.5 percent) as only "bottle/jar" fragments. The only other artifact recovered from

Area 952 which was cataloged in the container category was a single can fragment.

Hardware fasteners was the second largest artifact category within the assemblage, comprising 24.1 percent of all recovered cultural materials (Table 13). Ninety percent of the items (316 artifacts) cataloged in this cultural material category from the Midian Townsite project area assemblage were wire nails. Wire nails began to be manufactured in the eastern United States in the 1850s and were widely available in Kansas by the 1880s.

The majority of the hardware fasteners, 300 items (85.5 percent of this category) were collected from Area 951. Of the hardware fasteners from Area 951, there were 270 (90 percent) wire nails, 13 (4.3 percent) cut nails, 6 (2 percent) staples, 5 (1.7 percent) screws, 3 (1 percent) bolts, and 1 (0.3 percent) washer. Fifty-one hardware fasteners (14.5 percent) were recovered from units in Area 952. The collection of hardware fasteners from Area 952 included: 46 (90 percent) wire nails, 2 (4 percent) cut nails, 1 (2 percent) bolt, 1 (2 percent) screw, and 1 (2 percent) tack.

More fragments of window glass were recovered from Area 952 than from Area 951. A total of 180 window glass sherds (62.3 percent of this artifact category) was collected from Area 952, the east side of Shumway Street. One hundred and nine pieces of window glass (37.7 percent) were recovered from Area 951. Only two other artifact categories, harness and oil production artifacts, had more items recovered from Area 952 than Area 951. The greater abundance of window glass fragments in Area 952 might suggest the presence of structures with windows in this portion of the project area. Alternatively, it may indicate

PHASE III FINDINGS

Fastener Category	Type	Area 951	Area 952	Total
Bolt	Square Head	3	1	4
Nail, Cut		13	2	15
Nail, Wire	Common	136	14	150
	Finishing	13	0	13
	Roofing	10	0	10
	Unknown	111	32	143
Nut	Square	2	0	2
Screw	Eye	1	0	1
	Flat Head	1	0	1
	Unknown	3	1	4
Nipple	Fence	4	0	4
	Unknown	2	0	2
Tack		0	1	1
Washer		1	0	1
TOTAL		300	51	351

Table 13.
Distribution of
Hardware Fasteners
from Midian Townsite
(14BU381) by Area.

are window breakage or dumping of this type of debris in this area. Historic maps and photographs show few buildings on the east side of Shumway Street. Much of the window glass present may have been deposited during demolition or removal of structures when Midian was abandoned.

Ceramic and glass table and utilitarian wares comprised only 4.6 percent of the entire assemblage collected from the Midian Townsite project area. Of the 67 artifacts in this cultural material category from the site, 60 sherds (89.6 percent) were recovered from Area 951 and only 7 sherds (10.4 percent) from Area 952 (Table 14). The collection from Area 951 included 44 whiteware sherds (73.3 percent), 10 stoneware sherds (16.7 percent), 3 porcelain sherds (5 percent), and 1

sherd each (1.7 percent each) of semi-porcelain, porcelain, glass, and earthenware flowerpot. All 7 sherds collected from the east side of Shumway Street (Area 952) were whiteware. The quantity of table and utilitarian wares collected from the project area was very small, suggesting a non-domestic function for this portion of the Midian. A greater number of ceramic sherds would typically be expected near a residence. The low percentage of this artifact category in the assemblage coincides well with the maps and photographs which indicate that landuse was primarily commercial and industrial in this vicinity.

Only seven recovered artifacts (0.5 percent of the entire assemblage) appeared to re-

Table 14.
*Distribution of Table
and Utilitarian Wares
from Midian Townsite
(14BU381) by Area.*

Tableware Type	Portion	Area 951	Area 952	Total
Earthenware (flowerpot)	Body	1	0	1
Stoneware (crock)	Rim	2	0	2
	Body	8	0	8
Whiteware	Rim	10	1	11
	Body	30	6	36
	Base	4	0	4
Semi-Porcelain	Base	1	0	1
Porcelain	Rim	3	0	3
Glass	Body	1	0	1
TOTAL		60	7	67

late directly to Midian's major economic activity, the production of oil. These oil related items included: pipe segments, a pipe collar, a pipe bushing, brackets, and a small engine spark plug. Two of these artifacts were collected from units in Area 951 and the other five from Area 952. Three tools recovered from the project area may also have directly pertained to oil production activities at Midian. Two flat bastard files were recovered, one from each area. A pry bar was found by the metal detector in Area 952. The historic photographs indicate that both sides of Shumway Street were at various times used as pipe and oil field equipment storage areas. The scarcity of oil production related artifacts suggests that efforts were made, either by the oil companies or by landowners, to remove all such materials and clean up the area.

CONCLUSIONS

Results of the Phase III archeological investigations of the portion of the Midian Townsite (14BU381) lying within the K-5060-01 project area indicated that this portion of the townsite appeared to retain only partial subsurface integrity. The process of townsite abandonment and/or subsequent oil field "clean up" activities appear to have impacted the site area. Several above-ground oil field-related features (Features #3, 4, and 5) and one subsurface utility-related feature (Feature #1) were identified during the fieldwork. However, the major portion of the site within the project area appeared to have been graded and leveled. A lens of compacted limestone and concrete rubble pavement (Feature #2) may have been added after town abandonment. No building foundations or significant deposits of period cultural material were recovered from the project area on either side of Shumway Road.

No further archeological investigations are recommended within the portion of the Midian Townsite which will be impacted by this highway project. Should future plans call for impacts immediately adjacent to the main intersection (10th and Shumway streets) or on either side of 10th Street east and west from this intersection for approximately one-half mile, additional investigations may be required.

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About the Author

Marsha K. King received her B.A. in history and anthropology from Wichita State University in 1979. She completed her M.A. in anthropology, with an emphasis on historical archeology, in 1981 from Brown University. Her master's thesis dealt with the rise and fall of Midian, Kansas, a twentieth century oil field boom town. Marsha is working to complete her Ph.D. in historical archeology from Brown University. Settlement and development along the Santa Fe Trail is the focus of her dissertation.

Marsha has conducted Archaeological investigations in the Southwest and New England, as well as in Kansas. She worked for seven years as a principal investigator for The Public Archaeological laboratory, Inc., a Rhode Island cultural resource management firm, on numerous contract archaeology projects in New England. Marsha returned to her native Kansas in 1993 to assume her present position as Special Projects Archeologist for the Kansas State Historical Society. While with the Society, Marsha has conducted archeological investigations at numerous historic farmsteads, urban residences and commercial sites, at several sites on the Santa Fe Trail, and at Forts Dodge and Harker.

Volume 18, No. 2

1997

Contents

Reminiscences of Archeology in Texas: 1947-1968

Edward B. Jelks

Accidental Plains Archeologist: Neither Courage Nor Naiveté?

David M. Gradwohl

The Paleoindian Laird Bison Bone Bed in Northwestern Kansas

Jack L. Hofman and Jeannette M. Blackmar

James H. Howard, Ethnographer (1925-1982)

Observations and Recollections of a Friend

Alan R. Woolworth

In Response to Hanks' "The Status of Siksika Blackfoot Women"

Comments from Blackfeet Community College Students

Alice B. Kehoe and Darrell R. Kipp, Editors

Response to the Blackfeet Community College Students

Jane Richardson Hanks

The
KANSAS
Anthropologist

Journal of the Kansas Anthropological Association

KANSAS ANTHROPOLOGICAL ASSOCIATION

The Kansas Anthropological Association is the oldest amateur archeological organization in the state. Its membership is made up of individuals and institutions interested in the prehistoric and historic peoples of the area. The objectives and goals of the Association are the preservation and interpretation of archeological and ethnographic remains within the state; the scientific study, investigation, and interpretation of archeological remains and ethnographical materials; the publication and distribution of information concerning Kansas archeology and ethnology; and the development and promotion of a greater public interest and appreciation for the heritage of the state.

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PUBLICATIONS

In 1998 members will receive at least four issues of the *Kansas Anthropological Association Newsletter* (ISSN 1069-0360) and one journal, *The Kansas Anthropologist* (ISSN 1069-0379). They will also receive six issues of *Kansas Preservation*, the newsletter of the Cultural Resources Division of the Kansas State Historical Society. All members and interested individuals, professional or amateur, are invited to submit material to the editors for use in these publications. Back issues of the journal or newsletter, if available, may be ordered from the Historian-Recorder at the address listed above. Prices will be furnished upon request.

CONTENTS

Reminiscences of Archeology in Texas: 1947–1968.....	Edward B. Jelks	1
Accidental Plains Archeologist: Neither Courage Nor Naiveté?.....	David M. Gradwohl	19
The Paleoindian Laird Bison Bone Bed in Northwestern Kansas	Jack L. Hofman and Jeannette M. Blackmar	45
James H. Howard, Ethnographer (1925–1982) Observations and Recollections of a Friend	Alan R. Woolworth	59
In Response to Hanks' "The Status of Siksika Blackfoot Women" Comments from Blackfeet Community College Students	Alice B. Kehoe and Darrell R. Kipp, Editors	71
Response to the Blackfeet Community College Students.....	Jane Richardson Hanks	73
Book Reviews		75
About the Authors		85
1997 Kansas Anthropological Association Members.....		87

REMINISCENCES OF ARCHEOLOGY IN TEXAS: 1947-1968

Edward B. Jelks
Professor Emeritus, Illinois State University

The Kansas Anthropologist 18(2):1-17

A retrospection of archeological activities in Texas during the period 1947 to 1965 is presented as viewed through the experiences of the author, with particular focus on the Texas River Basin Surveys.

BACKGROUND

In January 1942, shortly after the Japanese attack on Pearl Harbor, I dropped out of The University of Texas at Austin (UT), where I was a pre-med student, and signed on as a medical corpsman in the Navy. After boot camp and brief training at Mare Island Hospital in California, that fall I found myself working as an operating room technician in a Navy field hospital on Guadalcanal, an experience that soured me on a career in medicine.

At the end of the war, I mustered out of the Navy and reentered UT for the spring semester of 1946. By then I was married with a baby a few months old. I wanted to take advantage of the G.I. Bill to get a college degree in the shortest possible time and then get a job.

I chose a B.A. in English literature as the quickest way to a degree, English having been my minor as a pre-med. Needing a minor for the English major, I decided on anthropology after taking an introductory course from George Engerrand. By the time I had completed the B.A., the archeology courses I had taken from Tom Campbell and J. Charles Kelley for the anthropology minor had sealed my fate.

Hooked on archeology, I postponed full-time gainful employment and, with the support of my wife, Judy, started working on an M.A. in anthropology. The decision to give up a medical career in favor of a lifetime of digging holes in the ground did not find favor with my parents and other family members, but Judy and I took the plunge anyhow. Now I can look back on the past half century with no regrets about our decision.

By the fall of 1949, I had completed the requirements for the M.A. — except for a thesis. At that time Bob Stephenson, director of the Smithsonian's River Basin Surveys (RBS) program in Texas, hired me as his assistant. I became acquainted with Bob while doing research for my thesis at UT's old "nut lab," where both the university's archeological

collections and the RBS office and laboratory were housed.

Stephenson had been scrimping along with virtually no funds for fieldwork since taking over the RBS operation from Joe Ben Wheat in 1947. Despite that handicap he managed to conduct preliminary surveys at several of the larger reservoir projects that were just getting under way, economizing by using his family car for transportation, camping at car side wherever he happened to be at the end of a day, cooking over a campfire instead of eating at restaurants, and the like.

Early in 1950 Stephenson joyfully received the first allocation of RBS funds substantial enough to finance serious excavations, so in March we set out with great expectations and enthusiasm for Whitney Reservoir on the Brazos, where I got my first professional fieldwork at three rockshelters (Figure 1), an open prehistoric site, and a large late-eighteenth- and early-nineteenth-century Indian village, the Stansbury site (Figure 2), containing a lot of European trade materials (Stephenson 1970; Jelks 1970). In July we moved to Lavon Reservoir on the East Fork of the Trinity River where — by October when the money ran out — we had excavated a large part of the Hogge Bridge site, type site of the Wylie focus.

In June 1951 Stephenson left for graduate studies at the University of Michigan, and I took over as director of the RBS program in Texas. For the next 17 years I continued directing salvage archeology at reservoir projects in Texas and Louisiana with several changes in institutional affiliation.

In 1953 the National Park Service (NPS) took over administration of the Texas RBS program from the Smithsonian, giving me a new boss, Erik Reed in Santa Fe, in place of Frank Roberts in Washington. From October 1954 to July 1956, the Texas RBS office was closed temporarily when funds were cut off, and I was transferred to Colonial National Historical Park in Virginia, where I directed



Figure 1. Pictograph Cave, Whitney Reservoir, 1950. Ed Jelks taking notes. Photograph courtesy of the Smithsonian Institution.

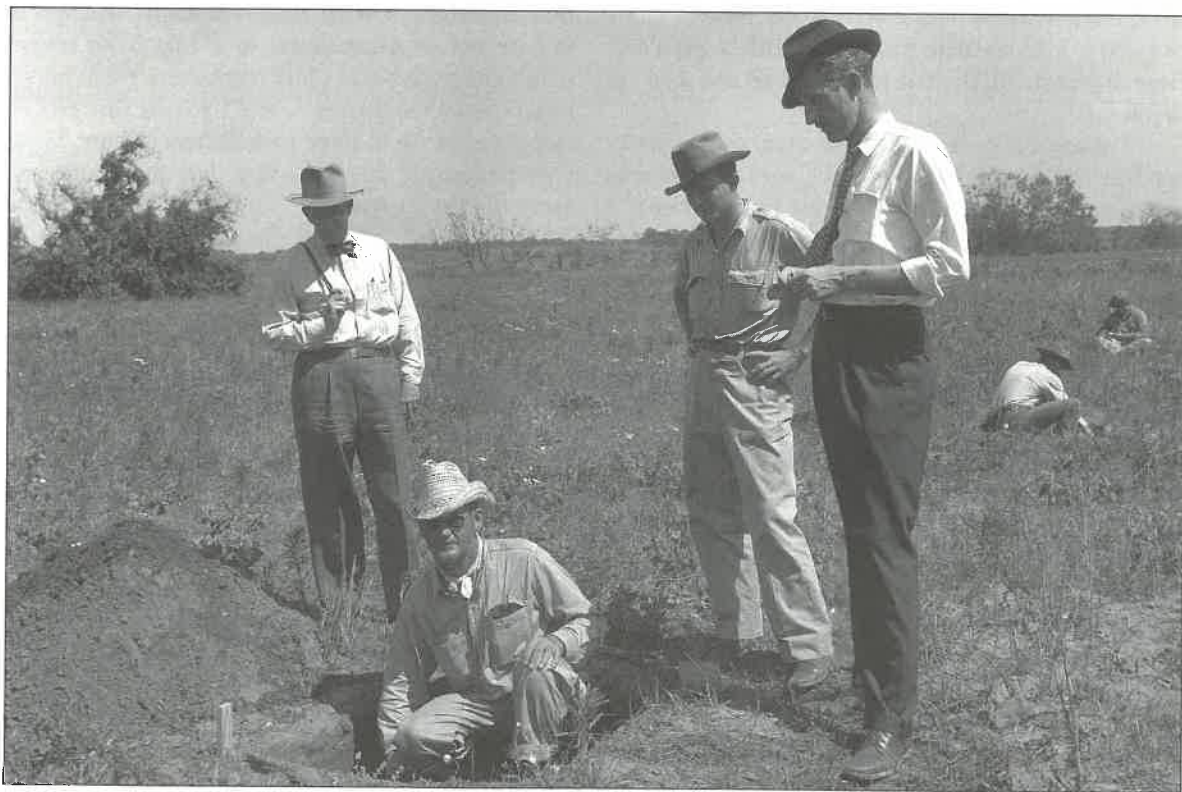


Figure 2. Stansbury site, Whitney Reservoir, 1950. Standing, left to right: Frank Roberts, Ed Jelks, and John Corbett; George Benson crouching in foreground. Photograph courtesy of the Smithsonian Institution.

exploratory excavations at Yorktown Battlefield and served as John Cotter's assistant for extensive exploration of the site of colonial Jamestown.

In July 1956 I returned to Austin and reactivated the Texas RBS office there, still under NPS administration, with laboratory and office space provided by UT in Pearce Hall on the main campus. The program continued in much the same way until the summer of 1958, when the NPS decided to handle RBS fieldwork by contract instead of in-house. I was to be transferred to the NPS regional office in Santa Fe, but Judy and I decided to stay in Austin for several reasons: first, we wanted our son Chris to complete high school in the Austin schools, and second, for the first time UT was about to offer a Ph.D. in anthropology. So I worked out arrangements to have UT continue the RBS program in Texas under contract with the NPS.

I was hired by UT to organize the Texas Archeological Salvage Project (TASP) as a university agency to administer the RBS program in the state. Thus, I was able to maintain regular employment, the RBS program continued without a break, Chris got to stay with his schoolmates, and I had a chance to work on a Ph.D. in my spare time.

The following years saw a marked expansion of the RBS program. At the north edge of Austin, a deserted magnesium plant, built during World War II, was given to UT by the federal government to be developed into a research facility and to be named Balcones Research Center. There were a lot of empty buildings there, and the RBS had outgrown available space on UT's main campus. In 1958 I moved TASP to Balcones, where its successor survives today as a function of the Texas Archeological Research Laboratory (Figure 3).

In May 1965, after seven years of plugging away, I received my doctorate — the first one in archeology awarded by UT — which opened up new opportunities for me in academe. Offered a faculty position at Southern Methodist University (SMU) in Dallas, where Fred Wendorf had established an anthropology department a year or two before, I found myself embarking on a new career as a teacher in the fall of 1965. However, I found time while at SMU to organize a salvage contract program and continued working part time on RBS projects.

At the end of a six-month research fellowship at the Smithsonian in Washington, D.C., in August 1968, my first-hand involvement in Texas archeology

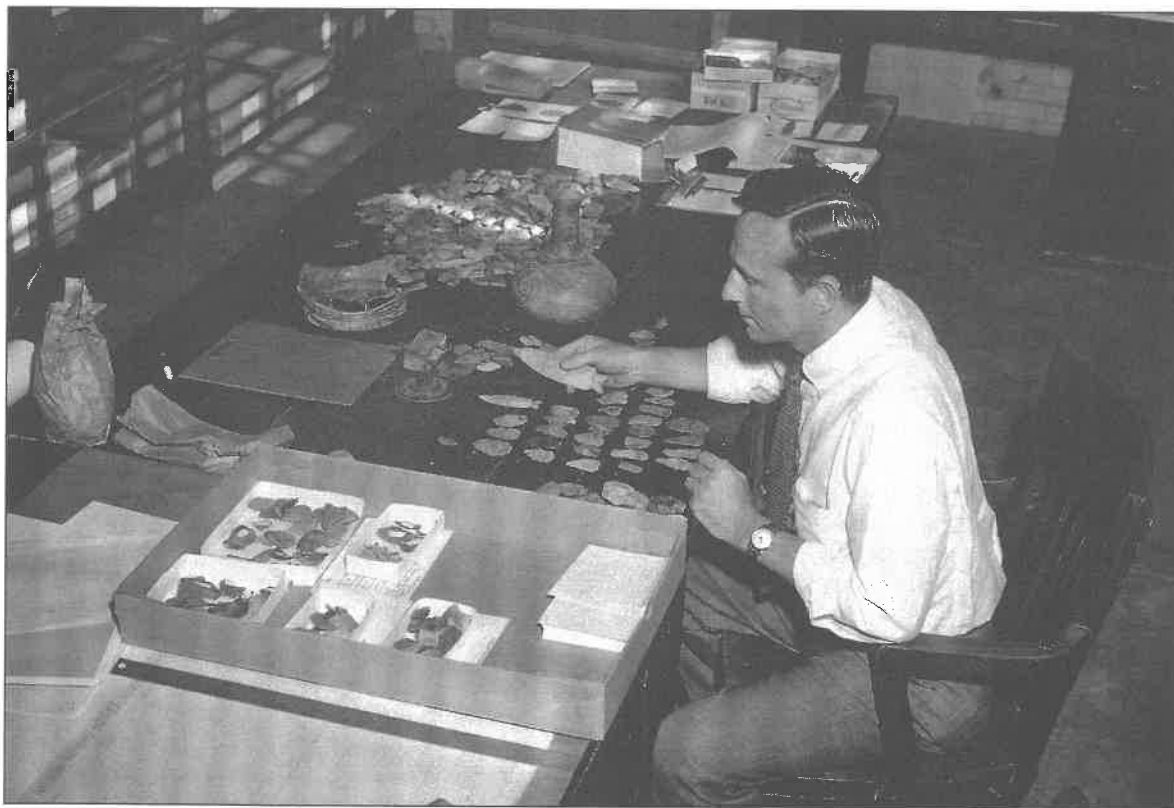


Figure 3. Ed Jelks at TASP laboratory, Balcones Research Center, 1959.

ceased for all practical purposes. I resigned from SMU and joined the faculty of Illinois State University in Normal, where I remained until retirement in 1983.

Between 1950 and 1968 I worked at hundreds of sites at about 40 reservoir projects, scattered over Texas and western Louisiana: in the piney woods of the east; in central, north-central, and western Texas; in the lower Rio Grande valley of southern Texas; and in the Texas Panhandle. The following pages contain reminiscences about my archeological experiences in those days, about research practices of the time, and about some of the many professional and avocational associates with whom I worked.

TEXAS ARCHEOLOGY IN THE 1950S

When I began graduate studies in anthropology at UT in 1948, there were four archeologists in Texas who could be termed professionals by virtue of job title and advanced degrees in archeology/anthropology. In addition to Bob Stephenson, they were Tom Campbell and Charles Kelley, both on the teaching faculty of the Department of Anthropology at UT, and Alex Krieger, a nonteaching UT research scientist. Several geologists had been doing scientific field archeology for years, especially at Paleoindian sites, notably E.H. Sellards and Glen Evans at the Texas Memorial Museum and Grayson Mead at Texas Tech. Historians Curry Holden at Texas Tech and Victor Smith at Sul Ross also were competent archeologists.

To the best of my knowledge, the only university in Texas offering a degree in archeology at the time was UT, where one could earn a B.A. and M.A. in anthropology with an archeology specialty. Today the Council of Texas Archeologists has a membership of approximately 200, all with professional credentials, and all the major universities in Texas have anthropology degree programs and archeologists on their faculties.

We few archeology students at UT in the late 1940s became aware that, in the minds of at least some of the professionals, Texas had been divided, like ancient Gaul, into three parts, with one archeologist having proprietary rights to each part. Krieger's primary domain was East Texas, but he also held rights in the Panhandle because of his publications on the Antelope Creek phase; Campbell focused on the coastal region; Kelley claimed a broad area encompassing central Texas and the Trans-Pecos region. I recall an occasion when one proprietor was outraged because another professional was alleged to have trespassed on his territory.

Paleoindian sites, few and far between, were viewed as a special case and were pretty much up for grabs for whoever could find one. However, it was generally recognized that the team of Sellards and Evans had some priority on Paleoindian sites because of their previous work at Plainview, Lubbock Lake, Miami, Blackwater Draw, and other early sites. Krieger also had a long-standing involvement in Paleoindian research, some of it in collaboration with Sellards and Evans.

By the mid 1950s the tripartite archeological segmentation of Texas had disintegrated, largely because RBS archeologists were working pretty much all over the state. Also, two of the proprietors pulled up stakes. Kelley joined the faculty at Southern Illinois University in 1950, and Krieger moved to California to become director of the Riverside Museum in 1956. Jack Hughes led a migration of archeologists to Texas colleges and universities when he came to West Texas State College at Canyon in 1951. He was followed in the next 10 years or so by Jane Kelley to Texas Tech, Frank Hole to Rice, and George Agogino to Baylor.

In the late 1950s and early 1960s, several new archeologists appeared on the scene and began to make their presence known. First E. Mott Davis and then Jeremiah Epstein were hired by UT, Davis to fill the research position vacated by Krieger and Epstein to assist with the RBS program. Having Ph.D.s, both subsequently became full-time teaching faculty in the Department of Anthropology. Mott's major RBS fieldwork was in the Caddoan area; Jerry's, in the Lower Pecos River area. Dee Ann Suhm (Story), having completed her Ph.D. at UCLA, was hired as anthropology curator at the Texas Memorial Museum. She later became my assistant at TASP and, still later, TARL director and a UT professor.

I hired Dee Ann to fill a part-time secretary position at the Austin RBS office in the early 1950s while she was an undergraduate student at UT. I tried to give promising students an opportunity for some hands-on archeological experience in the RBS office and lab, even if they might be somewhat deficient as typists, as Dee Ann was in the beginning. Dee Ann, my wife, Judy, and I developed strong bonds of friendship. We still keep in touch, though she resides in Texas, while Judy and I have lived in Illinois for almost 30 years.

By the late 1950s RBS job opportunities, with the promise of professional employment after graduation, were beginning to attract more and more students to archeology in Texas. Some stayed on to become leaders in Texas archeology: Dee Ann, Curtis Tunnell, Harry Shafer, LeRoy Johnson, Jr., Elton

Prewitt, and Jim Corbin were among those who got early field and laboratory training as RBS employees in the late 1950s and early 1960s.

In addition to the professionals, there were a number of avocational archeologists with various backgrounds who, by the 1950s, had made important contributions to knowledge of Texas archeology by publishing descriptions of their fieldwork and, sometimes, synthetic interpretations. Abilene osteopath Cyrus Ray was the best known of these. A founder of the Texas Archeological Society (TAS), he devoted many years to studying and publishing extensively about the prehistory of the Abilene region. Other prominent avocational archeologists included printer Frank Watt of Waco, leading light of the Central Texas Archaeological Society; railroad engineer R.K. Harris of the Dallas Archaeological Society; businessman Richard Worthington of the Houston Archaeological Society; and attorney O.L. Sims of Paint Rock, who was instrumental in arranging permanent protection for the nearby spectacular pictographs for which the town was named. They, along with many others all over the state, maintained a close working relationship with professionals. Pediatrician Clarence Webb of Shreveport made major contributions to knowledge of Caddoan area prehistory, including not only northwestern Louisiana but also adjacent sections of Texas, Arkansas, and Oklahoma.

THE TEXAS ARCHEOLOGICAL SOCIETY

The TAS has been a significant influence on archeology in Texas since its founding in 1928. Initially named the Texas Archeological and Paleontological Society, the TAS was nurtured and led for its first 20 years by Cyrus Ray, who served as president and editor and was a major article contributor to the society's annual bulletin from 1928 to 1948.

From its inception the TAS has continued to provide a forum where professional and avocational archeologists become acquainted with one another, exchange information, and mingle socially at the annual meetings. A long-standing tradition of close cooperation between professionals, collectors, and avocational archeologists was begun by UT professor James E. Pearce in the first three decades of the twentieth century. This tradition became firmly entrenched in the last half of the century, in large measure due to programs of the TAS, such as the annual summer field school, which fosters scholarly collaboration between professionals and amateurs.

THE RIVER BASIN SURVEYS

Shortly after the end of World War II, the River Basin Surveys program began. Administered by the Smithsonian Institution and the National Park Service, the RBS was a nationwide effort to salvage archeological resources endangered by dam and reservoir construction. The major RBS offices were in Lincoln, Nebraska, Austin, Texas, and Eugene, Oregon. The program continued in full force from the late 1940s until most of the major post-war dam and reservoir projects were completed in the 1970s.

The RBS office in Austin was opened in 1945 under the direction of Joe Ben Wheat. After completing important fieldwork at Addicks Reservoir near Houston, Wheat left for Colorado, and the office was closed temporarily until Robert L. Stephenson took over in 1947. Once funding reached an adequate level to support intensive site excavation in 1950, RBS fieldwork began to produce large amounts of archeological data that led to more and more interpretations and reinterpretations of prehistoric and protohistoric Texas cultures.

CHRONOLOGIES, PHASE DEFINITIONS, AND ARTIFACT TYPOLOGIES

As of the early 1950s, artifact typologies, regional chronologies, and definitions of cultural phases had been advanced by several researchers. Krieger had organized post-Archaic East Texas prehistory into a number of foci, which were grouped into two aspects, following Will McKern's Midwestern Taxonomic System (MTS) for cultural classification. But Krieger arranged his aspects in chronological sequence, in contrast to the assumption underlying the MTS that cultural units in the system were atemporal. Campbell also had used the MTS in defining Archaic and post-Archaic foci and aspects for the Texas coastal area, again ascribing them temporal values within a regional chronology. Kelley had followed a similar plan in identifying foci, aspects, and phases for the central Texas region, arranging them in chronological sequence. Kelley, Krieger, and Campbell also had defined numerous types of artifacts, most notably chipped-stone projectile points and, especially in the Caddoan area of eastern Texas, pottery types. These were based generally on concepts of typological classification adumbrated by Krieger (1944) in his paper, "The Typological Concept."

There have been many refinements in dating and definition of types and phases since those days, and of course new types have been recognized, and new phases have been defined since the 1950s. But it is noteworthy that many elements of the archeological classifications developed and promulgated by Campbell, Kelley, and Krieger still are current, including names for important types and culture units (generally phases now instead of foci). These three pioneers deserve credit for limning the broad outlines of several major prehistoric cultural patterns in Texas that have served archeologists well over the years.

The flood of data coming from the RBS program had an earlier counterpart in WPA archeology of the 1930s and early 1940s, administered by UT. WPA crews of 100 to 200 shovel hands, usually supervised by one archeologist and perhaps an assistant, carried out salvage excavations at several dam and reservoir projects on the Colorado, Brazos, and Red rivers. Immense quantities of artifacts and field notes generated by the WPA projects survive as primary data of unique importance to current interpretative studies, despite the gross excavation methods necessitated by excessively large field crews overseen by too few trained supervisors.

TEXAS ARCHEOLOGY — 1950s STYLE

FIELD LIVING CONDITIONS

Before 1950 excavation crews almost always lived in tent encampments and cooked on portable gasoline stoves. In 1950 at UT's archeology lab, where the RBS office and lab were housed, there were not only all the university's artifact collections but also a large storeroom filled with field tools and camping gear, mostly left over from WPA days: eight-man tents, kerosene lanterns, Coleman stoves, cots, and the like. This equipment was used the previous year at a UT field-school camp that I attended, directed by Charles Kelley, on the Mexican border in western Texas near Redford.

When getting ready to begin excavations at Whitney Reservoir in March 1950, Stephenson and I were prepared to set up a tent camp if necessary, but we were lucky to find a hunting cabin on Steiner Valley ranch that the owners let us use (Figure 4). It had electricity, a propane stove, space heaters, and even hot and cold running water. This spoiled us, so



Figure 4. Field headquarters at Steiner Valley Ranch, Whitney Reservoir, 1950. Ed Jelks (left) and Ed Moorman. Photograph courtesy of the Smithsonian Institution.



Figure 5. Cataloging artifacts at field headquarters, Lavon Reservoir, 1950. Clockwise: Bob Stephenson (with pipe), Cecil Calhoun, E.O. Miller, and Ed Moorman. Photograph courtesy of the Smithsonian Institution.

when we moved to Lavon Reservoir in June, Stephenson talked to Rex Housewright, a member of the Dallas Archaeological Society, and Rex arranged for us to occupy the home economics house at the high school in Wylie, again equipped with utilities and a modern kitchen (Figure 5).

Eventually it dawned on me that living in a house was vastly superior to living in tents, hauling drinking water, bathing in a creek, reading at night by a lantern, and cooking over a Coleman stove. After becoming director of the Texas RBS office in 1951, I always looked for a vacant house on a farm or in a town for living quarters and a lab. And I was usually able to find one. Before long I figured out that it was legal to hire a cook, after which we did so whenever possible, and thereafter we really lived in civilized style in the field (Figure 6).

FIELD CREWS

At Whitney and Lavon in 1950, our dozen or so shovel hands were recruited mainly from local laborers whose usual employment was as seasonal farm hands (Figure 7). Their pay was \$35 per week, a cut above the minimum wage of the time. In addition to Stephenson and me, our supervisory staff consisted of E.O. Miller, a retired schoolteacher from Moody with some knowledge of central Texas archeology, and Adolph Witte, a former schoolteacher from Henrietta

with a background in geology, who previously had worked for E.H. Sellards and Glen Evans at several archeological sites, including Plainview and Blackwater Draw.

Until the 1950s, when UT and other universities in the state began developing a stable of students seeking field experience and paying jobs, we continued to hire profession laborers as shovel hands for RBS projects, usually at the employment offices maintained by the state in each county. As a commentary on the economy of the time, it was not uncommon to have 50 or 60 applicants for 10 or 12 shovel-hand openings at minimum wage.

As the RBS program expanded, we began to have several crews in the field, simultaneously working different reservoir projects. To meet this requirement, we began to hire full-time crew chiefs with civil service ratings. Typically these were young professionals right out of graduate school with master's degrees and little field experience. A crew chief usually was provided with a field foreman, typically someone who, starting out as a shovel hand, showed keen interest in the fieldwork, picked up quickly on survey and excavation methods, and exhibited leadership qualities. After adequate on-the-job training and seasoning, these were signed on with full-time civil service appointments, working in the Austin laboratory during the winters when fieldwork was closed down or curtailed. Some foremen stayed on for

several years and advanced to the stage where they helped write reports as co-authors with the crew chiefs. E.O. Miller, Ed Moorman, and Bill Davis were memorable examples of this brand of archeological technician.

In the beginning our field crews were comprised solely of men. Female students attended university field schools, and some archeologists took wives or daughters in the field with them on occasion. But there were those who were outspokenly opposed to having women on field crews because, they argued, not only was the work too arduous, but women should not be exposed to the coarse language and sometimes crude behavior ascribed to professional male laborers working on construction crews, archeological crews, and the like. Yet as universities began turning out female archeologists, it was obvious that they were entitled to opportunities to practice their profession and that this bias would soon be eliminated.

The first woman I sent in the field to supervise a crew was Dee Ann (Suhm) Story, in about 1963 as I remember. Being well acquainted with Dee Ann's personality and professional qualifications, I sent her with no qualms to dig some sites (at Waco Reservoir, as I recall) with an all-male crew. She turned in



Figure 6. LeRoy Johnson in Texas Jacuzzi, McGee Bend Reservoir, 1956. Photograph courtesy of the Smithsonian Institution.



Figure 7. Sheep Cave, Whitney Reservoir, 1950. Ed Moorman at screen on right. Photograph courtesy of the Smithsonian Institution.

her usual sterling performance, this time as a field archeologist, charming her crew and earning their respect as a supervisor, despite initial reservations that some of them had about working for a woman. By the time I moved to Illinois in 1968, female archeologists, students, and fieldworkers were commonplace in Texas as in other parts of the country.

FIELD METHODS AND STRATEGIES

Surveys

Stephenson conducted his first surveys of reservoir projects alone. After Stephenson left for Michigan in 1951, I did several small surveys by myself, but before long it became standard practice to send out two-person survey teams. We used a three-stage approach to conducting a typical survey of a reservoir area. The first step was to look through the site files at UT to see if they held any records of sites in the area. Through the years hundreds of sites had been reported to UT by staff archeologists, amateurs, collectors, farmers, school children, and others. These were filed by county, so it was easy to compile a list of recorded sites in a particular project area, together with site location information and names and addresses of informants. Through the grapevine operating between professionals, avocational archeologists, and collectors, we often were able to locate at least one person who was familiar at first hand with some sites in a survey area.

The second step was to contact potential informants — sometimes by mail or telephone before setting out and sometimes by looking them up after arriving in the project area. Informants frequently would guide us personally to sites and/or share what information they had about particular sites, including letting us examine their artifact collections. Some of these people, many of them TAS members, kept accurate records of the sites they collected from, catalogued their collections, and were eager to help out in any way possible. The following are notable examples.

Frank Watt of Waco spent about half a century scouring the countryside for archeological sites over several central Texas counties. His help was invaluable in locating important sites at Whitney and Waco reservoirs on the Brazos River.

Bogey Price of Atlanta and Pete Miroir of Texarkana were familiar with scores of important sites in the northeastern corner of Texas. They guided Stephenson to major sites at Texarkana Reservoir during his survey there in 1948. Several members of the Dallas Archaeological Society — especially King

Harris, Bill Crook, Lester Wilson, J.B. Sollberger, and Rex Housewright — guided us to numerous sites in north-central Texas, including important sites at Lavon, Lake Dallas, and Lewisville reservoirs.

Especially noteworthy was George Benson, a rancher in Hill County who had hunted, fished, and trapped over much of the territory that became submerged under Lake Whitney. A man with only a grade school education, his classroom was the countryside, where the commonplace knowledge he amassed about the plants, animals, and prehistory of the central Brazos valley truly was remarkable. George had observed the locations of numerous artifact scatters and rockshelter sites, but he not only did not disturb them in any way, he misdirected arrowhead hunters about their locations in order to protect them.

When Stephenson appeared at Benson's ranch house in 1947 seeking permission to look over his property for sites that would be impacted by Whitney Reservoir, Benson told him that he recognized the importance of keeping looters away from archeological sites and had done his best to protect them, expecting that sooner or later someone like Stephenson, who knew how to study them properly, would come along. Benson personally took him to a number of important sites, including the major ones excavated at Whitney in 1951: Pictograph Cave, Sheep Cave, Buzzard Cave, and the Steele site (Stephenson 1970). Furthermore, he volunteered to work as a shovel hand during the 1951 and later seasons at Whitney. A few years later Benson found and took me to the Blum and Kyle rockshelters, key stratified sites that first demonstrated a temporal separation of the Austin and Toyah phases (Jelks 1953, 1962).

The third step in conducting a survey was to contact owners of lands to be impacted by the reservoir project, ask their permission to look around, inquire if they knew of any archeological sites on their property, and then search the property for surface indications of archeological sites. Because the time available for carrying out a survey was severely restricted by deplorably limited funds, only high probability places were visited — often only places that were easily accessible. For that reason maps of those early surveys tend to show sites clustered along access roads. The days of 100 percent walkover, sampling by walking transects, and controlled surface collection were years in the future.

When a survey was completed, a report was prepared that included a brief description of each site, its apparent cultural affiliations (based on artifacts collected from the surface), and recommendations for

further work, if any. Two or three dozen copies of these reports were made: file copies for government offices and copies for distribution to vocational archeologists and other interested people. Several of the early survey reports were published in the TAS bulletin. In the beginning, survey reports included maps showing where all the sites were located, but we stopped distributing reports with site locational information in them after the map of Amistad Reservoir with all the recorded sites on it was published in a Del Rio newspaper about 1958, leading to a lot of looting by relic hunters.

Excavations

The meager funds allocated each year to the Texas office of the RBS were spent on the most urgent projects, that is, those where dam construction was under way and inundation of important known sites was imminent. The idea was to collect a sample of data from a "representative" group of known sites in a project area. In the earlier years there might be enough time and money to sample two to five sites before water was impounded behind a dam. For example, five sites were sampled at Whitney, two at Lavon, and three at Texarkana — nowhere near a truly representative sample of the hundreds of sites inundated by those reservoirs. However, even this small sample produced data that significantly altered, refined, and added new dimensions to the interpretive constructs of Texas prehistorical and historical archeology current at the time.

A popular way of excavating open sites in central Texas with WPA crews in the 1930s and 1940s was called the "broadcast" method. A typical crew consisted of 100 to 200 laborers, supervised by one archeologist and a field foreman. A trench 5 feet wide and long enough to hold up to 100 men standing side by side, 5 feet apart, was dug across one edge of the site to a depth below the occurrence of cultural materials. Then the long wall of the trench facing the site was peeled back by the workmen, each in his 5-foot section keeping pace with his fellow workers, until the excavation had moved completely across the site. Once the open area was wide enough, the back dirt was thrown back into the area already excavated. Thus an entire site — often hundreds of feet across — was excavated and backfilled by a line of men moving like a flock of locusts across the site. When artifacts were found, they were placed in kraft paper bags, labeled with square numbers and arbitrary levels.

Transverse profiles of the site were recorded periodically as the long vertical face progressed. This

method kept a large number of men busy without close supervision. The opposite problem faced RBS archeologists after World War II. There was not enough time, money, or labor to excavate any site completely, so a sampling approach was adopted. Sampling designs were strictly judgmental; that is, digging was generally by squares selectively placed where surface indications suggested that middens or other features might be present (Figure 8). Randomized sampling and other approaches based on inductive statistics were still a few years ahead.

Also in the future was the insistence of the New Archeology movement that one cannot conduct scientific archeological field research without developing formal, explicitly stated hypotheses before beginning data collection. Since we knew nothing about this kind of stuff at the time, we could happily proceed to conduct our fieldwork along judgmental lines, often digging a site just to see what was there and usually generating hypotheses and theories, one after another, as we proceeded. And, in spite of the New Archeology's dictum to the contrary, the data that we collected did "speak to us" and told us many things about cultural, as well as descriptive, artifact types; about the inventories of tools, architecture, burial customs, environmental exploitation, and other culture traits affiliated with particular human societies of the past; about chronological sequences of phases and artifact types in different regions of Texas.

We did not collect or save all the kinds of materials in those days that archeologists commonly collect now. Radiocarbon dating was a couple of years old when I began doing fieldwork in 1950, so we did make a practice of collecting charcoal sample for ^{14}C dating, being careful to not touch them with the hands or leave them exposed to the air any possible contamination any longer than necessary. Usually we rolled a charcoal sample up in aluminum foil and placed it in a glass jar for transport to the lab. Studies of stone-knapping waste in the United States were just getting under way, and RBS archeologist unaware of their potential, did not collect waste stone flakes or discarded cores unless there was something unusual about them, such as being of exotic material (e.g., obsidian or Alibates agatized dolomite). We saved only "artifacts," distinguishing them from unimportant manufacturing by-product. Workers unskilled in recognizing artifacts were instructed to bag every piece of stone, bone, shell, or other substance they found, so back at the lab the dross could be separated from the "goodies" and discarded. Flakes and blades that showed edge wear



Figure 8. Lewisville site, 1950. Paleontologist Ted White (left center) at Pleistocene fossil location; Clovis hearth at feet of Ed Jelks. Photograph courtesy of the Smithsonian Institution.

or other signs of use generally were saved and tabulated in reports as “utilized flakes.”

I recall a time about 35 years ago when Jerry Epstein announced that he had found burins in

Centipede and Damp caves at Amistad Reservoir. No one had ever recognized burins in Texas before, and they looked like randomly fractured waste flakes to us. Jerry had to do some tall talking, but eventually he convinced us, and soon every field archeologist began looking for burins along with other chipped-stone artifacts (Figure 9).

Other than artifacts, RBS archeologists routinely collected animal and plant specimens from excavated sites. Workers were instructed to save all bones, no matter how small, as well as other biota, such as fish scales, mollusk shells, seeds, etc. Later in the laboratory, these were sorted through, and some specimens (e.g., bone splinters with no identifiable diagnostic features) were discarded.

We did routinely save soil samples from the different strata, feature matrices, and other structural components of a site with the expectation that maybe they contained pollen or other substances that might yield significant data. Actually, most of the soil samples sat for years on shelves; they are still sitting there for all I know. In the early 1960s we began to collect pollen-profile samples properly from several stratified sites that were analyzed as part of the site reports (cf. Johnson 1964). Eventually the collection of pollen samples became standard procedure.



Figure 9. Jerry Epstein (right) showing Mott Davis burins that he had found at Amistad Reservoir, 1959.

Research Objectives

Educated as anthropologists, we were interested ultimately in cultural process, but our immediate concerns were with identifying congeries of artifact types and other culture traits that, by inference, could be ascribed to particular groups of people living in certain regions at specific time periods. As these "foci" or "phases" were identified, we attempted to arrange them in chronological sequences by region. The recognition and definition of what were viewed as cultural/historical artifact types played a major role in these constructs. That is, the elements of material culture ascribed to a phase consisted largely of recognized types, some of which were specific to that phase, others of which were shared with other phases, synchronically or diachronically.

In short, our immediate research objectives for the most part were to organize empirical observations made in the field and the laboratory into a descriptive cultural/historical overview of the Indian cultures of Texas. Secondary objectives, once artifact types, phases, chronologies, etc. had been defined, were to infer lifeways of the respective phases: resource utilization, foodways, trading patterns, and the like.

NOSTALGIC MISCELLANY

PERSONALITIES

In the early, formative years of my career, several colleagues were especially influential in shaping my thoughts and attitudes about archeology. The following brief reminiscences are intended to put several of these personalities into focus.

My two archeology professors at UT, Charles Kelley and Tom Campbell, my first two mentors, strongly influenced my orientation toward archeological research. Kelley's enthusiasm for worrying out knowledge about past Texas cultures from the archeological and ethnohistorical records was contagious, and I still share that enthusiasm with him. Campbell emphasized a rigorous adherence to the practice of supplying all relevant empirical data when advancing any kind of archeological interpretation, a practice that is considered absolutely necessary in the "hard" sciences, but which, sadly, is not followed by too many archeologists.

Bob Stephenson was my boss and close associate between my first employment at the RBS office in the fall of 1949 and his departure for Michigan in July 1951. We worked together excavating important sites at Whitney and Lavon reservoirs. Bob had a special



Figure 10. Alex Krieger and Ed Jelks, Scharbauer site (where the Midland Woman skull was found), ca. 1953. Photograph courtesy of Texas Archeological Research Laboratory, The University of Texas at Austin, Negative No. 41MD1(50).

talent for organizing and administering archeologic programs, and it was a great learning experience for me to help him plan and carry out RBS projects. He was a good teacher, so I had picked up with some measure of confidence when Frank Roberts appointed me to direct the program when Bob left.

The archeologist with whom I was most closely associated over the longest time in those days was Alex Krieger. A full-time research scientist at UT, Krieger was nationally recognized as an authority on the Caddoan area and on Paleoindian cultures, having won the Viking Medal for his publication on the early Caddoan George C. Davis site, co-authored with Perry Newell (Newell and Krieger 1949). A man with wide-ranging interests, Alex was essentially a theoretician and above all an accomplished synthesizer of empirical data with little experience in conducting field excavations. Between 1951 and 1954 I spent a lot of time with Alex, traveling about to look for exciting new finds (for example, Midland Woman in western Texas [Figure 10] and Candelaria Cave in Coahuila), looking over Falcon Reservoir on the lower Rio Grande, attending conferences, or just going to visit a collector who had reported finding something of particular interest. He fell into the habit of stopping by my office frequently, when I was in the field, just to use me as a sounding board for his thoughts about artifact typology, the diffusion of traits from Mesoamerica to the southeastern United States.

States, how to get the university to give him money to curate the collections properly, what route Cabeza de Vaca took across Texas in the 1530s, or whatever happened to be on his mind.

In 1953 for one of Tom Campbell's classes, Dee Ann Suhm (Story), combed the literature and put together basic trait lists for the Texas archeological phases recognized at the time. Campbell suggested that she expand it and submit it for publication in the TAS bulletin. When it turned into more work than expected, Dee Ann invited me to be co-author. When Krieger found out what we were working on, he offered to join us. After the manuscript was well along, Alex, with his interest in typology, proposed that we add a section with definitions of projectile point and pottery types, which we did. The thing kept growing. We decided to define new types as well as the ones already recognized. Finally the effort turned into a 598-page monster that took up a whole volume of the annual bulletin (Suhm, Krieger, and Jelks 1954).

Glen Evans, a geologist at the Texas Memorial Museum in Austin, worked on a number of important Paleoindian sites with E.H. Sellards, director of the museum. They did the initial excavations at the Plainview and Lubbock Lake sites. They also conducted exploratory excavations at the Blackwater Draw (Figure 11) and Midland sites. After Sellard's death in 1961, I became more closely acquainted with

Evans, who routinely visited my field excavations to help me interpret their geological implications. Glen was an unparalleled wizard at this, and through his patient, hands-on instruction I slowly learned the basics of interpreting geologic contexts containing archeological remains, a subject that few geologists were interested in at the time. Without the geological knowledge I learned from Glen, I would have overlooked many things about geologic contexts at archeological sites.

Among my fondest memories are times when some of these mentors got together with colleagues and debated the relative merits of one interpretation versus another. These spirited discussions took place in many different settings: at field camps, at sites under excavation, in automobiles driving across country, in offices and laboratories. An example was the ongoing debate about connections between late prehistoric cultures of the Caddoan area and the lower Mississippi River valley. Krieger, chief architect of the Caddoan chronology, Bob Bell, who came to the University of Oklahoma in about 1950, and Clarence Webb were most knowledgeable about the Caddoan area, while a sizeable group, most notably Jim Ford, Jimmy Griffin, and Phil Phillips, had put together a corresponding set of phases for the lower Mississippi valley. But there was an archeologically unknown swath about 150 miles wide separating the two. Furthermore, neither Krieger, Bell, nor Webb



Figure 11. RBS crew visiting dig of E.H. Sellards and Glen Evans at Blackwater Draw, New Mexico, 1950. The truck served as a personnel carrier for the crew from Lavon Reservoir, Texas. Back row, left to right: E.O. Miller, Cecil Calhoun, Adolph Witte, Calvin Rueter, and Bob Stephenson. Front row, left to right: Rex Housewright, Ed Moorman, Ed Jelks. Photograph courtesy of the Smithsonian Institution.

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Figure 12. Early Caddoan Conference, Shreveport, Louisiana, 1950. Left to right: Alex Krieger, Clarence Webb, Lynn Howard, Bob Stephenson, Bill Haag, and John Cotter. Photograph courtesy of Smithsonian Institution.

had ever worked in the lower Mississippi valley, and the others had never worked in Caddoan area.

In the early 1950s the practice began of convening an annual Caddoan Conference, where Krieger, Bell, Ford, Webb and sometimes Griffin, Bill Haag, Stu Neitzel, and others sat around a table and went after it day and night for two or three days (Figure 12). I felt very privileged to sit and listen to these stalwarts gnaw on every conceivable interpretation of how the cultures of the two areas correlated or didn't correlate, how to explain the striking similarities between the two areas and Mesoamerica (e.g., flat-topped mounds, ceremonial art motifs, etc.), and other meaty topics. Krieger and Ford in particular held strong but differing opinions about how to interpret certain things, and neither was about to yield an inch to the other.

By the early 1960s attendance at the Caddoan Conference began to increase dramatically as newcomers became involved: first Mott Davis, Bob McGimsey, Dee Ann Story, Charlie Steen, Dave Barreis, Lathel Duffield, Curtis Tunnell, and later many others. When meeting in Austin or Norman, we began to invite students to sit around the sides of the room and listen to the pearls of wisdom dropping from the lips of the experts. Before long students were permitted to ask questions, then make comments, and eventually to join the circle. Now the annual Caddoan Conference has become a major regional event with close to a hundred people in attendance.

One of the last major research projects I was involved with between 1965 and 1967 before leaving

Texas was a pilot study of Wichita Indian archeology and ethnohistory (Bell, Jelks, and Newcomb 1963). Funded by the National Science Foundation, there were four collaborators: Bob Bell, who headed the study of Wichita archeology north of Texas; Ty Bastian of the Museum of the Great Plains, who assisted Bell; Bill Newcomb, director of the Texas Memorial Museum, who did the ethnohistory; and I, who directed the archeology in Texas. We were successful in identifying in the field a number of documented historic village sites of the six tribes of the Wichita Confederacy. Test excavations at several sites, both in Texas and in Oklahoma, produced good results. Four graduate students at SMU who participated in the project became career archeologists: Kathleen Gilmore, Norma Hoffrichter, Dessam Lorrain, and Ned Woodall.

The potential for a continuation of this preliminary study was evident, and we laid out grand plans for further long-range studies. However, Bell and Newcomb became involved in other research. Bastian left the Museum of the Great Plains, and I moved to Illinois, so our plans were first postponed and eventually abandoned. This would be a good project for someone to pick up now.

BREAKTHROUGHS

Despite operating naively without a hypothetical deductive approach, we did make serendipitous discoveries from time to time that increased knowledge of Texas prehistory significantly. In winding



Figure 13. The Blum site, Whitney Reservoir. View looking across the Nolands River at cutbank; rockshelter in background. Photograph courtesy of the Smithsonian Institution.

my reminiscences I would like to recall one example of such breakthroughs.

In 1952 George Benson, the rancher who had been so much help to us at Whitney two years earlier, chanced upon a small rockshelter in the Nolands River valley near Blum at the edge of Lake Whitney. A cutbank of the Nolands channel 18 feet high in front of the shelter revealed stratified alluvial deposits containing evidence of human occupation down to their lowest levels. The alluvium extended into the rockshelter, and its thickness suggested the potential for a lengthy chronological sequence. When Benson called the site to my attention, I decided to explore it with the hope finding early Archaic, or even possibly Paleoindian, remains in the lower levels (Figure 13).

I spent about three weeks testing the site in 1952, excavating a sizeable section of deposits within the shelter and a trench in the alluvium between the shelter and the river. As we started taking down the initial squares, all we found at first was modern trash: bottles, tin cans, an automobile battery, and other junk. After digging down a foot, then another foot, and still another foot, all we had found was modern debris, and I began to wonder if the lower levels were as old

as I had thought. Then, a little more than 3 feet below the surface, prehistoric trash began appearing, and we continued with somewhat dampened optimism. The deposits were fairly rich, and artifacts began showing up in quantity, along with the usual chert flakes, garbage bones, and the like. Among the finds were a number of arrow points, all of the Perdiz type, considered a marker of the Toyah phase ca. A.D. 1200–1500 (Kelley 1947).

A brief review of the generally accepted late prehistoric chronology for central Texas is necessary at this point. In scores of central Texas sites dug before 1952, it was repeatedly observed that on or near the surface of massive Archaic deposits — especially burned-rock middens — there usually was a relatively light scattering of arrow points, as distinguished from the Archaic dart points in the underlying deposits. The arrow points were of two major types: Scallorn, ascribed to the Austin phase, and Perdiz, ascribed to the Toyah phase (Figure 14). As no stratigraphic separation had been observed between Scallorn and Toyah in the largely Archaic sites, it had been concluded that the two point types were contemporaries, dating to the period ca. A.D. 1200–1500 (Krieger 1946:165–168; Kelley 1947).

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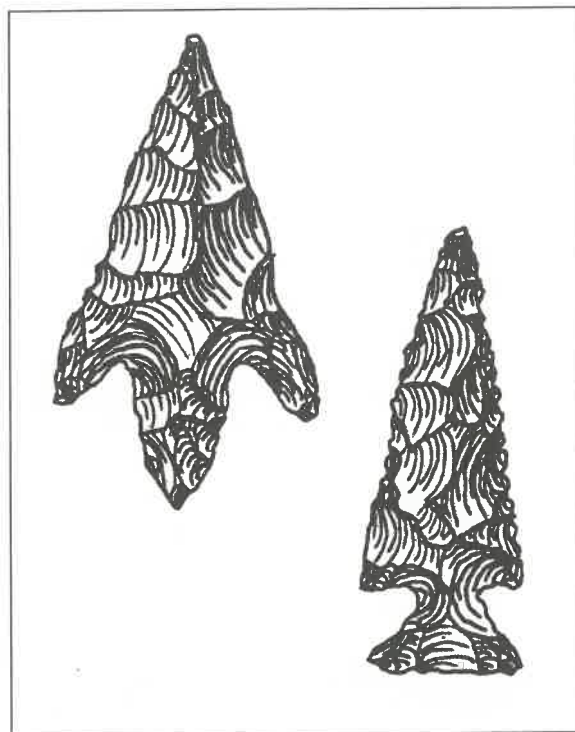


Figure 14. Perdiz (left) and Scallorn (right) arrow points. Perdiz is a marker of the Toyah phase; Scallorn is a marker of the Austin phase. Both are pictured here at 150 percent of actual size.

Back at the Blum site, as we began to get into the cultural deposits and continued finding Perdiz points, I started to think, "Maybe we have stumbled on a pure Toyah Phase component with no Scallorn points mixed in." However, after digging through a couple of feet of Toyah materials, we hit a thin layer of yellowish soil, 3 or 4 inches thick, containing scant cultural debris. We did find several arrow points in it, including both Perdiz and Scallorn. And continuing to dig deeper, we came upon a discrete stratum, containing a lot of cultural materials, including lots of Scallorn but no Perdiz.

In the end we recovered excellent samples of cultural remains from both the upper and lower strata. And there was an absolutely clean stratigraphic separation of Perdiz in the upper stratum from Scallorn in the lower stratum, with a thin mixed stratum in between. Also between the two strata there were distinct differences in some of the other artifacts — especially knives and scrapers — as well as in the garbage, which contained bison bones in the Toyah zone but none in the Austin zone.

What did this mean? Was Scallorn (and consequently the Austin phase) earlier than Perdiz (and the Toyah phase) over all of central Texas, or were they

generally coeval, the Blum shelter not being truly representative? Results of radiocarbon analyses received several months later, indicated that the lower stratum dated ca. A.D. 800–1100; the upper stratum ca. A.D. 1200–1500.

Several years later at the Smith Rockshelter more than 100 miles south of Blum, Dee Ann Suhm (1953) found the same sequence with similar radiocarbon dates. Eventually other sites dug by several archaeologists confirmed the temporal distinction between the Austin and Toyah phases and their respective material arrow point types, Scallorn and Perdiz. Other distinctions held too, such as bison with Toyah but not with Austin.

I started out at Blum hoping to find a lengthy sequence, spanning perhaps 8,000 or 10,000 years in an 18-foot-thick alluvial deposit, but I learned in the end that it had taken less than 1,000 years for the deposit to accumulate and only a century for the upper 3 feet. However, the site did produce data that corrected a widespread misconception about the temporal relationship between the two last prehistoric phases in central Texas. Through the years there were other breakthroughs with results as revealing as the Austin-Toyah example.

The problems we were working on were primarily uncomplicated ones that could be addressed by drawing inferences, in a single step, directly from empirical observations made in the field. There were no complex, a priori processual models, no general systems models, no interaction spheres, no dense equilibrium models, or the like to be tested. We followed no rigidly randomized sampling strategies. We simply selected for study those sites that seemed most likely to produce abundant data from different time periods, that were the largest, or best stratified, or oldest, or most unusual, or which had the best potential for yielding wooden artifacts or other perishables. Sometimes a site such as Blum surprised with completely unexpected information, sometimes we found pretty much what we expected, sometimes the results were disappointing. But it was all very exciting and fulfilling. And above all it was fun.

Acknowledgments. Most of the photographs illustrating this paper are from the archives of the Smithsonian Institution and the Texas Archeological Research Laboratory at The University of Texas at Austin. It is a pleasure to identify and extend sincere thanks to the two people who tracked down the photos: Deborah Hull-Walski, Collections Manager of the Smithsonian's Department of Anthropology, and Carolyn Spock, Head of Records at TARL.

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ACCIDENTAL PLAINS ARCHEOLOGIST: NEITHER COURAGE NOR NAIVETÉ?

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A serendipitous opportunity to participate in "salvage" excavations at a protohistoric Arikara Indian village, threatened by the construction of Fort Randall Reservoir in South Dakota, propelled the author into a career in Plains archeology. This reminiscence looks back on some of the more memorable experiences in the author's professional pursuits as well as his good fortune in the mentors, colleagues, and students with whom he has worked.

The letter was, frankly speaking, a bit daunting. It was an invitation to join a group of "senior" Plains anthropologists in reminiscing about "their experiences in pre- and post-World War II Plains archeology." My professional anthropological experiences are definitely post-World War II. I must confess, however, that I do remember Pearl Harbor, although I was only seven years old at the time. Nonetheless, I still flinch a bit at being addressed as a "senior," even though, in truth, I not only qualify for the AARP cheap motel rates but also Iowa State University's early retirement program and even initial social security benefits. When I read and hear about Plains archeology in the 1930s and 1940s, I sometimes think that I missed the "good stuff." On the other hand — especially from the vantage point of the 1990s with increasingly bureaucratic universities and inanely-Procrustean cultural resource management (CRM) projects — I realize that the 1950s and 1960s were not all that bad. They were, in fact, exhilarating years for me and provided a focus for my almost impossible number of interests. Moreover, the sense of excitement has still not worn off as I pursue my current anthropological projects. En route, I had the opportunity to apprentice with some marvelous mentors — the real "golden oldies" — and the pleasure of working with many noteworthy colleagues and students. Hence I will engage in adding to the folklore of Plains anthropology. My retrospective anecdotes will range back through the four and a half decades that I have been associated with this particular discipline. If there is a serious point to this discussion, especially for younger colleagues entering the field, it would be that Plains anthropology is still fun and provides a wide choice of fascinating data bases and questions well worth investigating.

The first part of my essay's title, "Accidental Plains Archeologist," is obviously swiped from Jesse D. Jennings' interesting memoirs (Jennings 1994). I feel free to do so, inserting the qualifier "Plains," since my being an archeologist is really much more accidental than in Jennings' case. The story begins in Lincoln, Nebraska, where I grew up generally unaware of my hometown's unique status in Plains anthropology. When I graduated from high school in 1951 and applied for admission to the University of Nebraska, I was, in today's parlance, "totally clueless" as far as an academic major was concerned. If for no other reason than being a maverick, I only knew that I did not want to follow my father and older brother into the profession of law. Over the years I had taken the required career preference and interest tests. Each time the counselors told me what I already knew. They said I had an interest in music. That was certainly not news to me, since I took (and even enjoyed) piano lessons. But even as a young child, I knew that I did not have the necessary gifts to be a professional musician. The counselors also told me that I had very low interests and apparently mediocre aptitudes in mechanical things. This also was not news to me, since I recognized that I had been the only boy at Irving Junior High School afraid of flunking the required shop courses that alternated with science courses. The science classes were intriguing and generally easy, but the wood, metal, and auto mechanic shop courses were beyond my comprehension. I distinctly remember one specific matter that the career counselors told me, however, on the basis of my test scores. They each said, "Your interests are not channeled." In retrospect I would like to think that they meant my interests were eclectic, but, alas, I suspect that is the way one said "clueless" in the 1940s and early 1950s. To his

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credit, one prescient counselor suggested that I read Clyde Kluckhohn's recently published *Mirror for Man*. I read the book and found it quite enjoyable, but, professionally speaking, I did not see myself in that mirror at that time.

It was thus that I entered my freshman year at the University of Nebraska without a goal other than my hope of avoiding being drafted into the armed forces. Under those circumstances I was enrolled in what was then called "Junior Division," which was, I think, code-talk for "Arts and Sciences, Undeclared, or Without an Inkling." I decided to take courses I would need to fill my general education requirements: English, history, math, Spanish, speech, and, of course, the required Reserve Officer's Training Corps or ROTC (a subject, incidentally, in which I received my lowest college grade!). Looking forward to the summer, I was resigned to returning to seasonal construction work in which I had previously been engaged as a card-carrying member of the International Hod Carriers, Building, and Common Laborers Union of America Local #540. The work consisted of digging ditches and was absolutely boring, but I was rewarded with the then-respectable Union wage of \$1.37½ per hour. Late in the spring my good friend James Bailey, an engineering major from Lincoln, informed me that he had gotten a job on a "salvage" archeological crew with the Nebraska State Historical Society (NSHS). Since he was the first person to apply for the crew, Bailey had been made the field assistant. The NSHS, however, still needed more workers, then affectionately referred to as "shovel bums." Curious about the possibility of getting out of my hometown for the summer and hanging out with several of my buddies, I sought out Marvin F. Kivett at the Historical Society's office, then in the Nebraska state capitol building (Figure 1; see Gradwohl 1994). Kivett (known to his friends as "Gus") explained to me that the Society would be working along the Missouri River near Chamberlain, South Dakota, that the crew would live in a camp with tents and no running water, would spend all day digging, and be paid a grand wage of \$.75 per hour. I also was led to believe that the archeological excavations would be much bigger than in construction work and that we would take copious notes on all our discoveries. This all sounded good to me except the bad news about non-Union wages. The good news was two-fold: a) I would not have to carry a hod, and b) while poverty was apparently a vow archeologists had to take, silence and chastity were not also required. So I joined the crew.

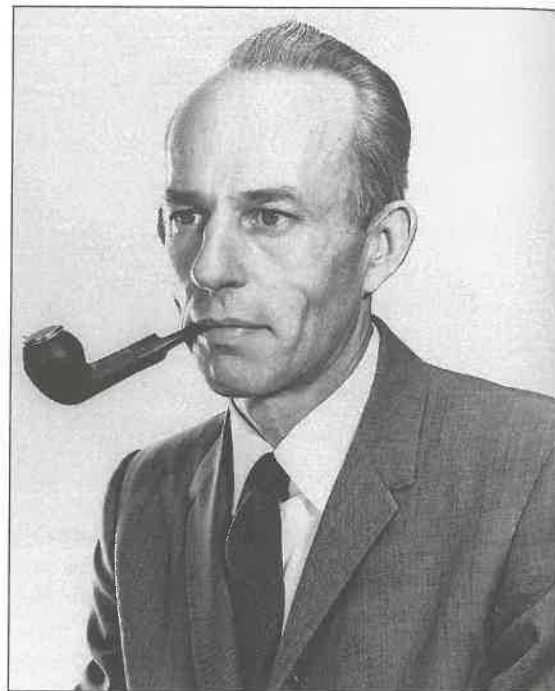


Figure 1. Marvin F. Kivett. (NSHS photograph)

The Historical Society's field camp at the Oacoma site (39LM26 and 39LM27) was everything Kivett had promised. We had old army tents for sleeping quarters, a large and very unwieldy surplus bi-pyramidal tent for a kitchen, dining hall, and latrine, and A. T. Hill's old trailer for Gus, Caroline, and Ronnie Kivett along with their dog Rocky. Kivett had hired a woman named Bea Rea as a cook, so we did not even have to do our own cooking. We hauled water from Chamberlain in 5-gallon "jerry" cans. The cans were left in the hot sun all day and thus provided hot water for field showers and clothes washing. Since Al Rea, on whose land we were camping, was a junk dealer of sorts, Bailey and I were able to cover the floor of our tent with marble slabs. All the comforts of home! And then there was the camp kaibab. My first task assigned by Kivett was to dig the latrine pit, a sort of doo-doo-detail, saved for the greenest of greenhorns. I had no idea what size pit to dig, so I dug a nice big one that would last all season. In fact it was too wide for the wooden two-seater that the museum carpenters had put together for the field camp. So we jury-rigged a partial pit cover with army surplus canvas. This worked fine and dandy for our field party, but one uninformed visitor from the University of Nebraska crew slipped down into the upper stratigraphic levels of the pit before he could extricate himself from the situation. After we had been at the

site for a few days, a very mild breeze came up and the bi-pyramidal mess tent blew down and ripped. We quickly regrouped and built a sort of ramada-like structure to carry us through the season. We had the luxury of an ice box and were able to obtain ice from a gas station in Chamberlain. The ice was shipped in from Mitchell. One morning when we went to pick up ice, the gas station attendant said that the ice from Mitchell had not been delivered, but if we came back during the afternoon, they would have "Huron ice." He meant, of course, ice from Huron, South Dakota, but we had understood "urine" ice and were not too excited about the possibilities.

At this juncture I must point out that my debut into Plains archeology was not universally well received. Gus Kivett seemed satisfied enough with my work, but Caroline Kivett had reservations. It seems she took an almost immediate dislike to me. I was from the "right" side of the tracks, and, she claimed, I had been rather officious in the matter of reorganizing the mess tent after it blew down. Her account of the event and mine differ. Following the demise of our original mess tent, I had indeed gone into Chamberlain's grocery stores and scrounged orange crates to serve as shelves for the crew's pots, pans, and dishes. Caroline asserted that I had refused to share

the orange crates with her for the Kivett's side of the tent. Frankly, I do not remember her asking for orange crates and cannot imagine that I would have had the temerity to deny a request from the field director's wife. At any rate I was the only member of the 1952 crew to continue on in archeology as a career. To her credit Caroline later acknowledged the irony of this fact to me. She had predicted to Gus that I would not last out the season at Oacoma. In essence I never went away, so we became close friends. For all I know, Caroline may claim that she, and not Gus, was my mentor. The orange crate controversy was finally settled in 1996, when I found some of these curious antiques while cleaning out the basement of my mother-in-law's house. I presented them to Caroline, and she signed a document acknowledging receipt of the crates and absolving me of all culpability, real or imagined, for the affair in 1952.

Oh, yes — the archeology at the Oacoma site was pretty spectacular (Kivett 1962a). We excavated circular earthlodge floors, cache pits, and other features representing the early historic Arikara Indians (Figure 2). I had not heard previously of the Arikara Indians but quickly came to appreciate their culture and history through information provided by Kivett. Gus was a rather quiet person and, after all, not



Figure 2. Circular earthlodge floor at the Oacoma site (39LM26), excavated in 1952. NHSH crew from left to right: Tom Stock, Jim Bailey, Peter Schmitt, Bernie Leonard, Tom Payne, Dennis Johnson, David Gradwohl, Ronnie Kivett, and Caroline Kivett. (Photograph by Marvin Kivett)

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running a field school, so we did not have formal lectures. But we soon learned that asking a few questions resulted in detailed and instructive discourses that afforded the pleasures of auditing a course on archeology and Plains prehistory without having to take the final exam. By the end of the summer, I had developed a consuming interest in archeology. In fact I took salvage archeology at the Oacoma site so personally that I refused to quit digging on the last afternoon before power equipment had been engaged to backfill the site. I was right in the middle of excavating a rich cache pit, filled with all sorts of goodies, including pottery, projectile points, scrapers, awls, and catlinite pendants. Kivett allowed me to excavate after nightfall with the assistance of a Coleman lantern. As we left Oacoma the next morning, dirt was being pushed back into our excavations. I had a lump in my throat and have hated backfilling operations ever since. The Oacoma site is now covered by the waters of Fort Randall Reservoir (now known as Lake Francis Case).

Once back in Lincoln, before university classes started, I immediately changed my registration for my sophomore year. I dropped a political science class, which did not sound too exciting anyway, and substituted in its place Introduction to Anthropology, taught by E. Mott Davis. In retrospect I know that it would take an extremely inept instructor to make the subject matter of anthropology boring. But Davis, though modest, was a professor of extraordinary skill in terms of organization, clarity of presentation, relevant details, and dry humor. I still have my class notes that attest to his pedagogical expertise. During my sophomore year I also took an Introduction to Geology course under Benjamin H. Burma, another charismatic (though not so modest) professor. Although I did not have the formal prerequisites, Burma invited me to go on the geology department's spring field trip to the Four Corners area. I was highly flattered — not realizing that the main reason for the invitation was the department's desire to increase its revenues by more field trip fees. Nonetheless, learning geology in the field was an exciting experience and deepened my interest in earth sciences as well as anthropology.

Meanwhile Davis was urging me to register for the 1953 University of Nebraska field school. I had some misgivings about the proposal, not in terms of the archeology or credit hours, but in the matter of finances. Shelling out tuition money for field experience struck me as a questionable course after my whole previous summer's experience at the Oacoma site. Economically things are not supposed to go that way. My digging activities had gone from union

wages of \$1.37 $\frac{1}{2}$ per hour to the archeological p
tance of \$.75 per hour, and now I was faced with
negative cash flow for my efforts. I grumbled
Davis that I could not afford to go to summer scho
Davis shot back with his characteristic lack of su
tlety, "If you are going into anthropology as a care
you can't afford NOT to go on the field schoo
Given the poor job opportunities in our discipline
the early 1950s, I was still not at all sure that anth
pology would be my career choice. Several of
friends, however, had signed up for Davis' crew, s
registered for nine hours of field and lab credit a
found myself at a field camp near Cambrid
Nebraska. Our crew was involved with salvage arc
ology in the Medicine Creek Reservoir (now call
Harry Strunk Lake). Most of our work was at R
Smoke (25FT42), a stratified, multi-compon
Paleoindian site (Figure 3). Red Smoke combi
interesting problems in geomorphology, stratigraph
paleontology, and lithic technology (Figure 4).
dating of "Early Man" occupations to the range
8,000 to 12,000 years ago was still a hot issue in
early 1950s (Davis 1953). A recent conference
Cambridge, entitled "Medicine Creek Vall
Nebraska, 1947-1997: 50 Years of Fed
Archaeology" was an instructive reminder that
chronologies we take for granted today were initi
bitter controversies (Figure 5).

During the 1953 field season we had the c
venience of living in an abandoned school ho
instead of tents. Our field camp even had the lux
of a wooden outhouse instead of a canvas kaibo
of the activities while excavating Red Smoke
dumping our backdirt across Lime Creek to provi
dry walkway into the site. We called our project
"Damn Foolishness." Of course the earthen struc
was dismantled at the end of the field season. Tod
archeologists, indeed, would have to apply for
permit to build such a structure, since only the
Army Corps of Engineers and large hog confiner
facilities are allowed to pollute our streams.

It was at the Medicine Creek Reservoir wh
got my first experience, of sorts, in underwater a
ology. A submerged Upper Republican site
located about a quarter of a mile from the b
where we went for bathing and recreation. Sin
was a distance swimmer on the Universit
Nebraska swimming team, getting to and
the submerged site was no problem. Dig
down through the mucky water for artifacts was
difficult. The booty was returned to the beach
my swimming suit liner, and a small compa
collection was thus assembled.



Figure 3. The Red Smoke site (25FT42) being excavated in 1953. (Photograph by E. Mott Davis)



Figure 4. Stratigraphy at the Red Smoke site (25FT42), exposed in 1953; David Gradwohl and Larie Holmes point to two Paleoindian occupation zones. (Photograph by E. Mott Davis)

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Figure 5. David Gradwohl and E. Mott Davis at the Red Smoke site in 1997. (Photograph by Hanna Gradwohl)

Following the end of the field season at Red Smoke, Davis turned to a contract the University of Nebraska State Museum had with the National Park Service (NPS) to conduct an archeological survey of the Big Sandy Reservoir in southwestern Wyoming. For several weeks we were headquartered near Farson, Wyoming, the quintessential wide place in the middle of the road. Our crew consisted of David James Christensen (now a prominent physician at the University of Iowa College of Medicine), the late Thomas M. Newman (eventually a Ph.D. in anthropology from the University of Oregon), and me, since I still owed a week of free labor for college credits (Figure 6). More memorable than individual sites was Davis' survey strategy involving "Reconnaissance Units," a scheme I later employed with modifications, along the Skunk and Des Moines rivers in Iowa (Davis 1956; Gradwohl and Osborn 1972). Also memorable was my putative term paper assignment, which consisted of digging a stratification pit through several feet of caliche that seemed to have a hardness of 11 on Moh's Scale. To his credit, Davis did offer to pay me for the time at Big Sandy that extended beyond my field school indentured servitude. He asked me how much money I needed.

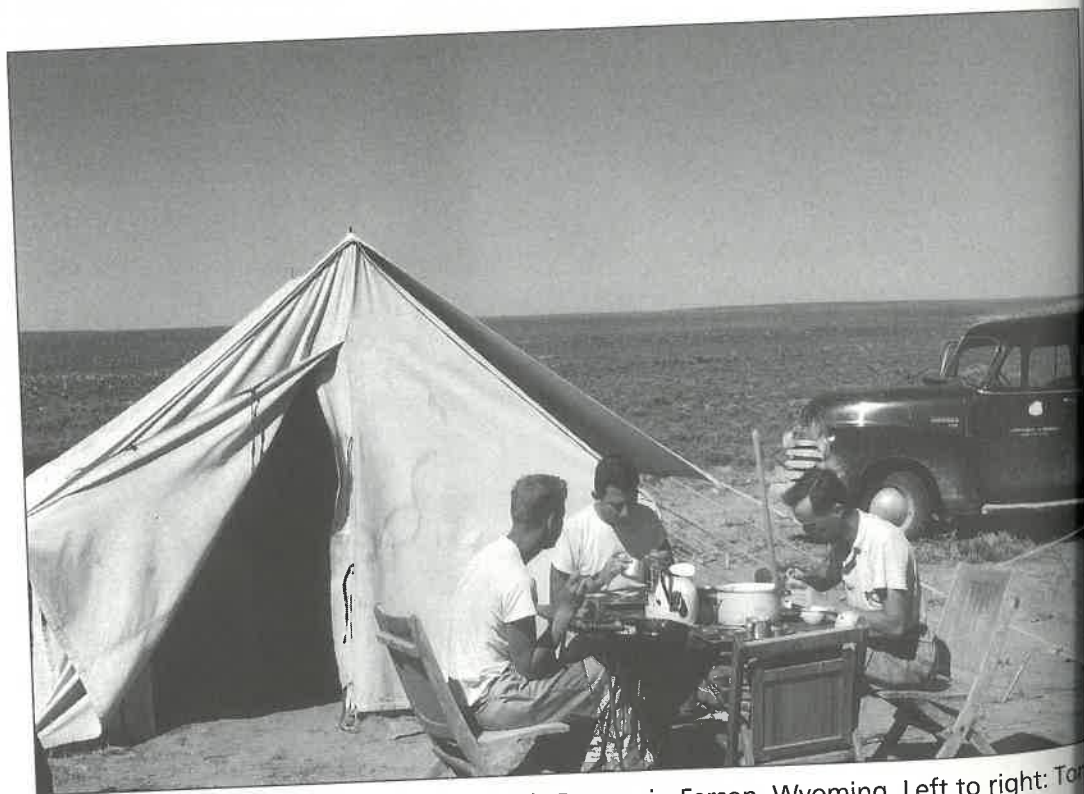


Figure 6. 1953 field camp at the Big Sandy Reservoir, Farson, Wyoming. Left to right: Thomas M. Newman, James Christensen, and E. Mott Davis. (Photograph by David Gradwohl)

for my summer's goal of purchasing a Weston-2 light meter. I answered \$45.00. Davis checked his budget and graciously offered me \$15.00.

Impressed with Davis' generosity, along with the allure of Red Smoke and the Four Corners field trip, I returned to the University of Nebraska at the beginning of my junior year and immediately declared two majors: anthropology and geology. My advisor in anthropology was John L. Champe (Henning 1980). Champe once told us in class that he had the exact cranial measurements of the "old man of Cro Magnon," an amusing comparison to say the least (Figure 7). I considered Champe a good teacher. But if happiness was a notebook full of organized lecture notes, Champe was not your pleasure. His usual technique was to come into class and ask students if they had any questions. If nobody asked a question, Champe was apt to dismiss the class. The next day you can be sure students asked questions and therein started the discussion. In a physical anthropology class under Champe, we were slowly evolving our way through the semester with the help of E. A. Hooton's text *Up from the Ape*. When we got to the "Neanderthal problem," Champe asked us our opinion regarding the status of one of the fossils. We dutifully regurgitated Hooton's opinion. Champe then asked us if we had read the original site report on that particular fossil and, if so, did we agree with Hooton. We all looked at him in unbelieving amazement. Of course we had not read the article; it was published in some obscure European journal. We protested that as undergraduates, we could not even check out such journals from the library. Champe chuckled, took out his faculty library card, and tossed it on the table. "Use my card," he said, "and look up the site reports for the other Neanderthals as well." Hoping to thwart his game, we further complained that most of the original articles were written in French, German, Italian, Croatian, and other languages we could not read, as opposed to Latin and Spanish, which most of us had studied. Our professor just shook his head and pointed out that dictionaries were available at the library and that the Neanderthal problem was our problem. For a while my colleagues and I contemplated mutiny. But in the end we organized task forces, checked out dozens of books on Champe's library card, designed and dittoed standardized information recording forms, and prepared a color-coded pin map of all the Neanderthal and so-called Neanderthaloid fossils. On all our printed material we referred to ourselves as "The Spring Symposium on Neanderthal Man," which I think may not have amused Champe. As I recall, our class never did



Figure 7. John L. Champe. (Smithsonian Institution River Basin Surveys photograph)

finish evolving into *Homo sapiens sapiens*, but we did learn a heck of a lot regarding the importance of original evidence and primary sources.

The students in my age cohort also learned via the grapevine from the anthropology graduate students about Champe's famous taxonomy lecture. He was challenging the class to posit the kind of diagnostic traits upon which a classification could be constructed. Champe presented the theoretical case in abstract terms. He reportedly said "Take 'A.' The characteristic qualities of 'A' are its 'A-ness'." The students, however, were thinking in more concrete terms and understood the diagnostic trait to be "anus," as in the lower opening of the alimentary canal. When the class dissolved in laughter, Champe was apparently caught off guard, since his droll humor normally did not include smutty jokes. Champe's sense of humor was not narrow, but I may have pushed it to the limits when I winced at the proposal to lump Upper Republican and Nebraska culture manifestations into an "Aksarben" aspect (see J. Champe 1961). Among other things I argued that

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the problems of Plains archeology could not be solved by spelling things backward. Champe was not amused, but he did tolerate my petulance.

Also teaching in the Anthropology Department when I was at Nebraska was John M. ("Jack") Roberts, a social anthropologist (Chick and Nutini 1990). One day Roberts came into class a few minutes early and was schmoosing with some of us who had also arrived before the bell. He was telling us about some articles he was preparing for publication and casually said, "I'm really in anthropology because I want to do research. I really don't enjoy seeing little minds unfold!" Some of my peers were offended, but I still consider the remark one of the funniest I ever heard from the teaching podium. It was funny because, in addition to being a brilliant scholar, Roberts was an excellent, engaging, and enthusiastic teacher.

My undergraduate course work in anthropology at Nebraska included two classes in Plains archeology and Plains ethnology under Davis. In the latter course our first assignment was to prepare two maps, showing the locations of Plains Indians in 1600 A.D. and 1800 A.D. This was an excellent basis for discussing cultural continuity and change, as well as the reliability of early historic sources. As students we were also aware that these questions had an applied significance in terms of lawsuits being prepared under the Indian Claims Commission Act. Champe, in fact, was working as an expert witness for the Pawnee in their land claims suit (J. Champe and Fenenga 1974). In doing so, Champe, a photography buff, reproduced and analyzed early historic Plains maps in regard to tribal locations. We students were allowed to sit in the federal courtroom and listen to the anthropological testimony. This experience was most instructive to me, coming from a family of lawyers, being a member of the University debate team, and trying to learn about Plains Indians. It was fascinating to wonder if the evidence that carried in the classroom would also stand up in court. It was challenging to realize that archeology was relevant to living peoples and not just the study of a static past.

Of the academic transients who wandered through the Anthropology Department in those years, I remember particularly Gene Weltfish (Parks and Pathe 1985). She had been a professor of Champe's at Columbia University and during the 1950s got snared in the nasty net cast upon suspected Communists by Joseph McCarthy and the House Committee on Un-American Activities. Weltfish denied the allegations, but Columbia declined to reappoint her to the position she had held there for 17 years. Subsequently

Champe invited Weltfish out to Lincoln to continue her studies of Plains Indians and, in particular, wrap up her Pawnee data, which she eventually published as *The Lost Universe* (Weltfish 1965). Weltfish conducted linguistic interviews with Peter LeClaire, a Ponca elder and tribal historian. On one occasion, she was attempting to collect data for a lexico-statistical study of the Ponca language. Since I was writing a term paper on glottochronology for Robert's linguistics class, I asked Weltfish if I could sit in on her interview as an observer. She asked for LeClaire's permission and then graciously invited me to join them. I was impressed with LeClaire's broad knowledge as an informant and Weltfish's skill as a linguist. At one point Weltfish solicited the Ponca word for "urinate." I think LeClaire did not hear the word, and there was a short silence. Rather than repeat the word, Weltfish said "piss," and LeClaire quickly responded. Up to that point in my life, I had never heard an American woman use the "P" word and that earned my everlasting respect for Weltfish.

In the 1950s there were many opportunities to learn about our discipline from individuals other than the tenure-track anthropology faculty. After World War II the Missouri River Basin Surveys (RBS) project was organized and headquartered in Lincoln. At the time I was in college, some of the RBS personnel were still housed with the Anthropology Department in the basement of Burnett Hall. Later they all moved to offices on "O" Street. I had the opportunity to take a night class in American Indian ethnology with Donald Lehmer (Wood 1976). Some students were not delighted by his sharp wit and sarcasm, but I was amused. Later, Lehmer was very helpful to me in wrestling with taxonomic problems in Plains archeology. Robert Stephenson (McNutt 1995) was a helpful and patient, especially regarding my time concerning the Midwestern Taxonomic System. Franklin Fenenga was a walking bibliography and encyclopedia (Butler 1995). Furthermore, he was always willing to talk to students. More than once he picked me up for a list of references when writing my papers. G. Hubert Smith, always dressed as a "Dad Dan," contributed to my developing interest in historical archeology (Woolworth 1974). He was a knowledgeable about European archeology and perhaps influenced me in that regard. Other RBS personnel from whom I learned a great deal included Richard P. Wheeler (who produced useful check-lists for ceramic and lithic typologies) and Robert W. Neumann (a veteran of many Smithsonian digs in North Dakota, South Dakota, and Kansas). Both of these individuals exhibited broad knowledge and whimsical wits.

Meanwhile I was pursuing a geology major, and my advisor was C. Bertrand Schultz, a vertebrate paleontologist and director of the University of Nebraska State Museum. Fortunately I was largely oblivious to the fact that Schultz and Champe were not exactly cordial colleagues. One ingredient working in my favor was the fact that Lincoln was still a pretty small town in those days. My parents were well acquainted with Schultz and his wife, Marian, through their mutual memberships in the local chapter of the American Interprofessional Institute. John Champe and my father had known each other since the late 1920s, when Champe was in the insurance business. Indeed, they had worked together on a case that involved an insurance policy and a probable murder. My father also knew Flavia Waters Champe, because they had been chemistry class lab partners at Lincoln High School. Incidentally, as many people knew, Flavia (a former professional ballet dancer) contributed largely to the Champe's family income. Referring to John's home office and her own dance studio, Flavia used to joke, "John has his kiva, but I have the cash [sic] pit." In essence, these social networks and other factors resulted in my being able to largely avoid inter-departmental barbs and to receive the best of what both Schultz and Champe had to offer. I took two exceptionally good vertebrate paleontology courses, including extensive hands-on labs, with Schultz, who had initiated the research program at the Medicine Creek Paleoindian sites (Schultz and Frankforter 1948). Benjamin Burma's invertebrate paleontology course was also fine, although it was probably the most difficult course I ever had. My biology background at that time was so poor that I had to translate the text before I could study it. One of my other favorite geology professors was T. Mylan Stout, whom students irreverently referred to as "Smilin' Mylan, the beaver man," since he specialized in Pleistocene rodents. Stout was perhaps the epitome of the erudite professor; he dressed in conservative three-piece suits and actually read the latest journal articles written in French and German. My geomorphology class with Stout was enjoyable and most useful in pursuing archeology.

During the summers of 1954 and 1955, I returned to the NSHS archeological crews in South Dakota as Kivett's field assistant. Most of our work was at the Crow Creek site (39BF11) in the Fort Randall Reservoir, south of Fort Thompson (Kivett and Jensen 1976). Here again we had a dry tent camp. Running water meant running to Fort Thompson with galvanized garbage cans for water from the village pump, but we had the luxury of a

propane gas refrigerator that ran most days unless it was windy. By this time my skills at latrine digging had progressed to the point that I was the field party's official sanitary engineer. The kaibo at Crow Creek (otherwise known as "the dapper crapper") was positioned just over the edge of the steep bluff, looking down some 60 feet to Wolf Creek. From a sitting position, one had an absolutely spectacular view out over several miles of the Missouri River bottoms. (We assumed there was nobody out there to have spectacular views of our bottoms!)

Our crews included not only young men from Nebraska but also Yankton and Yanktonai teenagers from Fort Thompson (Figure 8). Sympathetic to their cultural values, Kivett prohibited any crew members from walking to the top of the hill north of the site, where there were remains of historic eagle traps and scaffold burials. These policies of inclusion and sensitivity were common sense, but they were not uniformly practiced in the 1950s. Furthermore, there was still blatant discrimination in Chamberlain, where certain restaurants would allow Indians only at their take-out windows. The Chamberlain municipal swimming pool also did not welcome Indians. One weekend I had taken some of my Yankton-Yanktonai friends to the pool, and we were getting a cool reception. I pulled out my Red Cross Swimming and Water Safety Instructor Certification Card and informed the ticket seller that these guys were my students. We were allowed admission to the pool and made our point, but after that we decided Lake Bedashosha was less hassle — it was free, and it was closer to the Crow Creek site. My ploy had worked well enough, however, that I used it again several years later for an African-American crew member in Oakland, Nebraska.

During the 1954 field season Mott Davis and a contingent from the University of Nebraska joined the NSHS crew. Davis took it upon himself to awaken the field party each morning by blowing a rather obnoxious reveille on his bugle. One morning a field crew member put a stop to this matter by stuffing a cork into the bugle to muffle its sound. My lips are sealed, of course, regarding the identity of the bugle corks. It was also during the 1954 field season that an inspection group from the NPS arrived to spend the night at Crow Creek. John Corbett (Chief Archeologist for the NPS), Paul Beaubien (Regional Archeologist of the Midwest Region of the NPS), and several others were along on the tour of sites being investigated by the RBS crews and NPS collaborators along the Missouri River. After working all day in the hot sun, our crew prepared to drive over to Lake

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Figure 8. Native American men on the NSHS crew at the Crow Creek site (39BF11) in 1955. Left to right: Wayne Shields, Mark Shields, and Billy Picotte.

Bedashosha to clean up and relax. Beaubien decided he also wanted to go swimming, so I lent him an extra swimming suit I had brought to the field. As I'll mention later, Beaubien always remembered me as the "guy from Crow Creek with an extra swimming suit." Meanwhile, to celebrate having the NPS dignitaries in camp, we had purchased ice cream for the evening dessert. This was a rare luxury, since our propane gas refrigerator did not keep foods frozen for any amount of time. When the KP on duty that night offered the NPS officials seconds on ice cream, Beaubien said, "No thanks," and covered his bowl with his hand. But his action was too late; the KP had already deposited an extra large scoop of ice cream on the back of Beaubien's hand. (I thought I saw Kivett's eyes glaze over as he may have imagined that his expected NPS funds would be cut for the following season.) That night there were other strange happenings at Crow Creek. When the crew, Kivetts, and NPS officials awakened the next morning, they viewed something high on the hill that had not been there the previous evening: a 20-foot flag pole from which waved the resplendent Crow Creek site flag with a black crow and a blue S-shaped creek. I know the names of the

persons who perpetrated this act, but I am not at liberty to divulge them.

The Crow Creek site was a large, multi-component village (Figure 9). The complex defense system there included three fortification ditches, one of which was clearly bastioned. In certain places midden up to 7 feet thick lay over trash-filled storage pits. Of the two principal occupations, the lower Crow Creek component had long rectangular houses and was of the Initial Middle Missouri tradition. Stout timber had been preserved and provided a source for dendrochronological as well as radiocarbon dating. The upper Wolf Creek component had short rectangular squarish lodges and was part of the Initial Coalescent tradition. The rich inventory of artifacts and features kept me busy with records. Much time was also spent in mapping. Kivett went to extraordinary efforts to provide photodocumentation of the site, resulting in times in somewhat of a circus atmosphere. If the back of a vehicle did not afford an angle high enough to photograph an exposed house floor, then an external ladder was erected with the assistance of three ropes (Figure 10). Obviously these were the days before OSHA guidelines! During our two summ



Figure 9. Excavation of House 6, associated with the lower component at the Crow Creek site (39BF11) in 1955. (Photograph by David Gradwohl)

Crow Creek, we had discovered some evidences of warfare and foul play. Fortunately we had no idea of the proportions of the prehistoric massacre that actually took place at Crow Creek. That investigation awaited some years for Larry Zimmerman and his colleagues, who had more resources and better expertise to deal with the problem (Zimmerman et al. 1981; P. Willey and Emerson 1993).

Our recreational outlets were minimal at Crow Creek. Driving to Fort Thompson to replenish our drinking water supply was, of course, an excuse to buy popsicles or visit John Saul, a Yanktonai elder who carved wooden figurines for his grandchildren and for those of us archeologists who commissioned him to do so. Occasionally we foraged for wild berries or rattlesnakes. The latter were skinned, cooked, and eaten (with more than a little trepidation). At night one could read by the light of kerosene lanterns, if the bugs were not too profuse. There were, of course, the proverbial evening campfires associated with burned marshmallows and sing-alongs, accompanied by a guitar or ukulele. After work on most days, we went to Lake Bedashosha to bathe and swim (Figure 11). On one occasion there we met an Episcopal minister from Fort Thompson. He invited

us to attend Sunday morning services at his church. We did so on several occasions. A couple of the crew members went to take Holy Communion; I tagged along as an ethnographic observer. I was intrigued with the eloquent sermon, delivered in both Dakota and English, and the bilingual prayer book. As I studied the unfamiliar Siouan words, I wondered (and still do) if the term "Wakantanka" really does translate specifically as "God" in the Judeo-Christian world view. Regardless, we learned to sing "For The Beauty of the Earth" and several other hymns in Dakota. On Saturday nights we were allowed to drive down to Chamberlain, where the main activity consisted of slowly walking around main street clockwise for an hour or so and then reversing the direction for the next hour. Far more productive were our visits to Carlyle Smith's University of Kansas (KU) field crew, also excavating near Fort Thompson. Smith's excavations, of course, were interesting. Even more exciting, however, was the fact that women were included on the Kansas field parties, giving real meaning to the word "party." In particular I recall Dena Ferran [Dincauze] and Ann Stofer [Johnson] who graced the KU crew. In those days women (other than Carolyn Kivett) were not permitted on the NSHS

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Figure 10. Marvin Kivett on ladder, photographing features at the Crow Creek site (39BF11) in 1955. (Photograph by David Gradwohl)

crews nor were they, as far as I know, allowed on any of the Missouri River Basin Survey field parties except one. Our crew paid a visit to that exception, namely, the RBS excavations at the Cheyenne River site (39ST1), supervised by Waldo Wedel, who was accompanied by his children and wife, Mildred Moore Wedel (Gradwohl 1995). Ultimately the Wedels became close colleagues and friends as I pursued Plains archeology. Mildred's expertise in the ethnographic historical approach to archeology had a considerable influence on my current work in ethnoarcheology as it pertains to the study of ethnicity and material culture.

During my junior and senior years I had the pleasure of attending Plains Conferences, which were at that time small and rather intimate gatherings held over Thanksgiving. I was honored by being selected to push slides, one at a time, through a projector while presenters gave their talks. There were unlike now — no concurrent sessions, plenty of time for questions and heated debates, and lots of social time during which lowly undergraduate students could meet and talk to graduate students and professional archeologists from other universities and institutions. I particularly recall a joint paper given



Figure 11. 1955 NSHS crew at Lake Bedashosha. Left to right: Floyd Urbach, Mark Reimers, John Paul Thompson, David Gradwohl, and Mark Blum. (Photograph by Marvin Kivett)

the Champes regarding the Matachines dances of the Southwest (F. Champe 1983). John (a tape recorder jock) played music and discussed some anthropological aspects of the ceremonies, while Flavia (probably the most graceful person I ever saw move) performed some of the dance steps. I was especially impressed that a husband and wife could work together as a team on research projects. These collegial conference experiences were not only fun but provided networks that continue to be useful today.

Several informal sodalities were also important in my enculturation as a nascent anthropologist. The first was a group known affectionately as the "Beaver Patrol" (see also Wood 1995:2). By the time I entered the scene, the primary Beaver Patrol players were W. Raymond Wood, Raymond S. Price, Jr., Mary Kiehl [Rusco], and Thomas M. Newman. Members of this group exchanged useful bits of information about department intrigues and the latest discoveries in archeology. They also served as the nucleus for parties that expanded to include selected members of the anthropology faculty, RBS personnel, and employees of the University of Nebraska State Museum and the NSHS, in particular Iris Daugherty [Nunley] and Sally Johnson [Ketcham]. At these parties there was a lot of shop talk, which was enlightening. Also, since Iris, Mott, and Ray Price all played guitars, the fare was often musical. At that time I played the ukulele moderately well but was enticed into buying a guitar, admittedly a Stella, which was only one step up from a cigar box and rubber bands. I never really mastered the instrument but did jam at some of the Beaver Patrol functions.

The second informal institution in the basement of Burnett Hall was a Coffee Klatsch that convened mid-morning and mid-afternoon around a table in the corner of the anthropology lab. The group consisted mostly of anthropology faculty and students, a few RBS personnel, some sociology professors, and an occasional historian or political scientist. I had not yet become addicted to coffee, but I often hung around the Klatsch to absorb some of the information and gossip being dished out. I remember learning from Jack Roberts the important adage that "anthropology begins at home." He would on occasion take up the "society page" from the *Journal* or *Star* newspapers and proceed to analyze, in hilarious terms, the social structure of Lincoln, where he and I had both grown up. In some ways I learned as much outside the classroom as in.

During 1954 and 1955 the University of Nebraska was producing a television film series, entitled "The Great Plains Trilogy." This award-winning

precursor to educational videos included paleontology, archeology, and history and starred Schultz, Davis, Kivett, and the historian James C. Olson. Some students played cameo appearances in the films. Price, simulating an ancient Native American hunter, got to use an atlatl to launch a spear across the TV set toward an outline drawing of an antelope. His spear impressively struck the beast! I was essentially a prop during one of Davis' segments, but I had a speaking part. Posing as a laboratory worker, I sat at a table on the set with a sandbox and a bunch of potsherds. When Davis asked me what I was doing I responded, with precious little thespian talent, "I am gluing together potsherds."

During my senior year at Nebraska, I had the opportunity to work on an honors research project under Champe's direction (Figure 12). My topic was "A Study of Non Ceramic Artifacts from Middle Ceramic Sites in the Harlan County Reservoir, Nebraska." I was assigned a couple of lab tables and given the stone and bone tool inventories from several sites that Champe's crews had excavated in Harlan County. Given my vertebrate paleontology



Figure 12. David Gradwohl, working on undergraduate honors project in the anthropology lab, Burnett Hall, University of Nebraska in 1955. (Photograph in author's collection)

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courses under Schultz, I was particularly eager to analyze the bone artifacts. I went through all the faunal remains and found ad hoc bone tools and broken fragments of implements that had not been recognized in the catalogue. This project was the basis for my first paper at a professional meeting, namely, the Nebraska Academy of Sciences. I believe the title of my paper may have been longer than the abstract. My presentation on 3 x 5-inch index cards was more in the style I had developed as a member of the debate team than that of an archeologist.

My other project, almost a cottage industry, during my senior year was applying for fellowships and graduate schools. Champe was urging me to stay at Nebraska for an M.A. degree and even hinted that I could have a teaching assistantship. I found that possibility intriguing, since life in Lincoln had become very comfortable and Hanna Rosenberg, the woman about whom I was getting serious, still had two years of undergraduate work to complete at Nebraska. Davis and Roberts, on the other hand, were imploring me to go elsewhere. In essence their message was, "Kid, you grew up in Lincoln and have completed college. It is time to get out of town and broaden yourself." I also must admit I was not unaware that Champe, the consummate perfectionist, was extremely demanding of his graduate students. Given my interests and the alma maters of my professors, I applied to Harvard, Yale, and Columbia. I was accepted at all three institutions. I was also given a Woodrow Wilson Fellowship and accepted at the University of Pennsylvania to which I had not directly applied. Among some other applications I had put in my bid for a Fulbright Fellowship to Britain. The Fulbright application form had two spaces for your first and second choices of British universities, so I naturally filled in Oxford and Cambridge. Then I drew a third line, wrote in Edinburgh, and mailed off my completed application. Later in the spring those of us in Champe's morning class heard some raucous noise out at the Coffee Klatsch. Champe looked pained and asked me to close the classroom door. After class one of the sociology professors rushed into the room and thrust the *Daily Nebraskan* newspaper into Champe's hands. Meanwhile I was packing up my books to head out for lunch. Champe burst out laughing, shook my hand, and exclaimed, "All that, and money too!" It seems the newspaper announced that I had been selected for "stud" in Britain. The supposed misprint really did not represent the kind of "fellowship" Mr. Fulbright had in mind. Nonetheless, I was off to Edinburgh with a good deal of excitement.

Since I had never been on the east coast, decided to visit Harvard, Yale, Columbia, and the University of Pennsylvania en route to Scotland. The size of New York City and Columbia impressed me as too large, although my father had received a Masters of Law there. Yale's Department of Anthropology grabbed me as too small. Penn was quite attractive, and I had a fascinating interview with Loren Eiseley — a fellow native Nebraskan, Plains archeological field worker in the 1930s, and author of *The Immense Journey* and other notable literary works. Penn's requirements for the obligatory Master's degree, however, seemed somewhat ridiculous to me. At Harvard I had a cordial meeting with Gordon R. Willey, who had excavated throughout the Americas, done broad-scale area syntheses, proposed a theoretical and methodological scheme for New World prehistory, and was working on the history of American archeology (Willey 1966; Willey and Phillips 1958; Willey and Sabloff 1974). I also had an immediate liking to the Peabody Museum in Cambridge.

During my subsequent year at Edinburgh University, I took classes with R. J. C. Atkinson, Stuart Piggott in prehistoric archeology, Michael Gough in classical archeology, and Kenneth Little in social anthropology. The experience was fulfilling but largely irrelevant for the purposes here except that I had the opportunity to dig in the plains (actually Salisbury Plains) with Piggott and Atkinson at Stonehenge. Serendipity came into play, however, that Piggott was a visiting professor at Harvard that semester I took my Ph.D. general exam. One of the examining committee Piggott took the place of considerably (and rightfully) feared Hallam Movius, who was conveniently in Europe at that time.

My decision to pursue graduate work at Harvard was based on two primary factors. First, Harvard offered specializations in both North American and European archeology. Second, the Peabody Museum there provided opportunities for hands-on learning that I had taken for granted at the Nebraska State Museum. Initially I found Harvard a bit daunting, since Nebraska archeological seeds seemed to keep falling from my mind. Fortunately a few Plains people helped my transition. I speak specifically of former Beaver Patrol men James H. and Dolores A. Gunnerson in addition to John C. Ives from Iowa. They offered both personal and professional assistance in my learning the ropes at Harvard. J. O. Brew was then director of the Peabody Museum, and he and his wife, Edith, extended their hospitality to me. Although I

specialty was Southwestern archeology, he was a consistent participant in the Plains Conference and knew as much or more about the Plains than other anthropology faculty members at Harvard (Woodbury 1990). My major professor was Stephen Williams, whose principal interest was Mississippian cultures of the Southeast (see Williams 1956 and Stoltzman 1993). Williams and Willey, both superb teachers, influenced my thinking a good deal, particularly in regard to taxonomic problems, settlement patterns, and the nature of other sociocultural reconstructions. Both men were charismatic enough that, for a time, I contemplated switching either to Southeastern or Meso-American archeology. But my soul was still in the Plains.

Military service interrupted my graduate work at Harvard. I was drafted into the U.S. Army at the end of my first year at Harvard, sent to basic training at Fort Hood, Texas, and then to Crailsheim, Germany, for a year and a half. Career-wise these were lost years. In the meantime, however, I had married the aforementioned Hanna Rosenberg, who had completed her degree in social work. She also took an introductory anthropology class with Champe in terms of her general interests and, from my point of view, to learn the necessary jargon so she could eventually type my term papers and initial dissertation drafts. To celebrate our engagement Caroline and Gus Kivett had thrown a party and invited the anthropology faculty, Beaver Patrol, and RBS, NSHS, and University of Nebraska State Museum staff. Among other things Hanna and I were presented matching gold Marshalltown trowels, marked "his" and "hers." We were married in Lincoln while I was on leave after completing six horrid months of training at Fort Hood. We then departed for Europe on separate ships, since Hanna was an "unauthorized" civilian dependent, and my orders were to sail on a military transport with the other troops of the First Medium Tank Battalion 37th Armor Regiment 4th Army Division. Not the most ideal honeymoon arrangement! But the good news was that we had a year and a half during which we took leaves to visit archeological sites and museums in Germany, Austria, Switzerland, Italy, France, the Low Countries, and Britain.

Upon my release from the army in June of 1959, I rushed back to Nebraska to take over the NSHS excavations at Logan Creek (25BT3), a stratified multi-component Archaic tradition site (Kivett 1958, 1962b). Kivett had set up the field camp and started the crew excavating along the exposed cutbank of the stream. Upon my arrival at the site, Kivett gave me about a 10-minute orientation to the excavations,

handed me the field records and the keys to his trailer, and took off in a cloud of dust for Lincoln. Excavating at this site was especially interesting since the diagnostic medium-sized, side-notched projectile points were associated with charcoal dating between 4,000 and 5,000 B.C., a good deal earlier than previously guessed. Joining us for a few days was the University of Nebraska field party under the direction of Thomas A. Witty, Jr. (eventually the State Archeologist for Kansas), whom I had known not only at the University but also from our days at Lincoln High School.

Following that field season, I returned to Harvard for three years to complete my course work and begin writing my dissertation on Nebraska phase settlement patterns (Gradwohl 1969). I was following in the footsteps of Fred H. Sterns (also a Nebraskan), who initially posed these questions in his Harvard dissertation some 50 years earlier. The Sterns collections at the Peabody Museum served as useful comparative data for my research materials from the Weeping Water Creek locality south of Omaha. The data base for my dissertation had been collected by Dr. L. N. Kunkel, a physician and professionally-oriented amateur, in the 1920s. My graduate committee consisted of Stephen Williams, Gordon Willey, Philip Phillips, and J. O. Brew. Outside my academic committee Waldo Wedel, whom I had met when I was an undergraduate student and interacted with at various Plains Conferences, was very helpful as I completed my dissertation and revised it for publication. Even though I had been critical of the use of the Midwestern Taxonomic System and had questioned the reliability of earlier site survey data vis-à-vis the study of settlement patterns, Wedel's critique of my work was gracious and constructive. I will admit that I did not know then that this outwardly appearing quiet and mild-mannered man was capable of rendering stinging reviews. Over the years Wedel's work had a profound influence on me, as it did on all Plains archeologists (Gradwohl 1996).

By 1962 Hanna and I had produced our first child, and I had to face the fact that we would be better provided for if I had a regular salary rather than intermittent academic fellowships. So I started looking for a job. Fortunately I began my search just as the "window of opportunity" was opening for academic positions in anthropology. Now that that window has been lowered again, I am somewhat embarrassed to observe that in the early 1960s there were more positions available in anthropology than there were qualified people to fill them. I actually had some choices to consider and have had, on certain dreary

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occasions, to remind myself of that fact. One of several offers I had was from the Department of Psychology, Sociology, and Anthropology at the University of Nevada in Reno. I had sent in my application materials and, much to my surprise, soon received a contract back ready to sign. They had not even offered me an interview trip, and I was too untutored to request one. It frightens me today to think, from both Nevada's standpoint and mine, what might have happened if I had just signed that contract and headed west. In the meantime, however, I had been invited to Ames to interview for a position open at Iowa State University (ISU). Given Hanna's and my desire to be closer to our families and my prairie-plains research interests, ISU seemed more attractive. Iowa State also offered a slightly higher salary, although it must be said that the amount of money then buying fresh Ph.D.s would hardly purchase a home computer system today. Nevertheless, I feared that personal factors might be overshadowing professional considerations, so I made an appointment to discuss the situation with Brew. He thought both opportunities sounded good but, in an avuncular fashion, observed that my personal ties and established research interests were indeed important matters in my decision. So I had pretty much made up my mind to accept ISU's offer by the end of our conversation. As I left Brew's office, however, he smiled and said, "Good luck, Gradwohl, we need one of our men in Idaho!" I stopped momentarily and wondered if I should go back into his office and replay our discussion, but I did not. I was naturally relieved when I learned that Brew had indeed sent my letter of recommendation to Iowa and not Idaho (or, for that matter, Ohio). How did I ascertain this fact? Well, Brew's secretary presumably by mistake sent me a carbon copy of the letter of recommendation. I was, of course, pleased to know that Brew had written very favorable things in support of my application. On the other hand I was surprised that he had also said flattering things about my wife. It had never occurred to me to mention Hanna's pulchritude and many other fine qualities on my vita.

It was thus in 1962 that I ended up accepting an offer from ISU to become the lone anthropologist in a joint Department of Economics and Sociology, that is, Agricultural Economics and Rural Sociology. This is where the second part of my essay title comes into play. On most days I swear that I would have neither the courage nor naiveté, to do it all over again. I was the first person specifically hired to teach full time in anthropology at ISU, and I was the University's first archeologist. The position was necessitated by the

fact that "Introduction to Cultural Anthropology" had been made a requirement for all students in the College of Home Economics. This meant huge auditoriums full of students, many of whom would rather have been taking classes in sewing, cooking, and raising children. I prepared each lecture as if it were a debate case and even anticipated resubstantiation arguments for the rebuttals I expected from the students, but opposition rarely occurred. Part of my job offer was the opportunity to teach a "specialty course" of my choosing. I chose "North American Archaeology," knowing that none of my potential students would have any prerequisites for the course. Furthermore, there was no laboratory, no museum, no teaching collections, and I had to share a small office with a sociologist. All that was the bad news. The good news was that I had a challenge because the slate was pretty much clean. Fortunately I was able to borrow a cigar box full of artifacts from Gus Kiver, so I could show ISU students what potsherds and projectile points were. Ultimately we were able to hire more anthropologists, expand the course offerings, our discipline, establish the ISU Archaeological Laboratory, begin a summer field school in archaeology, build up teaching collections, construct some museum display cases, inaugurate a separate undergraduate major in anthropology, build a Master's program separate from sociology, and help establish an interdisciplinary American Indian Studies Program. Over the years the anthropology program attracted some fine students, and we were able to develop a few capstone courses. My favorite was a graduate seminar, entitled "Cultural Continuity and Change in the Prairie-Plains." This small class met in our house. While I intellectually pestered the students, Hanna pampered them with beverages and home-baked treats. Eventually a Department of Sociology and Anthropology broke off from Economics, and I served as the first Coordinator for Anthropology. The final liberation of the present Department of Anthropology at ISU was approved in 1990.

In the matter of establishing a research and teaching program in archeology, serendipity appeared in the form of Wilfred D. Logan. I first met Logan at a Plains Conference in Lincoln, when I was still an undergraduate student there. Sometime earlier my parents had visited Effigy Mounds National Park where Logan was serving as the facility's first Professional Archeologist (Thiessen and Wood 1992). Logan told me some years later that my parents stumbled upon him in his temporary lab building, asked dozens of questions, stated that their son was majoring in anthropology at Nebraska, and, upon ascertaining

that he would be attending the Plains Conference, invited him to come for dinner at their home while he was in Lincoln. By 1962 Logan was an archeologist at the NPS Midwest Region office in Omaha. Even before I left Harvard, Logan wrote to me, stating that he heard I had accepted the job in Ames and that the NPS had funds for salvage archeology along the Des Moines River. I also heard from Paul Beaubien, who remembered borrowing my swim suit at Lake Bedashosha and was still with the NPS. On the basis of his previous work in northeast Iowa, he, too, encouraged me to get into the relatively unexplored central Iowa sites with NPS monies. Today, of course, there are quite different bidding procedures for contracts in CRM!

In this manner, however, ISU made its debut into field archeology in 1964. The instrument was a cooperative agreement with the NPS for salvage operations in Red Rock Reservoir along the Des Moines River south of the city of Des Moines. ISU's summer field school in archeology was established at the same time (Figure 13). We left for the field with brand new field equipment, permission to inhabit an abandoned farmhouse as a field headquarters, and written authorization to move an extra outhouse onto the premises to accommodate the large crew.

I soon found out that graduate school had not dealt with a number of matters archeologists face in the field. First, I had not really been prepared to engage in long negotiations for permission to survey or excavate at specific sites. Much of the land in the reservoir area was still privately owned. What did private ownership have to do with contracts, research design, and site sampling? I soon learned that my goals would be reached by foreplay palaver about crops, the weather, and football. Second, I was not prepared for the questions farmers often asked me, in the course of palaver, about my views on evolution, religion, and other personal matters. One man asked me whether the sites we would be digging on his land were from the time period before or after "the flood," meaning, of course, the one in the Bible. I answered, "Before the flooding of Red Rock Reservoir" and quickly changed the subject. One woman pointedly asked me my religion. When I answered "Jewish," the woman's eyes widened and she exclaimed, "Well, you sure don't look Jewish." Along those lines, however, another farmer paid me perhaps the highest compliment of my life. In the process of listening to my request to dig on their land, two farmers (who were brothers) invited a student and me up to their house for coffee. We accepted the



Figure 13. Iowa State University archeological field school at the Howard Goodhue site (13PK1), an Oneota village, in 1966. John D. Reynolds, field assistant, in foreground. (Photograph by David Gradwohl)

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offer, but I had to return to our car to fetch some maps. I subsequently walked up to the farmhouse to meet the others. The student later reported to me that the younger farmer had jabbed his brother and said, "I bet this is the first time you've fixed a cup of coffee for a university professor." Referring to me, the older brother retorted, "Well, he sure don't act like one!"

A third area that I had not anticipated involved questions and declarations of amazement that women were working on our crew. More than one of my professional colleagues asked, "Won't you have trouble with women in the field?" My answer was, "None that we don't already have on campus." Several farm men commented, "Boy, I wish I could get my wife to work like that," apparently oblivious to the fact that milking cows, slopping hogs, driving tractors, preserving food, etc. constituted work. The *Des Moines Register* took a great interest in our project. They sent a woman reporter in high heels down to write an article, headlined "The Women Who Work At Red Rock," which appeared on what used to be called the women's "society page" (Figure 14; *Des Moines Register*, July 26, 1964). I think this may have been the first (and also the last) time Plains archeology has been featured on a newspaper's society page. The reporter recorded the kinds and amounts of food we ate and asked the female crew members what it was like working for Gradwohl out in the hot sun. They answered, "He's absolutely relentless." The newspaper article also included a photograph of Hanna and our two oldest children. Since the reporter neglected to note that my wife has a first name, the photograph caption reads, "Mrs. David Gradwohl, whose husband is director of the expedition seeking ancient objects at Red Rock Reservoir area, manages to look fresh and pretty, although her family is living under crowded conditions in [an] old farmhouse serving as headquarters for crew and living quarters for some. She is shown with daughter Jane, 11 months, and son Steven, 2½." We all laughed at the article because that day was the only time Hanna wore a dress all summer. This photograph, however, is historic in a number of ways. Steven is now a physician at the University of Michigan, and Jane is a psychology professor at Stonehill College. Our third and last child Kathryn was not yet on the scene. She was born two days after we returned to Ames from the 1966 field season and is presently a school social worker in Minneapolis, Minnesota. Hanna now has white hair but is still married to me. Considering my allegedly feisty demeanor and the serial polygamy expected of Plains archeologists, that must be some sort of record.



Figure 14. The *Des Moines Register*'s coverage of women on the 1964 ISU archeological crew.

This leads to the fourth problem area in which had not been tutored, namely, dealing with newspaper reporters. I could write a whole essay on misquoting information and poor page layout. Let me share one favorite example here: an item that also appeared in the *Des Moines Register* on July 5, 1964, showing from right to left, a squatting male student pointing to some pottery, a female student stooping over our box looking for mail, and me squatting next to an excavated cache pit and looking like I had vomited into it (Figure 15). The headline above the photos relates to a different article; it reads, "Fin Cabins Squatting on State-Owned Land."

A fifth problem about which graduate students should be warned is the ineptness and nastiness of some bureaucratic agencies involved in mitigation. One example will suffice here. It involves the Office of Engineers and archeological monitoring of construction activities at Elk Rock State Park near Knoxville, Iowa. Construction personnel blatantly bulldozed through a site that had been staked out for preservation by our monitor Michael Portwood. The following day we summoned personnel from various agencies to resolve the matter. Iowa's Office of State Archaeologist was represented by Joe Thompson who rushed into the field still wearing his nightgown. During the course of the controversy at Elk Rock, the Corps official threatened that I should not "blame that feeds me." I responded that I was not paid by the State of Iowa not the Corps.



Figure 15. The *Des Moines Register's* coverage of squatting archeologists and squatters on state land.

considering where their other hand was, I would gladly bite the one in my mouth. Unfortunately the site had already been destroyed, and the Corps, with its usual arrogance, refused to honor our written agreement. To make matters worse my department head (a rural sociologist) reprimanded me for not being "more cordial" to the Corps. In my opinion he cared nothing about professional ethics but only about the amount of overhead that I had been bringing in with our large contracts program.

A sixth matter we encountered doing archeology in Iowa had not been mentioned in any of my textbooks or classes. We found an incredible amount of kindness and hospitality on the part of landowners of sites we excavated. As just one example I mention Carl F. Mohler, whose family was losing some 900 acres to Red Rock Reservoir. Mohler not only allowed us to destroy some of his crops but offered to help excavate the site. As though that were not enough, he brought us cold pop and homemade ice cream on hot afternoons and even invited the whole crew to his house for a steak dinner. There were many such courtesies to our crews by other landowners over the years. In addition we have been assisted by members of the Iowa

Archaeological Society, who have participated in our excavations and field surveys.

Over the next several decades ISU ran summer field schools and had cooperative agreements with the NPS, Corps of Engineers, and other agencies for archeological survey and excavations in Red Rock, Saylorville, and the proposed Ames reservoirs, as well as other projects. Euphemisms for the work evolved from salvage archeology, to mitigative archeology, to cultural resource management. Our investigative and teaching program in archeology was supplemented by the weekend field exercises I required in the sophomore-level archeology class I taught for 28 years. Nancy M. Osborn [Johnsen] was the co-principal investigator for most of those projects. Central Iowa offered extensive opportunities to explore a wide variety of sites from different time periods. Archaic sites were investigated in Saylorville; Woodland sites, throughout the area; large Oneota village sites, in Red Rock Reservoir; and Great Oasis sites, north and west of Des Moines (Gradwohl 1974). In addition we excavated historic Euroamerican farmsteads, pottery kilns, and a cemetery. ISU personnel also assisted in the excavation of the steamboat Bertrand that sank in the

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Missouri River north of Omaha-Council Bluffs on April 1, 1865 (Figure 16; see Petsche 1974). During the 1980s we explored the Buxton townsite (13M010), which was occupied between 1900 and 1925 (Figure 17). Buxton's population was primarily African American, a group essentially ignored in the archeology of the Great Plains (Gradwohl and Osborn 1984). More recently Hanna and I have been investigating intra-group ethnic variability in the Jewish cemeteries of Des Moines, as well as the relationship of material culture and ethnicity on Latvian-American mortuary markers in Lincoln, Nebraska, and American Indian gravestones in Anadarko, Oklahoma (D. Gradwohl and H. Gradwohl 1988; Gradwohl 1997).

During these years I have had the pleasure of working with some outstanding students who have completed M.A. degrees at ISU. This group includes the late John Reynolds (former State Archeologist for Kansas), who was my first graduate student and the first student to write a Master's thesis in anthropology at ISU. His thesis dealt with the Coalport Pottery Kiln and the early Euroamerican ceramics industry in Iowa (Figure 18). Building on that pioneering effort,

theses by Allen Schroeder (now with the Wisconsin State Historical Society) and Barbara Schulte (now with other stoneware pottery kilns at Moingona, Coal Valley. Nancy Osborn [Johnsen], presently academic advisor at ISU, wrote her thesis on the Clarkson site, a large Oneota village (Osborn 1984). Steven DeVore (now with the NPS, Denver office) produced an even longer thesis, dealing with an even larger Oneota village, the Cribb's Crib site, which was ISU sort of salvaged for free for the NPS via a bureaucratic fluke (DeVore 1990). Archaeological sites at Woodland, and Great Oasis manifestations at Saylorville Reservoir were dealt with in other theses. Robert Timberlake (presently a computer network administrator in Topeka) discussed 14PK149, a multi-component Darr-es-Shalom site. Randall Thompson (now at the Kansas State Historical Society, analyzing the materials from Brassica Bench, 13PK251 (Thompson 1989). And John Broihahn, now with the Wisconsin State Historical Society, wrote a gargantuan tome on the Blosser and Old Moser sites (13BN125 and 12BN130). Coleen Nutty's thesis, entitled "Cemeteries and Symbolism of Prairie Pioneers," was published by the *Journal of the Iowa Archaeological Society* and

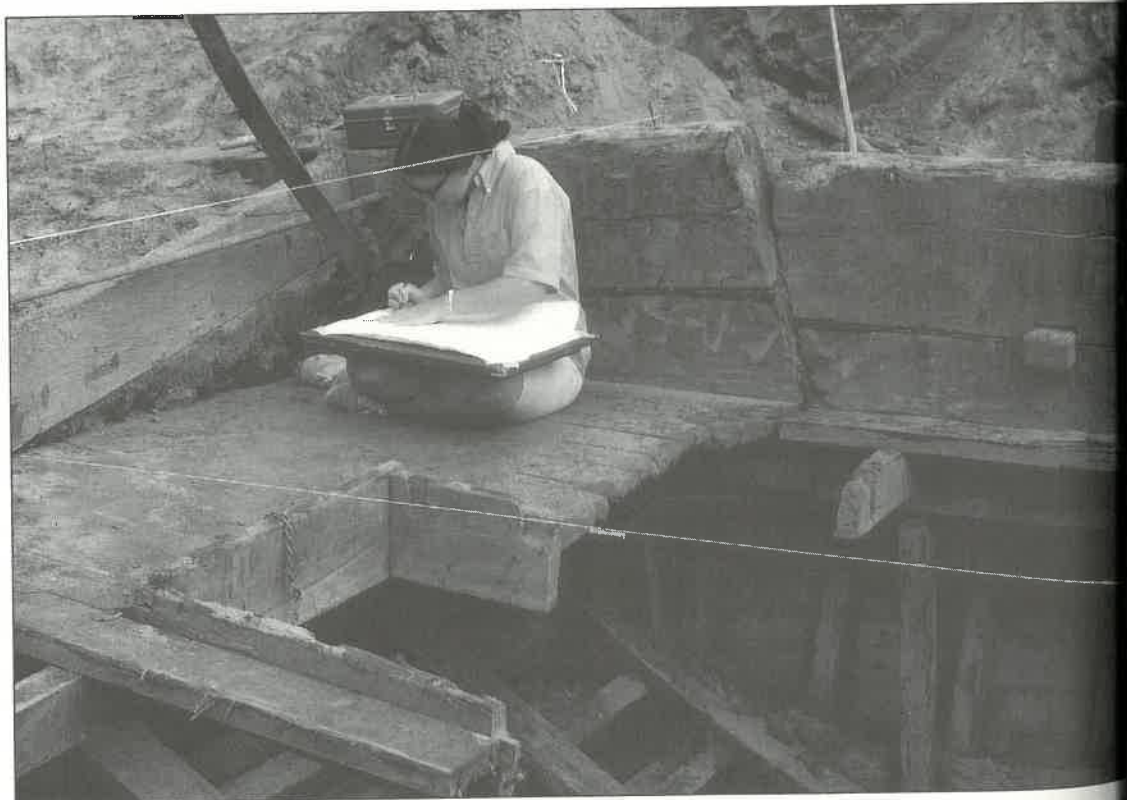


Figure 16. Nancy Osborn, working at the site of the steamboat Bertrand in 1969. (Photograph by David Gradwohl)



Figure 17. 1981 excavations at the Buxton townsite (13MO10), occupied primarily by African Americans between 1900 and 1925. Left to right: Robert Gearhart, J. Charles Lockett, Lori Fisher, Robert Thompson, Olivia Smith, Donna Randall, and Carla Tollefson. (Photograph by David Gradwohl)



Figure 18. John Reynolds at the Coalport Pottery Kiln (13MA103) in 1966. (Photograph by David Gradwohl)

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widely cited by interdisciplinary scholars in cemetery studies (Nutty 1984). Michael Portwood, now a Ph.D. candidate at the University of Minnesota, designed a computerized data base management system as his Master's project. Kathy Gourley has served the State Historical Society of Iowa as a CRM compliance officer and a public historian; she wrote an important thesis on the ethnohistoric locations of Mesquakie and Sauk villages between 1832 and 1845. Most recently, Lance Foster completed a definitive thesis on Ioway Indian sacred bundles (mostly from the Milwaukee Public Museum), using his extensive "emic" perspective in addition to the "etics" in the literature. He is now completing a second Master's degree in landscape architecture with a particular focus on sacred landscapes of the Ioway Indians. Many more undergraduate majors have gone on from ISU to graduate programs and careers in anthropology in the Plains and elsewhere. Their names are too numerous to list here. But I know who they are, and I am proud of them.

A more recent experience Hanna and I have had in Plains anthropology was during September of 1996, when we were incorporated into the Turtle Clan of the Yankton Sioux tribe at the Mahkato Traditional Powwow in Mankato, Minnesota (Figure 19). We

were adopted by Maria Pearson, an Indian activist suggesting that Native Americans and Plains archaeologists can get along with one another throughout the intricacies of the Iowa Burial Code and the Native American Graves Protection and Repatriation Act.

When I now have flashbacks to my youth, I have no idea why I went off to college clueless as to my major and a career objective in anthropology. The hints were all there early on. I was always intrigued with issues of *National Geographic* magazine which my family subscribed. I also read all the books by Madeline Brandeis, published by Grosset and Dunlap, Inc., on children from different cultures around the world. I was an inveterate collector of objects, especially invertebrate fossils, rocks and minerals, bird nests, and an occasional arrowhead. These were displayed, museum-like, in glass-front bookcases, salvaged from my father's law office. I was a frequent visitor to the NSHS Museum, housed in the Nebraska state capitol building. Perhaps the artifact that most explicitly foreshadowed my specialization in Plains anthropology is a well-thumbed book from my childhood, entitled *Indian the Plains*, by Sanford Tousey (1940). I vividly remember reading and re-reading this book and studying the detailed illustrations that were ind



Figure 19. 1996 powwow in Mankato, Minnesota, at which David and Hanna Gradwohl were adopted into the Turtle Clan of the Yankton tribe by Maria Pearson. Left to right: Diane Carlets, Hanna and David Gradwohl, Leonard Wabasha, and Maria Pearson. (Photograph by Nancy Osborn)

heavily influenced by the paintings of Catlin and Bodmer. During the 1940s my family drove north through the Omaha and Winnebago reservations to take vacations in northern Minnesota, where I observed Indian burial mounds and a wild rice harvest ceremony, attended powwows, and interacted with Ojibway Indians who served as fishing guides. These experiences were the bases for class essays and occasional poems (fairly bad) in junior high school and beyond. Although I did not fully recognize the matter as a youth, I was puzzling over the persistence of tradition along with the forces of change. These phenomena, of course, were also very much a part of the particular cultural milieu in which I was raised and the fact that, to some degree at least, I was often an "outsider looking in" along the lines elucidated in Hortense Powdermaker's book *Stranger and Friend* (Powdermaker 1966). All of these indications of my ultimate professional obsessions had been unrecognized disparate parts of my childhood. But they all began to connect that summer at the Oacoma site on what had merely portended to be a seasonal job.

In conclusion, however, I must observe that my career has been marked more by accidents, luck, and serendipity than by design. Throughout all these years, I kept wondering if I had finally channeled my interests enough to satisfy the career counselors. Some 15 years ago, I was shocked by my faculty evaluation in which the department head (a rural sociologist) referred to me as a "localite." Although I could not find the word "localite" in my unabridged dictionary, I thought I knew what my evaluator was getting at. And I took umbrage at the insinuation, because that department head had obtained all three degrees from ISU, located in Story County, where said person was born and grew up. On the contrary I had moved across the Missouri River from my natal state, studied at three different universities, and had lived abroad for three years. I decided that I did not have to apologize for concentrating on Plains anthropology. Indeed I had found my channel, and it is both wide and deep. It extends from Canada to Texas and from the Rocky Mountains to the western reaches of the Mississippi River drainage. The temporal range is at least 12,000 years and includes prehistoric and historic American Indians, African Americans, Hispanic Americans, Asian Americans, and Euroamericans of various ethnicities and national origins. Eventually, I may restrict myself to a single eddy. But until then, I plan to continue moving along various currents, where I will find my many good friends and colleagues, who are also exploring that vast channel of Plains anthropology.

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THE PALEOINDIAN LAIRD BISON BONE BED IN NORTHWESTERN KANSAS

Jack L. Hofman and Jeannette M. Blackmar
University of Kansas

The Kansas Anthropologist 18(2):45-58

Initial test investigations were conducted at the Laird site (14SN2) in northern Sherman County, Kansas, in 1995, following the discovery of a Dalton-like projectile point eroding from a deposit of bison bone. Excavation yielded a number of flakes and remains of at least two and probably more bison, which appear to be in the channel of an ancient arroyo.

INTRODUCTION

The Laird site, 14SN2, located in northeastern Sherman County, Kansas (Figure 1), was discovered in July 1990 by Rod Laird and Dan Busse. At that time bone fragments were eroding out of the site and were exposed on the surface. When Rod Laird was taking a photograph of this exposure, he spotted a projectile point among the bone fragments. The point was recognized as a Paleoindian type of somewhat unusual style for the region.

To reduce attention to the site, which is located near a frequently visited historical marker, the small concentration of surface bone fragments was collected in 1990 and several times subsequently prior to the initial excavation in 1995. The bone scatter was restricted to a small area of about 6 x 3 m in size, with the long axis oriented roughly north to south.

In 1993 Dan Busse showed the site to Jack Hofman and students of the Kansas Archaeological Field School, then working at the Norton site in Scott County (Hofman et al. 1995). In addition to the projectile point, a small flake of Niobrara jasper and a flat cobble of fossilized wood had been found in the immediate area of the bone scatter.

Arrangements were made for initial testing at the site in May 1995 with the support of volunteer workers. Seven days, May 26 through June 1, were spent investigating the site, though work was somewhat hampered by rain. During this time testing was being conducted at the Busse Cache site (14SN1), also located in Sherman County (Hofman 1995).

METHODS

Investigation began by establishing a grid across the site area. The grid was oriented on magnetic north and was composed of 5 x 5-m blocks, subdivided into

25, 1 x 1-m units (Figures 2 and 3). The units within each 5 x 5-m block were numbered from upper right (unit 1, northeast corner) to lower left (unit 25, southwest corner).

Mapped pieces for each unit were designated with the block, unit, and sequential specimen numbers; e.g., 14E5-10 is the tenth item mapped in unit 5 of block 14E. All pieces in each unit were numbered sequentially as excavated. The blocks were designated by letters west to east and by numbers south to north. Grid points were designated in relation to an arbitrary datum set at 1000 North, 1000 East, with an arbitrary elevation of 90 m given to the grid point 1000N, 900E. A permanent datum was set in concrete at 1000N, 910E and has an elevation of 90.88. This datum is approximately 20 m northeast of the primary surface concentration of bone fragments. All measurements for point-plotted items were in relation to these points.

Excavation proceeded by collecting all surface bone from selected units. Bone fragments larger than 2 cm were mapped in place, as were all lithic pieces found in situ. Information on each mapped item was coded on standardized forms, which include provenience information and specifics about the bones, such as element, portion, condition, size, and treatment (e.g., use of preservatives). Excavation levels were 10 cm in thickness and were designated by their top and bottom elevations (e.g., 99.20-99.10).

All matrix was processed for each unit and level by water screening through $\frac{1}{4}$ - and $\frac{1}{16}$ -in wire mesh. The exception was unit 18E21, located north of the bone bed, which was screened using $\frac{1}{4}$ -in dry screen.

EXCAVATIONS

Four 1 x 1-m units were excavated at the Laird site in May 1995 (Figure 3). Three of these were in

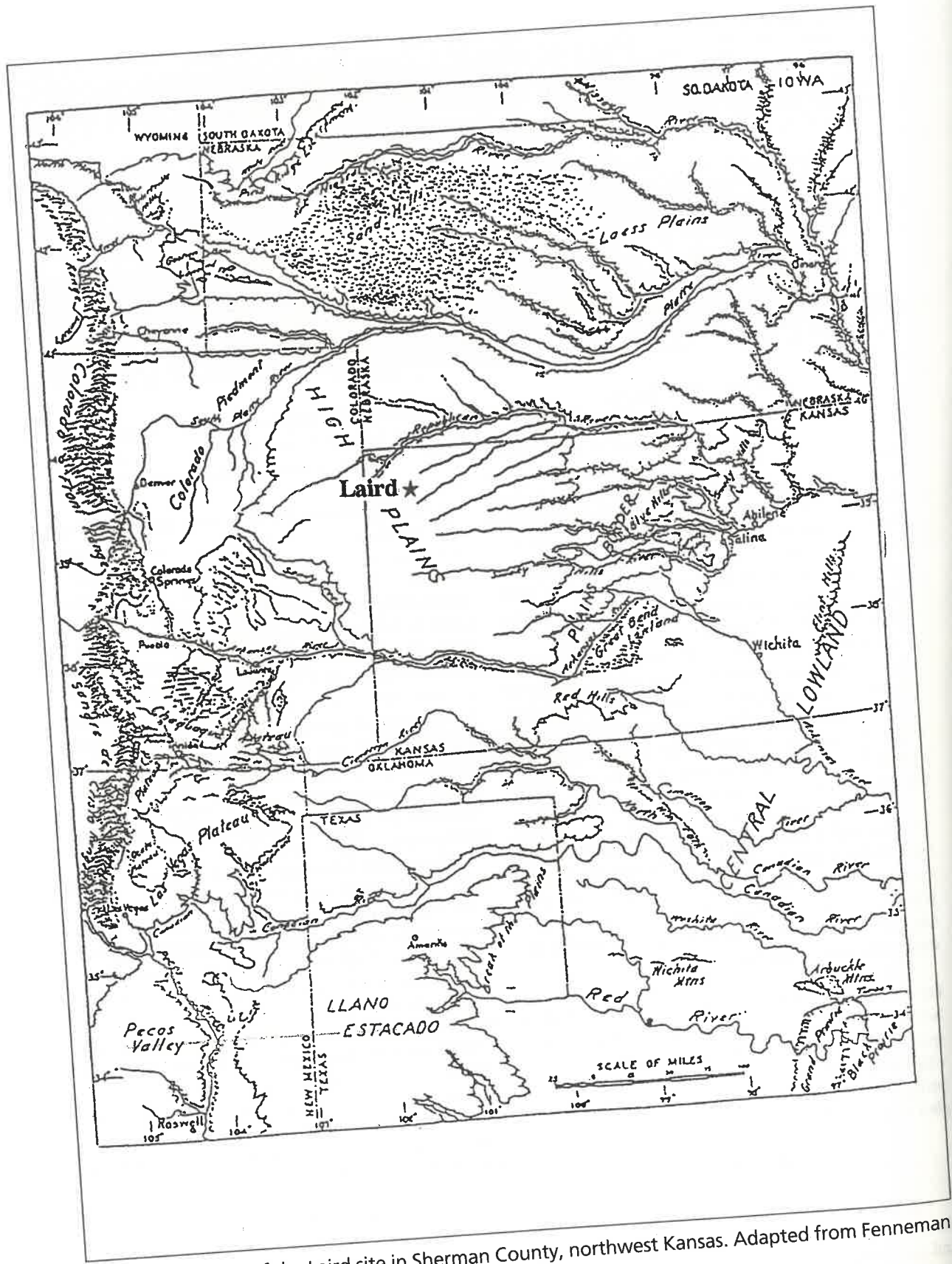


Figure 1. Location of the Laird site in Sherman County, northwest Kansas. Adapted from Fenneman (1931).

5 Meter Grid Block, Unit Numbering Sequence Quad Designations



5	4	3	2	NW NE --- 1 --- SW SE
6	7	8	9	10
15	14	13	12	11
16	17	18	19	20
NW NE --- 25 --- SW SE	24	23	22	21

Figure 2. Block/unit grid system employed at the Laird site.

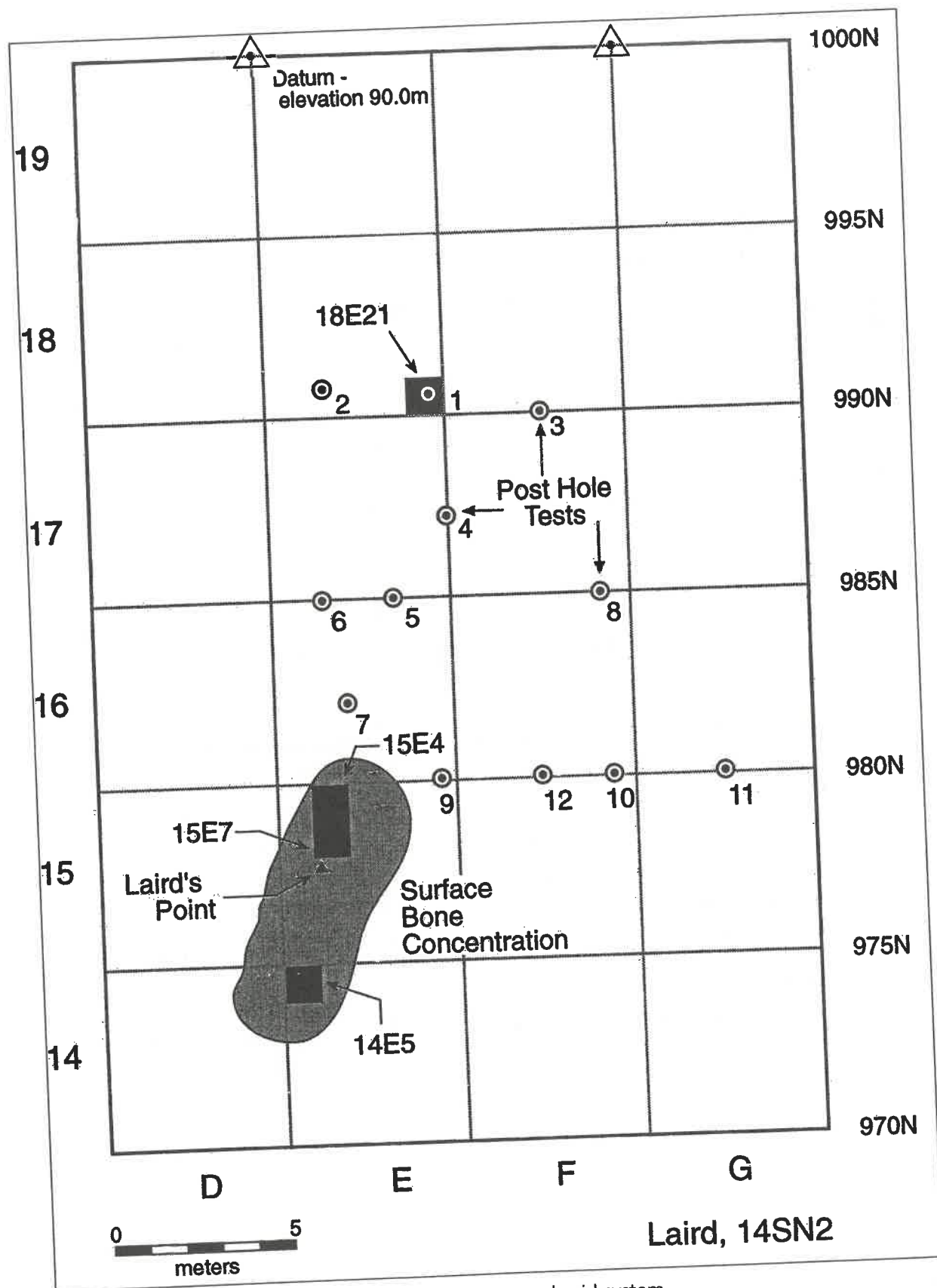


Figure 3. Laird site surface features, unit locations, and grid system.

the area of the primary discovery of surface bone, but the fourth unit was 10 m to the north. Units 15E4 and 15E7 were contiguous squares in the northern portion of the surface bone concentration immediately north of where the projectile point was found. Unit 14E5 was near the south end of the exposed bone. Unit 18E21 was 10 m to the north in an area suspected to represent an in-filled gully.

In addition to these units, 14 posthole augers were excavated in an attempt to determine the limits of the buried bone deposit. The fill from these tests was screened through $\frac{1}{4}$ -in mesh screen.

Because of heavy rain and limited time, it was not possible to remove all of the bone encountered in units 14E5 or 15E4. A large number of bones were left in place in unit 14E5, and these represent portions of two bison, each with articulated axial elements and limb bones. A full inventory of the elements present is not possible until excavation of these units has been completed.

BONE

Based upon initial analysis, the Laird site faunal remains consist exclusively of bison bones. The four excavated units yielded a total of 306 mapped bones, concentrated in units 15E4 and 14E5. Additional bone, mostly fragments less than 5 cm in size, from the surface has not yet been completely analyzed. The bone represents both appendicular and axial skeletal elements; however, pelvi are only represented by bones that were left in situ. Although the majority of the bones are highly fragmented and cannot be identified beyond the species level, 86 mapped bones have been identified to specific element (Table 1). Complete bones are represented by phalanges, tarsals, carpals, and sesmoids. Six teeth are nearly complete, missing only partial roots. Skeletal elements occurring in high frequency include rib fragments ($n = 21$, 24 percent), isolated teeth and fragments ($n = 21$, 24 percent), and phalanges ($n = 11$, 13 percent). Forelimbs and hindlimbs are identified by fragments of three radii, two humeri, four ulnae, two metacarpals, three femora, two tibias, two metatarsals, and additional long bone shaft fragments.

The bones display a moderate amount of weathering, as well as a high degree of root etching, as is expected for such shallow deposits. Bones in the excavated units occurred from the surface to a maximum depth of about 50 cm below the surface. The most deeply buried bone in unit 14E5 is in the best condition with fewer fractures and less intensive root

etching. This bone is confined to a narrow linear area with abrupt margins, which suggests that the animals may have been trapped in a narrow gully. Old gullies are indicated in the area by excavation in unit 18E21 and in posthole auger tests #10 and #11. Deep narrow modern gullies, analogous to the one apparently used to trap the bison, are located immediately to the south and east of the excavation. The configuration of the bone bed at Laird suggests that the kill may have been similar to that reported by Wheat (1972) at the Olsen-Chubbuck site.

Some gnawing by rodents is also evident on several bones. A single long bone shaft fragment (14E5-68) is charred. The mapped bone, as well as the surface-collected bone, reflects a high degree of dry bone breakage. Green bone spiral breaks occur on 14 of the mapped and surface long bone fragments. No cut marks have been identified.

A minimum number of individuals (MNI) of two is indicated by two right M_3 s (lower third molars). Based on tooth eruption and wear patterns, the two mandibular M_3 s provide a seasonal estimate of late winter to early spring for the death of these bison (Figure 4). One M_3 (15E4-14) is highly fragmented with a longitudinal split between the first and second cusp, but it has been refitted. None of the facets show evidence of wear. This is indicative of eruption and wear on animals 2.6 to 2.9 years old (Todd et al. 1996). The second M_3 , found on the surface, is also fragmented, with the ectostylid and the buccal enamel absent. Facets I through IX are lightly worn while IX' is unworn. This tooth represents an animal from the 3.6-3.9 year old cohort.

LITHIC ARTIFACTS

In addition to the projectile point found on the surface with the exposed bone by Rod Laird in 1990, 12 additional pieces of chipped stone have been recovered from the excavation and surface in the area of the bone bed. These 12 small flakes are Niobrara jasper ($n = 6$, 50 percent), basalt ($n = 2$, 16 percent), chalcedony ($n = 1$, 8 percent), and unidentified cherts ($n = 3$, 25 percent). The closest sources of Niobrara jasper are approximately 70 km to the east and northeast of the site. The basalt may be from local gravel sources and the chalcedony from silicified Ogallala bedrock. Metric and technological information is summarized in Table 2. The largest flake, slightly over 4 cm in size and made of Niobrara jasper, exhibits evidence of edge damage along one thin lateral edge and may have been used as a cutting tool. The other flakes are much smaller and probably

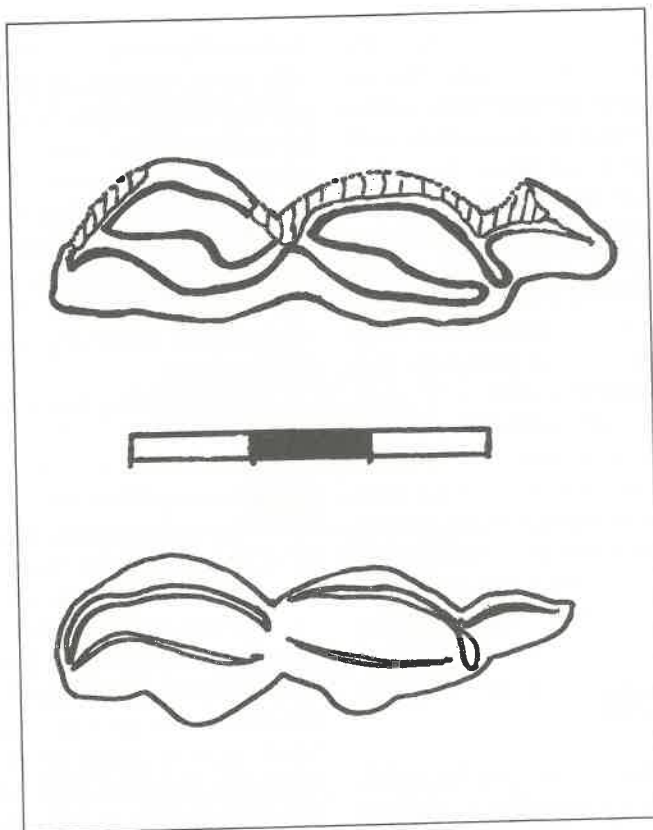
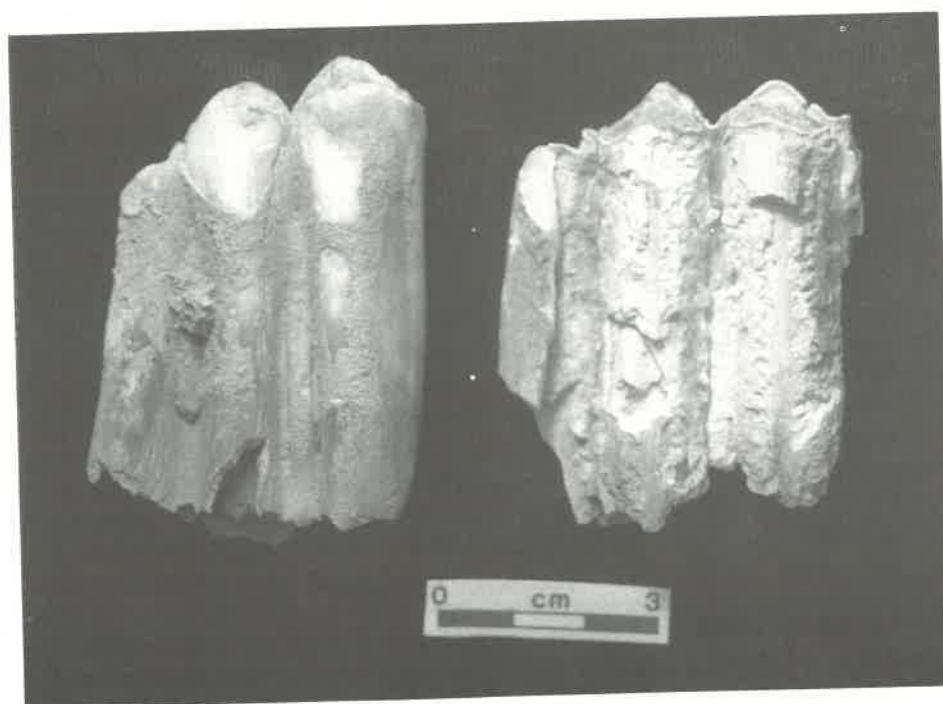


Figure 4. Above and below. Wear patterns on two lower third molars from the Laird site.



reflect tool retouch and resharpening activity. Half of the flakes exhibit some area of cortex on their dorsal surfaces, but these are all small flakes, and no evidence for intensive initial stage reduction is present in this collection from the bone bed area. Only half the flakes still retain their platform or proximal ends. Four of these appear to be flakes from biface reduction or sharpening. No unifacial retouch flakes (flakes from sharpening unifacial tools [Frison 1968]) are included in this series. A cross tabulation of flake types by stone material is provided in Table 3. In addition to these flakes, a single flat cobble of fossil wood was found on the surface among the bone fragments. This cobble is heavily weathered and appears to be of natural origin and not humanly modified.

The projectile point was found among the bone concentration on the surface in unit 15E14 in July 1990. The specimen is a stemmed lanceolate with a reworked blade and one basal corner slightly broken (Figure 5). The lateral stem edges and base are ground, and the base is thinned with the removal of two primary flakes from each face. The blade edges are beveled on the right side of each face. The point was made from a bifacial preform with no evidence of a flake blank. A small area of carbonate still adheres to one side of the specimen. This was the down side

at the time of discovery. The lithic material is a yellow and brown mottled fossil wood, comparable to material from the Black Forest or Hahn, Colorado, vicinity. Similar fossil woods are also known in east-central and southeastern Colorado. There are no known sources of this material to the east of the Laird site. The point measures 4.90, 2.65, and .662 cm in maximum length, width, and thickness, respectively. Basal width is 2.39, depth of the basal concavity is about .5 cm, and the point weighs 7.3 g. Stem length is 1.5 cm, and the thickness of the stem between the thinning flakes is .51 cm. The largest thinning flakes on either side measure 2.0 by 1.1 and 1.2 by .64 cm in length and width, respectively.

Typologically this point is most similar to the Dalton type, common in eastern Kansas, eastern Oklahoma, Missouri, Arkansas, and adjacent areas (Brown and Logan 1987; Chapman 1975; Goodyear 1974; Kay 1982; Morse 1997; Wetherill 1995). Dalton points are not commonly considered to be a Plains type, but Myers and Lambert (1983) have suggested Eastern Woodlands-Plains connections or interaction, as evidenced by blade beveling and other attributes of Meserve and Dalton-like points that occur in the Plains. Wyckoff and Bartlett (1995) report Dalton and Dalton-like projectile points from

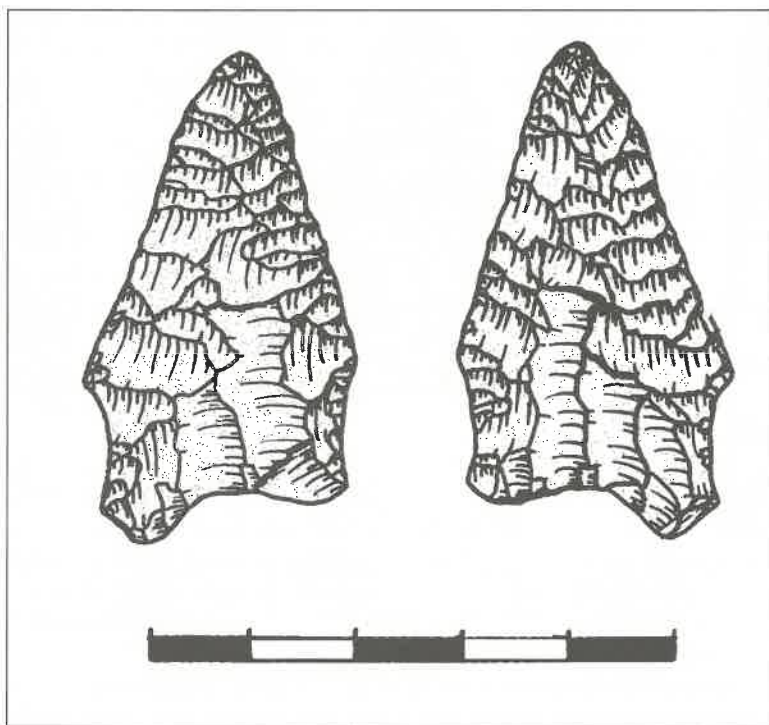


Figure 5. Dalton-like projectile point from the Laird site.

central Oklahoma, and Johnson (1989) reports them from central Texas. Dalton-like and stemmed points with beveled blades occur in the Colorado Rockies and are known from surface collections in western Kansas and eastern Colorado. Examples of Dalton and comparable specimens from Colorado are shown in Figure 6. The Colorado specimens are from the Luckie site area in Cheyenne County, Colorado, and are in the Sigurd Olsen collection. Additional projectile points, comparable to the Laird point, are known from other collections in western Kansas and eastern Colorado. Kornfeld and Frison (1996) report points with comparable morphology from the Middle Park, Colorado, vicinity. These artifacts are noted to demonstrate that the Laird site point is not out of the range of distribution for Dalton or Dalton-like projectile points. The site offers an opportunity to learn more about this technology and cultural complex in the High Plains region and to assess chronological, economic, and cultural relationships that might exist between this material and other

Paleoindian complexes, including the Dalton cultural complex to the east.

SUMMARY

The Laird site is a small bison bone bed, located in northeastern Sherman County, Kansas, and has yielded evidence of at least two bison in association with a Dalton projectile point and several flakes. Limited test excavation in 1995 indicates that intact deposits remain at the site, and further excavation is needed in order to more precisely determine the minimum number of bison represented and to learn more about the site's stratigraphic and formational history. Age is estimated based on the associated projectile point. Radiocarbon dates derived from deposits with Dalton assemblages in Arkansas, Missouri, and Oklahoma indicate a possible age for the Laird site between 9,700 and 10,700 years ago.

The bison skeletal remains include at least two largely articulated animals, which occur in a narrow

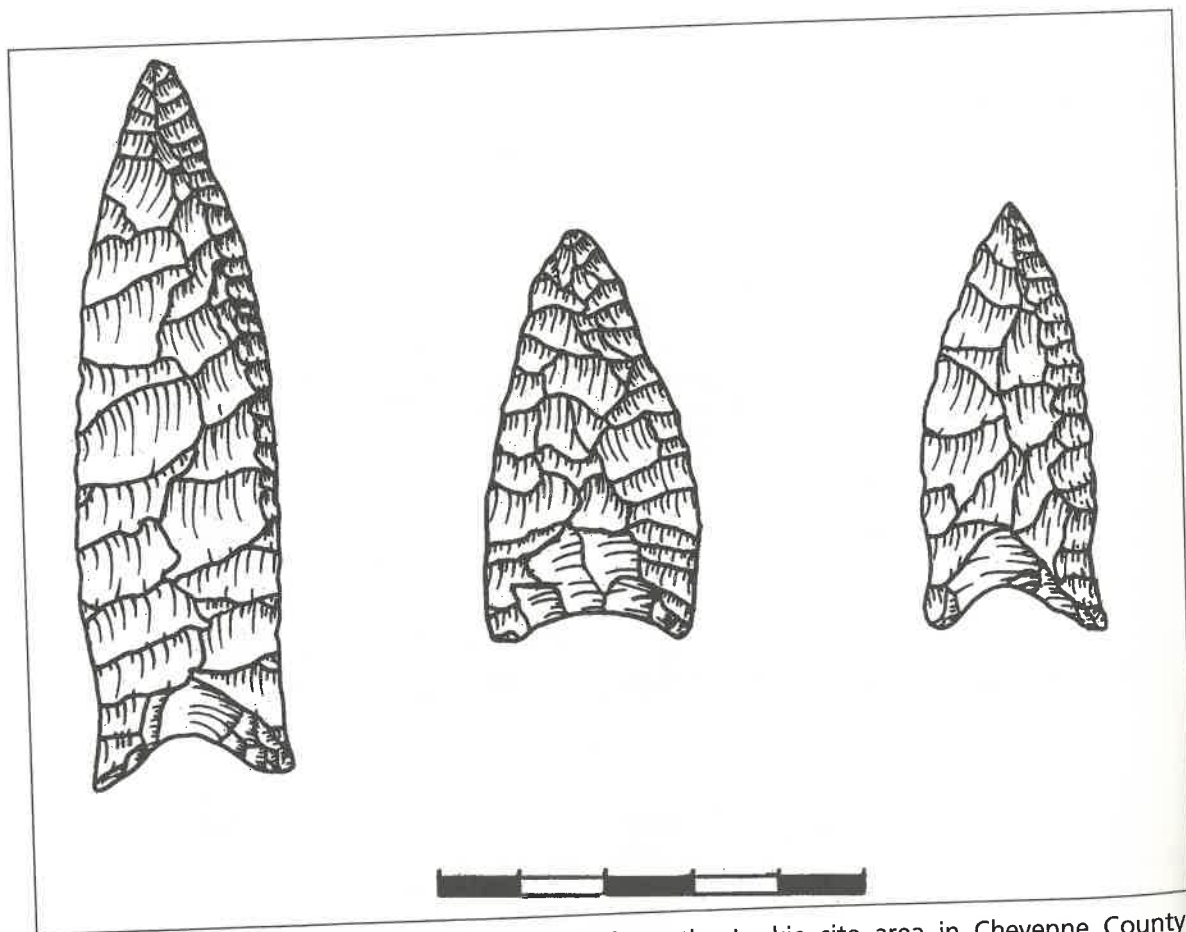


Figure 6. Dalton and comparable specimens from the Luckie site area in Cheyenne County, Colorado.

gully fill in a situation analogous to the kill at the Olsen-Chubbuck site, located in Cheyenne County, Colorado, about 180 km southwest of Laird (Wheat 1972). The season of the Laird kill is estimated, based on the available M_3S , to be winter or about .6 to .9 years from the spring birth pulse. A number of elements and fragments indicate that selected bones were severely fractured while still green and may reflect the extraction of bone marrow. The bones are also severely modified by near-surface weathering, resulting in pervasive root etching and dry bone recut fractures. It is very likely, given the current setting, that the upper portion of the original bone bed has been lost due to erosion and weathering. Exposed bone weathering from the site surface indicates an area of at least 15 m² containing shallowly (up to .5 m) buried bone. Auger testing documented the presence of bison bone fragments buried as much as 1 m deep at a distance of 10 m to the east of and uphill from the 1995 excavation and the surface bone exposure. Continued investigation will be required in order to learn more about the relationship of this buried bone to the materials reported here.

Acknowledgments. Work at the Laird site would not have been possible without the support of Dan Busse, Rod Laird, Lynn Busse, Andrea Busse, the Busse family, and Keith Coons. The volunteer crew included Margaret Beck, Jeannette Blackmar, Bobby Conard, India Hesse, Carolyn Kinsey, Christine LeFever, Janice McLean, David Nichols, Donna Roper, Karen Turnmire, Dixie West, Rod Laird, Dan Busse, and Andrea Busse. Thanks to Sigurd and Norman Olsen for allowing the researchers to record artifacts in their collection. Special thanks to Linda Grestorex for Figure 3. Also thanks to the students in Anthropology 849, Spring 1997, for aid in recording the Olsen collection. Support for the work at the Laird site was provided by the University of Kansas General Research Fund.

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Table 1. Identified Faunal Remains (N = 86) from the Laird Site (14SN2).

UNIT/NUMBER	ELEMENT	PORTION	SIDE
E14-5/122	rib	proximal + $\frac{1}{2}$ shaft	
E14-5/129	rib	proximal fragment	
E14-5/128	rib	proximal fragment	
E14-5/73	rib	shaft fragment	
E14-5/72	rib	shaft fragment	
E14-5/152	rib	fragment	
E14-5/147	rib	fragment	left
E14-5/102	rib	fragment	
E14-5/104	rib	shaft fragment	
E14-5/82	rib	shaft fragment	
E14-5/85	rib	shaft fragment	
E14-5/118	rib	shaft fragment	
E14-5/117	rib	shaft fragment	
E14-5/124	rib	proximal + $\frac{1}{2}$ shaft	left
E14-5/151	rib	proximal fragment	left
E14-5/93	rib	proximal fragment	
E14-5/94	rib	shaft fragment	
E14-5/90	2nd phalanx	distal fragment	
E14-5/143	2nd phalanx	complete	
E14-5/141	2nd phalanx	complete	
E14-5/49	2nd phalanx	complete	
E14-5/126	2nd phalanx	complete	
E14-5/144	2nd phalanx	complete	
E14-5/113	2nd phalanx	fragment	
E14-5/100	1st phalanx	complete	
E14-5/91	1st phalanx	complete	
E14-5/74	carpal 2 and 3	complete	left
E14-5/75	carpal 2 and 3	fragment	left
E14-5/45	radius	fragment	right
E14-5/77	radius	fragment	right
E14-5/130	radius	fragment	right
E14-5/107	humerus	shaft fragment	right
E14-5/88	calcaneus	proximal fragment	right
E14-5/108	metatarsal	fragment	
E14-5/95	metacarpal	distal fragment	left
E14-5/96	metacarpal	distal fragment	left
E14-5/78	petrous	fragment	
E14-5/119	petrous	fragment	
E14-5/146	frontal	fragment	
E14-5/103	tibia	distal epiphysis	right
E14-5/86	ulna	shaft fragment	
E14-5/131	femur	fragment	right
E14-5/140	femur	proximal $\frac{1}{3}$	
E14-5/135	hyoid	fragment	
E14-5/148	thoracic vertebra	spine	
E14-5/84	maxillary M	fragment	right
E15-4/54	tibia	shaft fragment	right
E15-4/42	sesmoid	shaft fragment	
E15-4/75	thoracic vertebra	centrum	
E15-4/80	thoracic vertebra	centrum	
E15-4/81	ulna	proximal fragment	

E15-4/31	rib	shaft fragment	
E15-4/35	rib	fragment	
E15-4/22	rib	fragment	
E15-4/33	3rd phalanx	complete	right
E15-4/53	2nd phalanx	complete	
E15-4/49	ulna	proximal fragment	
E15-4/36	ulna	proximal fragment	left
E15-4/34	mandibular PM	fragment	
E15-4/14	mandibular M3	fragment (refit portions)	right
E15-4/37	mandibular PM3	complete	right
E15-4/45	maxillary M3	complete	right
E15-4/21	maxillary PM3	complete	right
E15-4/40	maxillary M1 or M2	fragment	
E15-4/44	maxillary M1	fragment	
E15-4/41	maxillary M1 or M2	fragments	right
E15-4/38	maxillary M1 or M2	complete	left
E15-4/20	maxillary PM2	complete	right
E15-7/28	mandibular M1	complete	left
E15-7/17	mandibular M1 or M2	fragment	
E15-7/22	mandibular M1 or M2	complete	left
E15-7/40	maxillary PM2	fragment	left
E15-7/8	maxillary M1 or M2	fragment	left
E15-7/1	maxillary PM	fragment	
E15-7/12	I2 (represents 2 incisors)	complete	
E15-7/20	rib	shaft fragment	
E15-7/9	metatarsal	distal fragment	left
E15-7/24	metapodial	distal fragment	
E15-7/11	humerus	shaft fragment	
E15-7/19	tarsal 2 and 3	complete	left
E15-7/31	femur	medial complete	left
E15-7/34	3rd phalanx	complete	
E14-6/1 (surface)	petrous	fragment	
E15-25/1 (surface)	mandibular PM	fragment	
surface	mandibular M3	fragment	right

Key to abbreviations:

I = incisor

M = molar

PM = premolar

Table 2. Summary Description of Laird Site Flakes. Measurements are in mm; measurements in parentheses are on broken dimensions.

Specimen Number	Material	Flake Type	PRB	Length	Width	Thickness
18E21-1	NJ	TR	Y	10.5	5.7	1.3
15E4-43	BA	SD	Y	10.9	12.4	1.9
14E5-x	UC	BT	Y	12.8	8.2	1.2
18E21-2	BA	PR	N	(5.9)	4.2	1.4
Surf-91	NJ	BT	N	(8.16)	11.7	2.1
Surf-95	NJ	TR	N	(10.8)	10.0	2.6
Surf-95	UC	BT	Y	12.2	14.5	2.5
Surf-95	UC	SD	N	(10.8)	7.5	2.6
Surf-95	CL	SD	Y	27.9	20.9	11.4
14E18-1	NJ	SD	Y	40.6	21.5	12.8
Surf-97	NJ	SD	N	42.4	26.7	6.0
15E4-x	NJ	TR	N	(10.4)	7.1	2.2

Key to abbreviations:

Material:

BA = basalt

CL = chalcedony

NJ = Niobrara jasper

UC = unidentified chert

Flake Type:

BT = biface thinning flake

PR = primary decortication flake

SD = secondary decortication flake

TR = tertiary flake

PRB = platform remnant bearing flake

Y = platform present

N = platform absent

Table 3. Cross Tabulation of Laird Site Flakes by Material Type.

Flake Type	Lithic Material				Totals
	Niobrara Jasper	Basalt	Chalcedony	Other	
Primary	0	1	0	0	1
Secondary	2	1	1	1	5
Tertiary	3	0	0	0	3
Biface Thinning	1	0	0	2	3
Totals	6	2	1	3	12

Table 4. Metric Summary of Selected Dalton-Like Projectile Point/Knives from Western Kansas and Eastern Colorado. Measurements are in mm; measurements in parentheses are on broken dimensions.

Site/ Collection	State, County	Portion	Material	Length	Width	Basal Width	Thickness
Laird	KS, SN	CO	FW	4.91	2.65	2.39	.66
Busse	KS, CN	BA	FB	(3.18)	2.76	2.45	.59
Olsen	CO, CH	CO	JA	5.00	2.25	2.18	.73
Olsen	CO, CH	CO	FT	8.35	2.43	2.46	.62
Olsen	CO, CH	CO	UC	4.69	2.49	2.33	.67
Olsen	CO, CH	BBL	FT	(4.30)	2.65	2.36	.76
Olsen	CO, CH	BBL	DQ	(4.79)	2.34	2.34	.57
Olsen	CO, CH	BA	QZ	(2.61)	2.32	—	.65
Olsen	CO, CH	BA	UC	(2.77)	2.20	2.47	.53
Olsen	CO, CH	BA	UC	(3.26)	2.75	2.58	.52

Key to abbreviations:

State, County:

CO = Colorado, CH = Cheyenne

KS = Kansas, CN = Cheyenne, SN = Sherman

Portion:

BA = base

BBL = base and blade

CO = complete

Material:

DQ = Dakota Quartzite

FT = Flattop

FB = Florence B

FW = fossilized wood

JA = jasper

QZ = quartzite

UC = unidentified chert

JAMES H. HOWARD, ETHNOGRAPHER (1925–1982) OBSERVATIONS AND RECOLLECTIONS OF A FRIEND

Alan R. Woolworth
Minnesota Historical Society

The Kansas Anthropologist 18(2):59-70

James H. Howard's fascination with traditional American Indian life started at a young age and continued throughout his career as an archeologist, museum preparator, consultant on American Indian claims cases, museum director, and university professor. Alan R. Woolworth wrote this tribute to his friend and colleague in August 1991.

James H. Howard and I first met as undergraduates at the Department of Anthropology, University of Nebraska in the fall of 1948. Our backgrounds were very similar, as we both were descended from pioneering Protestant families and had grown up in small, dusty South Dakota towns in the 1930s. We inherited WASP values and viewpoints, since our families were much involved in the Masonic Lodge, the Order of the Eastern Star, the American Legion and its Auxiliary, and other small-town activities.

Both of us had suffered from an overdose of small town social controls and rebelled against them. We marched to our own music! We had also been active in scouting, shared a strong interest in American Indians, and had friends among them. Other common bonds stemmed from our military service in western Europe in World War II. Jim Howard was a dear personal friend and professional colleague. Large, with craggy features, he had an infectious laugh and a winning smile. It was always pleasant to meet him at professional conferences or elsewhere. Frequently he would have a small gift, usually of Indian origin. I still cherish these mementoes.

We chummed around together in Lincoln, Nebraska, in the fall of 1948 and spring of 1949. Soon we went to local peyote meetings and dances, where Jim was well accepted. There we met and became friends with Omaha and Ponca Indians, who made their daily livings in the white world but otherwise pursued their traditional lifestyles. It was a moving experience to listen to a peyote leader explain the beliefs of his religion and its ceremonies in a traditional Indian oratorical manner. Both of us realized that these activities would dwindle when Jim's German war bride, Elfriede Heinze, arrived, and he became a married man. At Christmas vacation of 1949, Jim, Elfriede, and I went to his family home at Redfield, South Dakota, where I met his parents, saw anew our common

cultural ties, and examined his collection of books and Indian items.

For many years his family lived in his maternal grandmother's rambling house, which had a large screened porch. He had two close friends as playmates; they remained lifelong friends. Jim and his pals explored a nearby creek, shared an Indian tipi in his back yard, attended Scout camp together, and had a wonderful time growing up in a small prairie town. Jim enjoyed reading and found a copy of a Dakota Indian dictionary at the Redfield library. He was fascinated by it and gradually began to learn the Dakota language. About 1943 he earned the Eagle Scout rank and enjoyed attending Dakota Indian powwows, which was an unusual thing for a white youth to do in that time and place. Becoming more involved, he participated by dancing in an Indian costume. Eventually these interests led him into the academic world.

On his eighteenth birthday in September 1943, he enlisted in the U.S. Army and went overseas to Italy, where he saw combat. With the end of the war, he was able to move about to find tutors in modern European languages and to play the piano. While in Rothenberg near Wurtzberg, Germany, he met his future wife, Elfriede, a registered nurse whose family had fled Dresden.

The summer of 1949 found us on a University of Nebraska archeological "dig" in southwestern Nebraska, where we lived in surplus army tents. We worked hard, learned much of regional prehistoric Indian cultures, and enjoyed ourselves. Elfriede adjusted well to life in the field, although it was hot with few creature comforts. She was somewhat appalled by local fauna, such as bull snakes, badgers, and snapping turtles, but she skinned bullheads and was a delightful member of the group.

Jim graduated *cum laude* from the University of Nebraska in the winter quarter of 1949–1950 and at once began work on his M.A. thesis. His subject was

the ethnology of the northern Ponca tribe. I well remember how hard he worked in the spring and early summer of 1950 with the goal of earning the M.A. degree in one year. The department chairman opposed this, as he wished students to spend more time on graduate degrees. Jim's GI bill educational benefits had to be supplemented by Elfriede's earnings. He deeply appreciated her efforts but wished to support her from his own income.

Always energetic, he joined an archeological "dig" in South Dakota during the summer of 1950. By fall of 1950, I had entered graduate school at the University of Minnesota. We wrote and met at the annual Plains Conference. By January 1951 he and Elfriede had moved to Bismarck, North Dakota, where he was employed by the State Historical Society.

Jim excavated at the fabled Like-A-Fishhook Village site on the Missouri River in north-central North Dakota during the summer of 1951. The last earthlodge village of the Mandan, Hidatsa, and Arikara tribes, it had been occupied from 1845 to 1890. In 1952 I worked with Jim at this legendary historic site. We had a great time living in the army surplus tents, dealing with an alcoholic Alsatian cook and, as he preferred, with an Indian field crew. Elfriede was employed at a city hospital and studied American medical practices and English. By spring 1953 Jim had found a temporary position with the Science Museum at St. Paul, Minnesota, where he identified and dated Plains Indian costumes. I moved to Bismarck and worked as an archeologist for the State Historical Society for a few years (Figure 1).

By mid-September 1953 Jim was in graduate school at the University of Michigan, pursuing a Ph.D. degree. December of 1955 found the Howards at Kansas City, Missouri, where he taught in the Kansas City Museum and prepared a dissertation. He was awarded the Ph.D. degree in 1957 with specialties in archeology and ethnology. His dissertation dealt with the Ponca tribe and was published in 1965 as Bureau of American Ethnology Bulletin No. 195.

Next the Howards moved to Grand Forks, North Dakota, where Jim taught at the University of North Dakota from fall 1957 to spring 1963 (Figure 2). In September 1963 the Howards moved to the University of South Dakota at Vermillion, where he became director of the W. H. Over Museum and the Institute for Indian Studies. He remained there until summer 1968 and then made a final move to Oklahoma State University at Stillwater. In academic positions from 1957 to 1982, he taught courses in anthropology, ethnology, and allied subjects.



Figure 1. James H. Howard, Elfriede Howard, and Alan R. Woolworth at Bismarck, North Dakota, ca. 1955.

Invariably he took his students to professional conferences to enable them to share in that experience. During summers he worked as an archeologist, acted as a consultant on Indian claims, or undertook ethnological research. Whenever possible he participated in Indian powwows. He had a life-long interest in the Plains Indians, with special attention given to their history, costume, dance, and music.

By the mid-1950s he was the proud possessor of a peyote fireplace, which entitled him to hold peyote meetings. I joked with him about his "clerical" status and called him the "Reverend Mr. Howard." Summers were busy with attending Indian events and making ethnological records. Gradually he acquired an impressive personal ethnological collection of materials from Plains Indian and Oklahoma tribes. In spare moments in the field or at home, he often sewed or repaired costume items in his collection. At other times he would track down an object from owner to owner until he found its original maker. It was my privilege to be involved in the evaluation of his collection, which now reposes in the Milwaukee Public Museum.

Jim wanted his Indian friends to be proud and more aware of their cultural heritage. Purposely he

dressed in authentic old-time costumes and went to powwows, where he danced and sang. It gave him great satisfaction when Indians wore their cherished heirloom items. He made a horsehair roach headdress and gradually became more expert in making and repairing old costume materials. An appreciation for fine old Indian objects inspired him to write descriptions of them and to publish these articles in popular hobby magazines. He took care to include instructions on "how to make it." Thus he made information available to anyone with an interest in Indian crafts. Hobbyists prepared their own costumes and participated in powwows, where they met friendly Indians. Everyone benefited.

These articles and professional publications led to contacts with hobbyists and museum professionals in Europe. Museum staff members and editors from Austria, France, Great Britain, and the Netherlands visited with Jim and Elfriede at Stillwater, Oklahoma. In 1976 they enjoyed an eight-month-long sabbatical tour of museums in Europe, where they met colleagues and examined collections of American Indian materials. A highlight of this trip was his participation as a section chairman in the XLII Congress des Americanistes at Paris. Jim spoke German well, and French, Spanish, and Italian. This made European contacts far more rewarding.

Jim was also active as a consultant and expert witness on Indian land claims from the mid-1950s

into the 1970s. I worked in this field, too, and we met each other in distant places. In 1967 for example, we were on opposing sides in the Yankton Dakota land claim case before the Indian Claims Commission and enjoyed ourselves immensely. Jim also undertook research on the Plains Ojibway, Yankton Dakota, and Ponca land claims.

A continuing activity from 1950 until his death was the preparation and publication of professional papers and monographs, which number more than 100 items. Collectively these book reviews, narratives, essays, and books constitute a lasting memorial to his professional interests and are a substantial contribution to our knowledge of the Plains Indians. It was his custom to keep this listing current year after year and to send it to his friends. Several of his books have been published since his death through the dedicated efforts of his wife. A list of his writings is appended to this memorial; his major monographs and books are marked with asterisks. Some of them have been reprinted by the J & L Reprint Co., Lincoln, Nebraska.

Jim was outgoing and generous. Over the years he prepared joint publications with colleagues at the University of South Dakota, the State Historical Society of North Dakota, the Ponca Indian Reservation in Nebraska, the University of Oklahoma (Stillwater), the Seminole Reservation in Oklahoma, and various other academic institutions.

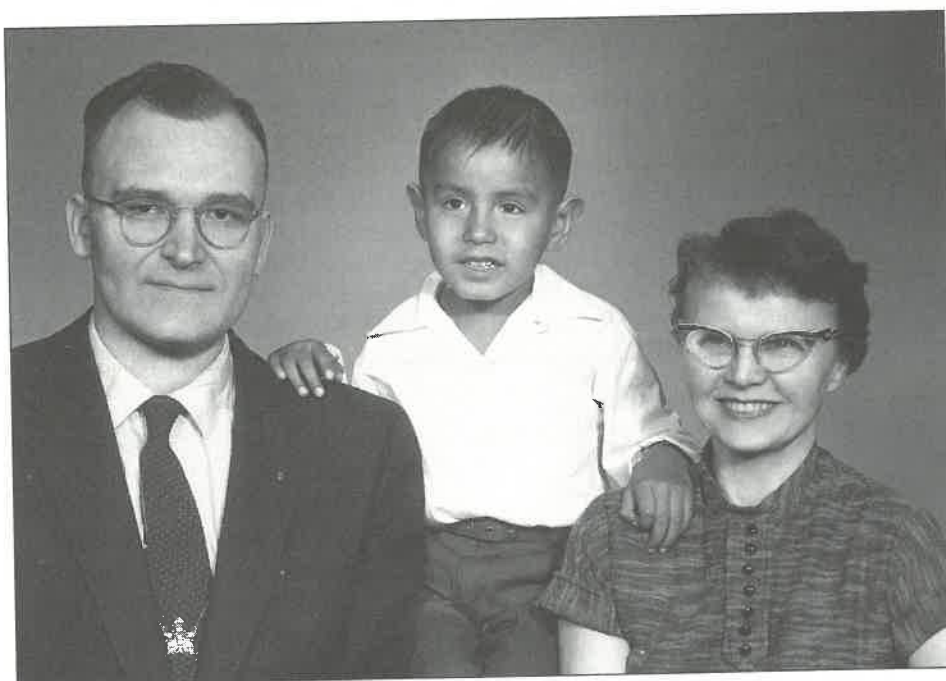


Figure 2. James H. Howard, Lance Howard, Elfriede Howard, ca. 1960.

Several writers have commented on Jim's interest in the preservation of fragments of traditional American Indian culture. Some people considered him "old fashioned" for his concern with recording this traditional information. Basically he remained a generalist and refused to move into narrow specializations. This was a central motivating force in his career. I well remember his solitary, persistent study of Plains Indian ethnology at the University of Nebraska after Fred Voget, the department ethnologist, left. Jim was also patient with the more numerous archeologists who made gibes concerning "aged and unreliable Indian informants." As I recall, he was familiar with ethnological theory but not much interested in it. He was also unusual in that he participated in Indian dances and ceremonies with a deep understanding and appreciation of their significance.

Another of his traits was the formation of long-lasting friendships with Indian informants. Jim visited them repeatedly to check on factual matters, to socialize, and to keep in touch with ongoing Indian life, overshadowed by an indifferent white world. He also made it a point to visit informants at their homes on reservations and would reimburse them for their time spent in providing him the information or in locating other informants. Here I am thinking of Peter LeClaire, Northern Ponca historian; Josh Saul, a lower Yanktonai artist and traditionalist; and many Turtle Mountain or Plains Ojibway friends. Another such associate was Willie Lena, an Oklahoma Seminole.

It was almost inevitable that he would become involved with the many active Indian communities in Oklahoma and gradually shift some of his attention from Plains tribes to those of the southeastern United States. Most of us are also familiar with his work on the "Pan Indian movement" in the Oklahoma area. He was a member of Phi Beta Kappa and Sigma Xi, and was also a Fellow of the American Anthropological Association and the American

Association for the Advancement of Science. His memberships included the American Society for Ethnohistory, the Society for American Archaeology, and other professional organizations.

Now it is time to make a few brief comments about his faithful wife, Elfriede (Heinze) Howard. They were married in 1948 while Jim was an undergraduate at the University of Nebraska. His GI bill benefits were limited. Elfriede worked full time for eight years to make it possible for him to advance more rapidly in the academic world. This was difficult for her, as wartime food shortages in Europe had affected her health. Also she went with him in the field, to Indian reservations and on archeological digs. In addition she made attractive homes in many unusual locations over the next 34 years. Her social skills smoothed over the rough edges of a largely male professional world, and she did much to aid her husband with his professional life. Since his untimely passing, she has labored diligently to have his remaining book-length manuscripts published. Further, she has found secure repositories for his American Indian costume collection, professional papers, and large library.

Jim Howard's personality, with the interests and adventures we shared, remains vivid for me, as it did during our 30 years of correspondence and less frequent meetings after 1953. I am grateful for this opportunity to share my recollections of a valued friend and respected colleague.

Acknowledgments. These reminiscences were greatly strengthened by a bibliography of Jim's publications that he had updated to 1981. Elfriede Howard freely gave her personal observations on his interests and goals. Jim's correspondence with William E. Lemons and Louis Garcia and the many brief obituaries published by his other friends have all been valuable. The fullest published sketch of his life and career by William H. Hodge appeared in *American Anthropologist* in 1986.

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IN RESPONSE TO HANKS' "THE STATUS OF SIKSIKA BLACKFOOT WOMEN" COMMENTS FROM BLACKFEET COMMUNITY COLLEGE STUDENTS

Alice B. Kehoe and Darrell R. Kipp, Editors

The Kansas Anthropologist 18(2):71-72

Darrell Kipp, director of the Piegan Institute on the Blackfeet Reservation in Browning, Montana, distributed to his Literature 290 students at Blackfeet Community College an essay written by Lucien Hanks in 1942 and published in The Kansas Anthropologist 18(1):45-58. The students were instructed to analyze the essay and respond in an essay of their own. All but one of the students are Montana Piegan (Pikuni), allied with the Siksika and sharing language and culture with that community; Susan Archambault is Assiniboine. Here are the students' reactions to the half-century-old paper.

Keith Tatsey: In the article ... the Hanks seem to bring out all of the negative issues concerning the Siksika women I believe some of this may be partially true, but the Hanks seem to go to extremes or in other words, they like to exaggerate.

Cheryl Comes At Night: [Hanks states that] The Siksika women were [considered] unable to understand things, they had slow motor habits, they also could not remember any songs. Siksika women were barely able to clean house and raise children. Little did these men know that Siksika women could indeed, do any of the above far beyond any man's expectations My reactions to the article were stunned at first, outraged next.

Toni Running Fisher: The essay ... is not accurate or creditable The writer emphasizes what he feels is significant and important. His choice of words in describing the status of Siksika Blackfoot women are negative and offensive

The writer indeed lacked knowledge and it was he who was unable to understand things In the Indian culture, many times a song had a right time, place, and purpose. It is not to say that women had poor memories [if they would not sing] because of the improper circumstance In the third paragraph the writer stated, "From tests of bravery and skill, they were always excluded." The word "they" referred to Siksika Blackfoot girls. By whose definition of bravery and skill was the statement based upon? Indian people were all brave in their own way and it took a great deal of skill to survive as they had Indian words, actions, and reasoning usually had different or more meaning than the Western culture realized An entire English sentence could be translated into one Indian word. As time passed and Indian people learned to speak English, the interpretation

remained slightly different. Communication based upon interpretation leads to misunderstanding, contributing to the writer's sustained ignorance.

Christine Running Fisher: I would have said, "The Blackfoot mother is very patient with her child. She spends the majority of her time with it. She could become somewhat impatient." ... The paragraph [about adultery] could have been explained more in depth. Now I see why people call us savages. People like this write trash about us like this article. He should have explained that not all women were unfaithful but if they were, then they were subject to punishment. Not all men had many wives and if they did, he should have explained how and why they did.

Alane L. CalfLooking: I was outraged [but] I am not surprised Caucasians have to justify the reasoning of mistreatment of our people over the generations. If we could maintain our savage stereotype, then they could say, "We came to civilize them."

I heard stories from our elders at Blackfeet Community College, on the role our women had in the past, and still have today. I think it would hurt a lot of our female elders to read such garbage. I don't wonder anymore as to why the Blackfeet are hesitant at letting non-Indians write books about our people I would like to do a paper on something more positive in our culture. We were not always oppressed people.

Susan Archambault: Professor Kipp stresses the importance of "citing your source." Nowhere in this article do I read anything about this author citing his sources One of his statements said, "It was stated that in some ceremonies" It was stated from whom, when, where, and how? Another comment is as asinine as this guy is, "It was better the way it used to be. A wife did what her husband wanted. They got

along better that way."... The disrespect that has happened to our Indian people is indescribable. It is painful.

NOTE FROM KEHOE AND KIPP

Hanks, a neophyte anthropologist when he and Jane Richardson Hanks worked on the North Blackfoot Reserve, seems in this paper to have uncritically accepted a variety of statements from Blackfoot. As Ms. Archambault points out, the paper fails to document Hanks' sources. Its tone reflects the earlier "scientific" style of anthropology in which the observer distanced himself from the indigenous community, and his "informants" were lumped and sometimes not even named. A generation before the Hanks, Clark Wissler had documented Piegan culture in acknowledged collaboration with David C. Duvall, a Reservation native, following the research model of Franz Boas. Wissler and Duvall, and the Hanks' colleague Oscar Lewis, more carefully distinguish informants and between statements and observations; Wissler also published, in 1938, a memoir of his ethnographic experiences in counterpoint to his earlier impersonal monographs. (See also papers by Kehoe on Blackfoot ethnography.)

After service in World War II, the Hanks focused their research on Thailand.

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RESPONSE TO THE BLACKFEET COMMUNITY COLLEGE STUDENTS

Jane Richardson Hanks
North Bennington, Vermont

The Kansas Anthropologist 18(2):73-74

I have read the student essays in full, not excerpts, so as to know if the writers were aware of the context of the fieldwork done in 1938-1941, and to consider the possibility that they were responding to the ethnic identity of the author(s).

I am distressed that data given from the lips of distinguished Siksika elders, when they were speaking of changes in Blackfoot lifeways, be termed "garbage" or "trash." Some of these elders were Duck Chief, White-Headed Chief, Old Bull, Little Light, Pretty-Young-Man, and Aisomyaki, the wife of White-Headed Chief and mother of Simon Big Snake. None of these elders spoke English. Consequently, a Blackfoot bilingual translator (male for Lucien, female for Jane) was always with us during interviews. There were also younger informants who did speak English. Thus all data, heard and written down, passed through Blackfoot ears, minds, and hands. There is no exaggeration, fabrication, or secondary interpretation. I realize I should have used more quotation marks in *The Kansas Anthropologist* article, e.g., "slow to react," "unable to understand things," etc. These phrases came from Blackfoot individuals and are not the opinion of the anthropologists. Space did not permit that the speaker's name be given beside every word quoted.

We came to the Blackfoot to learn about their way of life, both in the past and in the present, which means 1938-1941. The tales of the past augmented our respect for them, and the unfolding of their present circumstance convinced us of Blackfoot strength and resourcefulness in the face of severe culture change and dire economic problems. It is possible that some male informants exaggerated to us their own masculine importance vis-à-vis females, including sexual encounters, because at the time of our fieldwork, men had not entirely recovered from the loss of their primary warrior and buffalo-hunter status. They were still seeking a way into a new economy, which in the 1930s was in a shambles all over the country, and even more so on the reserve. Women, in their nurturing and domestic area, had not suffered such a trauma. With their ceremonial roles also intact,

they felt strong and secure. The young Piegan and Assiniboine readers sometime ignore, sometimes downplay, women's supreme role as vower of the Sundance and also as a required presence in the rituals of the Tobacco Dance, Warrior Societies, and the Medicine Pipe. In these ritual contexts their importance was universally recognized by men.

On our first visit in 1938, we arrived at the start of the Sundance. White-Headed Chief invited us to pitch our tents beside his big tipi. With him we presented tongues to the vower, who gave us the holy Pipe to smoke, then painted our faces in reciprocity (the Sun, the Moon, the Stars). Afterward we camped on the prairies and made trips to Indian homes in our car. Where words did not jibe with observations, we did not hesitate to point out the discrepancy. For instance, in the first paragraph of the *The Kansas Anthropologist* paper, is a corrective we gave to the negative statements from Siksika informants, regarding the position of women: "[In the] women's society ... men said they had to lead all the songs so the women could go through their ritual. In practice this was not always the case for we knew aged, able women who knew the songs and had been through them for many decades."

One reader queried why some men had more than one wife. In this warrior society, widowhood with young children was frequent. Polygyny was one way for this responsible community to give economic and social support to the deprived. All of the data presented come, not from books or other sources, but from our own notebooks as taken down during interviews. Lucien Hanks' original notebooks are in Ottawa, Canada, in the National Museum, which made the first request. Jane Hanks' original notebooks are in the Glenbow Museum in Calgary, Canada, together with photographs, movies, and letters. I chose Calgary so that Siksika individuals, also Piegan and Blood, could have easy access to this historical and anthropological material. Calgary and Ottawa have exchanged copies of each other's notebook holdings; thus every interview can be checked, word for word and without restrictions, for verification, informant, translator, date, and place.

I do not think that it is fair nor correct to lump the attitudes of some colonialists in the last century with the work of an anthropologist, seeking to set down the specifics of Blackfoot culture over time, as given by responsible members of the tribe so that their descendants might know their history and mores, with their pluses and even with their minuses. Our long report on our findings is in *Tribe Under Trust*, published in 1940 by the University of Toronto Press. Because the data in the 1942 article were not included there, but are still first-hand information, it was deemed worthy of publication even at this late date.

The article was found in Lucien Hanks' papers as they were being prepared for the Glenbow Museum in 1997.

Once again I take this opportunity to send my thanks to the Siksika Nation for their encouragement, loyal assistance, and lasting friendship. I send my greetings to my kinsmen, descendants of White-Headed Chief and Little Light, who adopted us and gave us our Blackfoot names. I am glad to be a member of the Siksika Museum in Siksika, Alberta. Lucien would join me were he alive.

BOOK REVIEWS

The Howling Wolf and the History of Ledger Art. JOYCE M. SZABO. 1994. University of New Mexico Press, Albuquerque. xv + 270 pp., 32 color plates, appendices, notes, bibliography. \$50 (cloth). ISBN 0-8263-1467-8. Reviewed by Jim D. Feagins, St. Joseph Museum.

The title, *Howling Wolf and the History of Ledger Art*, reflects this volume's contents, except perhaps that the Southern Cheyenne artist, Howling Wolf, is secondary in the volume to the overall history of ledger art, rather than the other way around. Ledger art is a term used to refer to all the late-nineteenth-century Plains Indian art on paper. Of course, some was actually expressed on the lined pages of accountant ledger books. Ledger art is also a convenient, descriptive term to identify a style of art. This publication succeeds in clarifying the history of ledger art, both before and after the start of reservation life on the Plains.

The long tradition of painting on bison hides set a pattern that continued in ledger books. The great mobility of the Plains Indians influenced the types of material and the amount of artwork that they could easily carry from place to place. The increasing scarcity of bison and the increasing availability of a new material (paper) that was easy to carry opened the way for ledger art. Men used hide and paper for the same purpose in their art. However, the historic Plains Indian's lifestyle that maintained this artistic tradition was changing rapidly. Hide robes became out of style and were harder to obtain since the bison were almost gone. The robes were generally replaced by woolen blankets by the 1870s, when the Plains Indians were in the process of being confined to reservations. The first use of ledger books for Plains Indian art is not known. However, they were retrieved on battlefields as early as 1868. Most ledger art ended in the 1890s.

For the Plains Indians, "No differentiation was made between art and craft" (p. 4). Their art was integrated as a part of life. Art production was partly controlled by gender or roles of sexual division. Rending of life forms in art was usually done by males. Most of the woman's art was to make something "pretty." Traditionally, Plains Indian males painted on bison robes, lodge covers, tipi liners, shields, etc. Their art was both symbolic (or conceptual) and representational. The latter is the background from which most of the ledger art developed. They would record vision

quests, concepts of power, or personal symbols of great medicine. Some of their paintings were of a heraldic nature, showing a warrior's brave deeds. This type of public art would show the owner's accomplishments and fulfill a need for social recognition or personal prestige. Also they painted calendric records (winter counts) — a history traditionally painted on bison hides. They included yearly representations (sometime symbolic) of major events or happenings. These shorthand visual representations were sometimes done twice a year (as with the Kiowa). Ledger art generally remained anonymous, as it was not signed, especially in the earlier years. The smaller surfaces to paint (on paper compared to larger hides) led to adjustments in composition by the artists. They used what was available, at times even painting on top of old ledger entries (i.e., drawings superimposed on written accounts). They would use crayons, inks, color pencils — whatever could be readily obtained. Figures would be in outline form, and colors were not usually blended. At first, tradition restricted the Indian artist to certain subjects and certain styles. Universally understood conventions (a pictographic shorthand) were used.

Somewhat standardized, stylistic means gave an understanding to the art. A few of the pictographic conventions were hoof or footprints, gun blasts (from barrels of weapons), flying arrows, flying bullets, already counted coup (coup stick or weapon floating in space above the head or body of an enemy), defensive circles or locations, name signs (above or attached to individuals), and peace negotiations (horizontal pipe floating above persons). Men are predominately represented in the drawings; children appear but rarely.

With time, as new media and techniques were discovered, new subject matter was explored. Economic benefits were derived as the ledger art found a new (white) audience. The reservation era led to experimentation, and the art began to change. Pictographic conventions decreased during the early reservation period, after ledger artists had mastered additional artistic techniques. With time the purpose of the ledger art was more for personal expression and for sale. "Age-old limitations were at work simultaneously with daring individual experiments" (p. 23). As the reservation experience continued, ledger art changed; it could no longer "firmly satisfy traditional necessities of spiritual protection, social stability, or even personal prestige" (p. 16).

Individuals learned from each other's artistic experiments. Some ledgers contained the work of more than one artist.

The Ft. Marion art deserves special mention. In May of 1875, 33 Cheyennes, 27 Kiowas, 9 Comanches, 2 Arapahoes, and 1 Caddo were sent to Ft. Marion, Florida, for a period of 3 years. The purpose was to lock up the Indian "criminal element," thus neutralizing their deterrent to the progress of civilization and also holding them as hostages to keep the Indians back home in line. The government's choice of prisoners was as much political as practical. The hostages came under the care of Lieutenant Richard Pratt. He is credited with making their stay more humane. Pratt encouraged their art and furnished abundant supplies for drawing and painting. Most of the 72 hostages held at Ft. Marion participated in the ledger art work — the Comanches and Caddo being exceptions, as they did not come from traditions of ledger type art.

The captive situation of the artists themselves created an atmosphere that greatly encouraged drawing and painting. To the prisoners the drawings were windows to a new world, as well as a way to record past events. They received no drawing instructions but were encouraged to draw in their "native" manner. However, they produced so many drawings that they soon began to experiment with new techniques, the subject matter expanded, and eventually the pictographic conventions changed and their usage greatly decreased. Apparently the fact that the artists were prisoners influenced the subject of their drawings. Prudence would suggest that they not offend their captors. The number of battle scenes decreased (especially battles against whites), and there was less blood flowing in their drawings. The amount of ledger art produced during the three years at Ft. Marion was phenomenal. The prisoners often sold items they made to visitors, including ledger book drawings.

Some of the Indians learned to read and write. Soon they all had freedom to move about, and some began to work for wages in the local community of Saint Augustine. They performed a variety of jobs. An interesting side note is that a few even assisted the Smithsonian Institution in the excavation of local middens (p. 66). Could this have been the earliest example of Native Americans working on an archeological excavation in the United States?

Howling Wolf, a Southern Cheyenne, was one of the hostages that came to Ft. Marion. He was a skilled artist before he came to Florida; however, his skills greatly increased during his stay at Ft. Marion. Szabo focuses on the art of Howling Wolf before, during,

and after the Ft. Marion experience. Born in 1849, he is known to have produced at least 126 drawings and probably produced much more. Szabo analyzes Howling Wolf's techniques through time, and his work is compared with other Plains Indians artists from a historical perspective.

Over 100 photographs of ledger art are shown in *Howling Wolf and the History of Ledger Art*. These figures and plates include riding horses with arrows and guns, hunting bison, battle exploits, decorated horse and rider, lancing the enemy from a horse, stealing horses, dancing, portraits with lodge, battles on horseback, medicine lodge, peace treaty signing, harbor scenes, camp life, individual portraits, stalking bison, distribution of rations, railroad train, spearing a mountain lion, courting maidens, village, maize garden, hunting antelope, gift giving between tribes, and some battles with white soldiers. These scenes contain considerable ethnographic and ethno-historical information for Plains anthropologists to ponder. However, this reviewer could only wish that more explanation had been included in the captions for each ledger art scene. Several drawings deserve special mention. One is the treaty in 1840 between the Kiowa and Cheyenne (pp. 133-134; plates 18 and 19). Howling Wolf identifies it as occurring on the Flint Arrowpoint River (the Arkansas River below Bent's Fort, Colorado). Two other scenes of special interest to Kansas anthropologists and historians are of a Wichita village (Figure 36) and the Medicine Lodge treaty.

Szabo does an excellent job of describing the ledger art and its history, as was her purpose as an art historian. She presents ledger art as a dynamic, evolving means of expression. However, from an anthropological perspective, additional research on the events and material culture depicted by even just the ledger art shown in the volume would undoubtedly be fruitful.

This, of course, is not a criticism of Szabo and her purpose. Since some of the art shown in this volume has never been published before, it is now a readily available source of important information to anthropologists and historians who are interested in the Southern Cheyenne and other Plains tribes. Even for the drawings alone, this reviewer found *Howling Wolf and the History of Ledger Art* to be a delightful volume.

Ledger art is of considerable interest to anthropologists, historians, artists, and the general public. It developed from the tradition of Plains Indians "... picture writing and heraldic imagery into an art form that was unique in comparison to other Plains

art" (p. 203). It presented additional information on the creative lives of individual artists and the changes that occurred to the Plains Indian culture during a period of great upheaval, recorded by the actual people undergoing dramatic change. Ledger art is more than a work of art, more than just material culture. It is also a record of events and ever changing viewpoints during a segment of time. It is a historic document that reflects the cultural attitudes of the artists and the societies they represent.

Szabo is currently an assistant professor of art history at the University of New Mexico. She has succeeded in transforming her doctoral dissertation into an interesting and readable publication. The results of her research needed to be shared with a wider audience. The book may be purchased through local bookstores or ordered from the University of New Mexico Press, 1720 Loma Blvd. NE, Albuquerque, NM 87131-1591.

Plains Indians, A.D. 500-1500: The Archaeological Past of Historic Groups. 1994. KARL H. SCHLESIER, editor. University of Oklahoma Press, Norman. xxvii + 479 pp., 21 figures, 59 maps, 15 tables, contributors, bibliography, index. \$49.95 (cloth). ISBN 0-8061-2593-4. Reviewed by Jim D. Feagins, St. Joseph Museum.

Plains Indians, A.D. 500-1500: The Archaeological Past of Historic Groups attempts to relate 1,000 years of prehistory to the various historic groups present on the Great Plains. In so doing, a tremendous amount of information from the many subregions of the Plains has been organized into a most readable volume.

Concerning the volume's purpose, Schlesier states, "It attempts to extend ethnohistory back in time beyond its present limits and to identify cultures ancestral to historic groups. This is an important although difficult task, and *it has not been tried before*" [italics added] (p. xv). Of course, it has been tried before — and on the Plains at that. The direct historic approach was used over a half century ago by Strong (1935), Wedel (1940), and Steward (1942). In spite of his puzzling statement, Schlesier acknowledges the contributions of these pioneering researchers later in the volume. Their efforts, with important limitations, were significantly successful.

Since then, other Plains archeologists have applied this method. Could it be that Schlesier simply means that this volume represents the first time the method has been expanded to encompass the whole region? Perhaps, but in the context in which the statement is made, that does not appear to be the case. The volume is a worthwhile and commendable effort. It does not need to have its importance inflated.

Plains Indians, A.D. 500-1500 contains an introduction and 14 chapters, written by 17 contributors. A few chapters discuss in detail regions outside of the Plains. Generally this is justified by presenting a better understanding of the cultural interactions between the regions. The chapters and authors in this volume are "Cultures of the Northwestern Plains: From the Boreal Forest Edge to Milk River" by J. Roderick Vickers, "Late Prehistoric Cultures on the Montana Plains" by Sally T. Greiser, "Cultures of the Mountains and Plains: From the Selkirk Mountains to the Bitterroot Range" by Philip Duke and Michael Clayton Wilson, "Archaeological Complexes of the Northeastern Plains and Prairie-Woodland Border" by Michael L. Gregg, "Neighbors to the North: Peoples of the Boreal Forest" by David Meyer and Scott Hamilton, "Cultures of the Upper Mississippi River Valley and Adjacent Prairies in Iowa and Minnesota" by Guy Gibbon, "Cultures of the Middle Missouri" by R. Peter Winham and Edward J. Lueck, "Cultures of the Heartland: Beyond the Black Hills" by L. Adrien Hannus, "The Central Lowland Plains: An Overview" by Patricia O'Brien, "The Central High Plains: A Cultural Historical Summary" by Jeffrey L. Eighmy, "Cultural Continuity and Discontinuity in the Southern Prairies and Cross Timbers" by Susan C. Vehik, "Holocene Adaptations in the Southern High Plains" by Timothy G. Baugh, "Development in the Southwest and Relations with the Plains" by Albert H. Schroeder, and "Commentary: A History of Ethnic Groups in the Great Plains, A.D. 150-1550" by Karl H. Schlesier. A major asset of a volume of this type is the range of viewpoints and interpretations from a variety of geographic areas.

After his cultural history overview of the northwest Plains, Vickers (pp. 30-33) presents a fine discussion of some of the problems in trying to correlate archeological data with historic cultural groups. He seems to have a much better grasp of the pitfalls than the volume's editor. Vickers explains that it often can be quite difficult to correlate prehistoric cultural materials (even material as diagnostic as projectile points) with specific ethnic groups or historic tribes. At present, projectile points are more

diagnostic as widespread horizon markers, given the general lack of detailed stylistic and functional studies. He urges that more detailed studies be conducted and published. He also laments the lack of reporting consistency. When available, researchers are often inhibited by noncomparable data bases. Without abundant data in a useable form, it is difficult to compare morphological variations of index artifacts or key artifact classes and to compare trait frequencies. Because of these problems, he urges that, "we should consider the methodologies that have been used to construct the phases themselves" (p. 32). Vickers goes on to state another problem, "It is time to get our ethnic units out of the closet — let us explicitly formulate our social models so that we can criticize and test them. Until we do this, we cannot hope to approach a scientific prehistory."

Up to this point, this review has presented a general overview of the volume. Now it will focus on a few chapters that should be of most interest to Central Plains anthropologists and historians. Pat O'Brien's chapter concerns a portion of the Central Lowland Plains (most of Kansas and Nebraska). She does a fine job of condensing, modifying, and updating some of her previous overviews of this area's prehistory and protohistory. This chapter includes a section of the Middle Woodland period, which extends back in time past the A.D. 500 baseline for this volume. This section includes discussions of the Kansas City Hopewell variant, Schultz focus, Cuesta, Valley, and Deer Creek phases.

The Deer Creek phase was identified from scant materials that appear to be similar to material identified as Kansas City Hopewell. While the range of the projectile point types is rather limited, could they represent some mixing of middle and late components during Woodland times? This reviewer agrees with O'Brien that the radioactive carbon dates for the Cuesta phase are much too late and are probably in error. The Cuesta phase is located geographically between the Cooper focus/phase in northeast Oklahoma and the Kansas City Hopewell. More needs to be learned concerning the relationship between these mostly contemporaneous groups.

Several Late Woodland groups are also discussed — Keith, Butler, Greenwood, Grasshopper Falls, Hertha, Wakarusa, Sterns Creek, Loseke Creek, and an unnamed complex in the Kansas City area. O'Brien presents an interesting discussion concerning the Wakarusa and the Hertha phases. She states, "These two phases are linked because it is suspected that they are related. They are probably also related to the Unnamed Kansas City complex ...

and may be part of the Grasshopper Falls phase just north of the Kansas River. Nathan (1980:172) implies as much for the Wakarusa phase in her comment that all the Woodland pottery she discovered in Clinton Lake was related to Grasshopper Falls ceramics" (p. 210). Clearly the taxonomy needs to be restudied, especially after more field work.

In the Central Plains tradition section, O'Brien discusses Upper Republican, Nebraska, Smoky Hill, Pomona/Clinton, Bemis Creek, and Steed-Kisker phases. She is willing to suggest "... that the Nebraska phase, via the St. Helena and the Anoka phases ..., turns into late prehistoric ancestral Arikara Indian" (p. 214). She also presents her thoughts on evolutionary sequences of which the Smoky Hills phase is a part. Her speculations present much food for thought.

O'Brien's discussion of the Pomona phase, which she titles Pomona/Clinton phase, is quite interesting. She states, "The Pomona phase is the widely recognized name for this phase, but in 1968 Johnson defined the Clinton phase in Clinton Lake south of the Kansas River. Chambers et al. (1977:170) note though that Witty identified some of these sites as Pomona. Therefore I suspect the two phases are one and the same" (p. 216). If this is correct, probably the term "Clinton phase" should be dropped.

For quite a few years Witty (1978:61-62) has argued that the Pomona phase developed from Late Woodland cultures in the area, such as the Greenwood phase. This reviewer's own research in eastern Kansas certainly supports this logical conclusion. This reviewer suspects that there are certain sites that are transitional in time and content between Late Woodland and Pomona. These proposed "missing link" sites should be investigated and dated. Perhaps the Roth site, excavated by the Kansas State Historical Society, may ultimately prove to be one example (Brogan 1982; see also Feagins 1983). This "early Pomona" site dates to the Late Woodland period — A.D. 720 ± 180 and A.D. 850 ± 90. O'Brien mentions (as did Witty) the importance of the matching pottery pastes of the Greenwood and Pomona phases (p. 216). This should come as no surprise, since both groups occupied varying amounts of the same geological area. Similar pastes could be more suggestive of similar sources of locally available pottery clay than cultural continuity. While this is arguing on the other side of the coin, it certainly does not imply that Witty's suggestion of cultural relationship is in error.

It is interesting to note that O'Brien makes no mention of Brown's (1984) extensive subdivisions of

the Pomona phase. In passing, she does mention Johnson's (1991) argument "... that Pomona represents a prehistoric expression ... of the Kansa Indians" (p. 217). She is gracious in stating, "That theory is highly controversial" (p. 217).

As would be expected, O'Brien presents a fine discussion of the Steed-Kisker phase. It is unfortunate that the quite controversial Steed-Kisker "solstice shrine" at Smithville Reservoir is presented as a fact (p. 218). No matter how precisely recorded the data on this feature (O'Brien and McHugh 1987), this interpretation (the most exciting of several possibilities) is not proven and remains most speculative.

The Itskari (Loup River) and Lower Loup, Glen Elder (including White Rock aspect), Dismal River, and Great Bend phases, and the Pratt and Bluff Creek complexes are described in O'Brien's protohistoric section. The Oneota tradition receives only a passing comment. Her summary and conclusions attempt to link the historically identified tribes in the area with the archeological identified prehistory. Readers of *The Kansas Anthropologist* should find this chapter of considerable interest.

Jeffrey Eighmy's chapter contains information on the Central High Plains, including parts of Colorado, Kansas, Nebraska, and Wyoming. This short chapter describes the prehistory from A.D. 500 to 1500 but makes no attempt to correlate this information with more recent cultural groups. He discusses some of the problems using Woodland pottery and lithic artifacts in the Central High Plains and points out the potential for hunter-gatherers to also produce aceramic sites during this time period. He says that most of the information on Late Woodland sites in this subregion comes from the northern and western parts — in the North Platte, South Platte, Lodgepole Creek, and the Colorado foothills. He states, "... to date, no Woodland component has been reported on the High Plains remnant of eastern Colorado drained by the Republican or Smokey [sic] Hill rivers [and] ... east of the foothills in the Arkansas drainage north of the river ..." (p. 229). Were these areas sparsely utilized during Woodland times? Or perhaps this is a reflection of the relative lack of cultural resource surveys in those areas? One wonders how the adjacent areas in extreme western Kansas compare. The Upper Republican phase during post-Woodland times — A.D. 1050 to 1500 — is discussed. Eighmy makes a distinction between the classic Upper Republican in north-central Kansas and south-central Nebraska and the High Plains Upper Republican sites. The latter is an area of apparent secondary utilization by the Upper Republican

people. It is surprising that Eighmy does not mention the Dismal River aspect. Also he does not attempt to extend any of the tribes or linguistic groups that utilized the Central High Plains back into the prehistoric past.

Chapter 11, written by Susan Vehik, describes the southern prairies and cross timbers areas of parts of Oklahoma, Texas, and Kansas. She discusses some of the same archeological cultures as O'Brien. However, Vehik is less inclined to speculation. This reviewer especially likes Vehik's succinct interpretations of the relationships among the Cuesta phase, Cooper focus, and the Kansas City Hopewell (p. 241). She has very little to say about the Wilmore complex in southern Kansas but does point out that it is poorly known. Additional research is greatly needed. Her discussion of the Neosho focus is to the point and seems to be well supported.

The ethnologist/editor Karl Schlesier attempts to summarize the volume in the final Chapter 14. He states, "This chapter attempts to identify all relevant archaeological entities discussed in this volume with their descendant historical ethnic groups. It is a formidable task, and the results will not be the last words on the subject" (p. 308). This last comment is certainly an understatement. The final chapter is an important one for any volume. However, this one has proved to be a disappointment — not because of the scope of research or his writing ability. Rather, Schlesier tries to force conclusions even when the data does not merit it. At times his conclusions are built on foundations of speculation and multiple hypothesis. This can be a dangerous practice and is not good "science." The archeological record does not always contain and/or archeologists have not yet discovered enough information to always link the archeological record to specific linguistic/tribal groups. Of course, this in no way diminishes the successes of the historic approach. However, there are times when Schlesier's linkages are pure speculation or at best quite tentative, and that needs to always be **clearly** communicated. However, the overall purpose of the chapter and certainly the volume as a whole has considerable merit. It is no disgrace that the sought-for linkages or archeological chronology and linguistic/tribal affiliations cannot always be supplied. Also considering the present social, legal, and politically correct climate, it is far better to realize the current limitations of archeological knowledge, the nature of circumstantial evidence, and the sometimes tentative nature of our interpretations, rather than attempting to force conclusions that cannot be adequately supported with facts.

In spite of this reviewer's criticisms of the concluding chapter, *Plains Indians, A.D. 500-1500* is a grand approach and as a volume is highly recommended. The many contributing archeologists have presented thoughtful summaries and considerable information on the cultural histories of their assigned subregions. The over 1,200 references cited are a valuable source of information — especially considering that quite a few of these references are from the elusive gray literature. This volume is of value to all those interested in Plains Indians and their connections with the archeological past. It can be ordered through local bookstores or from the University of Oklahoma Press, P.O. Box 787, Norman, OK 73070-0787. *Plains Indians, A.D. 500-1500* is certainly worthy of space in one's library; it is interesting and will serve as a useful reference.

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- Ceramic Commodities and Common Containers: Production and Distribution of White Mountain Red Ware in the Grasshopper Region, Arizona*. DANIELA TRIADAN with foreword by RONALD L. BISHOP. 1997. Anthropological Papers of the University of Arizona No. 61. The University of Arizona Press, Tucson. xv + 145 pp., 14 plates, 73 figures, 31 tables, appendices, references, index. \$14.95 (paper). ISBN 0-8165-1698-7. Reviewed by Jim D. Feagins, St. Joseph Museum.

While *Ceramic Commodities and Common Containers* is written primarily with Southwestern archeologists in mind, archeologists from other regions can also benefit from this volume, especially in the areas of theory and method. In the last few decades there has been a more rigorous effort to determine prehistoric behaviors by developing and refining methods to test competing theories. One of the more useful techniques in recent years attempts to determine where pottery was manufactured, not simply where broken sherds were recovered in the archeological record. Traditionally Southwestern archeologists (as well as those from the Plains) have assumed that most pottery types found in abundance on a site were locally made, while relatively uncommon sherds came from "exotic" pots that were obtained elsewhere. Since pottery is one of the most common and useful categories of material culture that archeologists work with, identifying its origins in a more reliable manner is a considerable boon to understanding what occurred in the past. Concepts of economic and social interaction and population movement can be explored more reliably if pottery sources can be determined. This would include geographic movement, resource exploitation, exchange (trade), specialization, and other types of interaction between different people and their environments. There has been a paucity of this type of research by archeologists in the Plains, as well as the Southwest and other regions.

Pottery sourcing techniques (when done properly) help remove some of the potential for interpretive ambiguity. They can help resolve some of the questions that archeologists ask by substituting scientific data for speculation concerning the sources of ceramics in a given assemblage. Triadan's work on sourcing White Mountain Red Ware ably demonstrates the improved ability to use ceramics in reconstructing prehistoric sociopolitical and socioeconomic organization. This information, when gathered in an area, can greatly aid in developing inferences about political, ideological, and cultural boundaries, demography, community organization and interaction, exchange and trade, and cultural or ethnic affiliation.

One of the prerequisite questions concerns which types of ceramics are produced locally at a given site or within a given area and which types were obtained from other areas. "Compositional analyses (chemical and petrographic) provide a systematic, analytical means to investigate the provenance of pottery" (p. xiii). Triadan presents a number of methods that, when used in combination, establish the composition

of pottery sherds and allow comparison with the composition of natural clay sources. She then demonstrates their use with large scale chemical and petrographic analyses of White Mountain Red Ware ceramics. Her data has overturned some of the previous thinking about this ware. This is, of course, important to Southwestern archeologists, especially since this ware is common over most of the northern part of the region. However, to archeologists outside of the Southwest, the White Mountain Ware investigation serves as a case study in composition/sourcing methodology. Triadan's work is a good companion to that done by Maras Nieves Zedeño (1994), which was reviewed in *The Kansas Anthropologist* (Feagins 1995). The reviewer can think of many examples where compositional studies and sourcing research on ceramics would have considerable research potential in Plains archeology. While these types of studies have begun in the Plains, researchers lack the abundance of comparative data that is available to archeologists in the Southwest. While initially it is a limiting factor in regional studies, the potential is there for significant cultural research toward developing and starting to test models of sociopolitical and socioeconomic organization in the past.

This volume is modified from Triadan's doctoral dissertation at the University of Arizona. She is to be commended for not only presenting significant new data and analysis concerning cultures in the Southwest, but for presenting much food for thought to non-Southwestern archeologists on sourcing methods and theory. It is certainly worth the time spent reading and pondering the contents of *Ceramic Commodities and Common Containers*. This publication may be obtained through a local book dealer or from the University of Arizona Press, 1230 N. Park Ave., Ste. 102, Tucson, AZ 85719.

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Plains Indian History and Culture: Essays on Continuity and Change. JOHN C. EWERS with foreword by WILLIAM T. HEGAN. 1997. University of Oklahoma Press, Norman. xxii + 272 pp., 37 figures, 5 maps, 2 tables, notes, references, index. \$29.95 (cloth). ISBN 0-8061-2862-3. Reviewed by Jim D. Feagins, St. Joseph Museum.

John C. Ewers died at age 87 in May 1997, one year after celebrating his fiftieth year with the Department of Anthropology at the Smithsonian Institution. Ewers was a well-respected and well-informed ethnologist and lover of Plains Indian history. He obviously had a broad curiosity about a great many things. As an outstanding ethnohistorian, Ewers liked to approach research from many directions. Ewers' *Indian Life on the Upper Missouri*, published in 1968 and still in print, was a selection of previously written articles and lectures. *Plains Indian History and Culture* is also a collection of essays, written since 1968. Originally given as lectures at scholarly meetings of historians and anthropologists, these authoritative, entertaining, and informative papers, written clearly and without jargon, are now available to modern readers.

The first two chapters in *Plains Indian History and Culture* are titled, "When Red and White Men Met" and "Indian Views of the White Man Prior to 1850." Ewers presents an even-handed approach, with a considerable amount of insight into the viewpoints of Native Americans.

"The Influence of the Fur Trade upon the Indians of the Northern Plains" is the title of Chapter 3. Ewers points out that Indians and Indian traders played as active a role in the fur trade as did the white traders. The Indians were quite experienced traders before the Europeans appeared on the Plains. However, their previous experiences as traders did not adequately prepare them for the tremendous impact of the Euroamericans on their culture. It did not teach them about the effects of liquor. It did not teach them about the worth of their land or prepare them for the allotment system and land sales. Also, the fur trade almost killed off the bison, thereby removing the main food

supply of the Indians, and they became dependent on the materials they obtained in trade. Unions between white traders and Indian women and the mixed-blood populations that emerged became important in history. Some offspring could read and write, and they were often the ones the tribes chose to have leadership roles in communicating with the government. Many ideas as well as trade goods were exchanged, and this exchange had a lasting impact on the Indians.

Chapter 4 is titled, "The Use of Artifacts and Pictures in the Study of Plains Indian History, Art, and Religion." Early on, Indians made artifacts to sell to white traders and others. This material was often called "Indian curiosities" by the Euroamericans. Army officers, traders, artists, and missionaries commonly collected the material culture of Native Americans. Sometimes ceremonial objects were sold. Ewers notes that the power of a sacred object is not transferred without a ritual. An object can be remade and sold many times by the owner of the power of the object (pp. 78-81). There are many examples of this occurring in Plains Indian history. If one follows this line of thought to a logical conclusion, then does that mean that sacred objects without their ritual are no longer sacred? That would seem to have been the situation in at least some cases. If that is correct, concerning the "sacred objects" that individual Plains Indians sold, then how does this concept affect the true status of at least some of the objects found in the soil that archeologists or others have interpreted as sacred? The status of any such object would be very difficult to confirm and doubly so in today's political coliseum.

Chapter 5, "The Influence of Epidemics on the Indian Populations and Cultures of Texas," describes many of the social and population changes caused by European diseases. Diseases became rampant among the tribes. As population declined, there was much adoption of captives and regrouping of tribes.

"Symbols of Chiefly Authority in Spanish Louisiana" (Chapter 6) describes the role of a few types of extraordinary presents given to prominent chiefs by Spanish officials. These chiefly gifts included flags, uniforms (perhaps even including hats), medals, staffs (canes with ornamental gold or silver heads), and commissions. Most often, medals of the king were presented in an impressive ceremony to chiefs or to individuals whom the Spanish wanted to promote into positions of greater leadership. In some cases the gifts put the leaders under great obligation to the Spanish. To many, these medals were not just symbols of authority but were considered as sacred objects. Recognition of chiefs in this manner tended to give them the office for many years and block the

advancement of others. In essence this became a new system imposed on Native Americans by whites, which must have increased intertribal discord and jealousies.

Chapter 7 is titled, "Climate, Acculturation, and Costume." Ewers describes how women's garments were modified by acculturation and affected by seasons and climate. One interesting observation is that the topless summer attire prevailed longer with the Wichita than among other tribes, because this allowed their elaborate tattoos (especially of the breasts and upper body) to be observed. Of course in more northern climates, any such decoration would usually be covered. The multi-piece trade-cloth dress and the southern plains three-piece buckskin dresses were also discussed.

"Folk Art in the Fur Trade of the Upper Missouri" is the title of Chapter 8. Documentation of the painted folk art on some of the fur trading posts was presented. There were occasionally white artists at the posts who desired to paint the Indians who came to trade. A few of these temporarily in residence artist-explorers were employed by the fur companies to embellish their remote posts with what Ewers calls folk art. These paintings were used to encourage friendship and trading. The Indians did not need to read to get the message from the paintings.

Chapter 9 is "Intertribal Warfare as the Precursor of Indian-White Warfare on the Northern Great Plains." There is a vast amount of evidence of intertribal warfare during the late prehistoric, protohistoric, and early historic periods. The Indian wars did not start with the white invasion. There were many tribes eager to join the whites to fight against their ancient enemies. There were tribal alliances with neighbors against common enemies, and occasional joint expeditions occurred. There were many horse raids and small battles and some large engagements.

In Chapter 10, "The Making and Uses of Maps by Plains Indian Warriors," Ewers points out that the Indian-made maps were good. Distances were usually recorded by the number of days travel. Some maps were used to plan military operations.

Women's role in warfare was both active and passive, as explained in Chapter 11. They were often killed or taken captive. If captured, they sometimes were killed later, adopted, or traded as slaves. At times women played an active role in the mutilation of dead enemies. Some women joined in raiding parties, and on rare occasions a woman would be the leader.

The volume ends abruptly with Chapter 12, "The White Man's Strongest Medicine." Many Indians considered "Great Medicine" to be anything they did not understand. For example, Lewis and Clark's

black servant was considered very strong medicine. When Indians first came in contact with horses, they were considered to be gifts from the spirits. The Sioux name for horse was "medicine dog" (p. 207). At first guns were considered great medicine. The power of the written word was truly amazing.

Plains Indian History and Culture is a good read. It may be obtained from a local bookstore or from the University of Oklahoma Press, P.O. Box 787, Norman, OK 73070-0787.

People, Plants, and Landscapes: Studies in Paleoethnobotany. KRISTEN J. GREMILLION, editor. 1997. University of Alabama Press, Tuscaloosa and London. xviii + 271 pp., figures, tables, index. ISBN 0-8173-0827-X. Reviewed by Chris Benison, Mt. Pleasant, Michigan.

Kristen Gremillion's new volume is an excellent addition to the burgeoning literature on the field of archeobotany. Like other recent publications on the subject, *Plants, People, and Landscapes* covers methodological and theoretical issues and provides new data on archeological plant remains as food for thought. A major strength of the book is that it illustrates the full range of variation among food production systems, reconstructed for North America and far eastern Asia (Japan). It thus shows how different people have adapted to different environments (partly by using widely differing plants) through time. Investigating variation among human populations clearly continues to be a major goal of archeology. Gremillion's book also succeeds because it demonstrates how human behavior frequently produces significant changes in both plant species and landscapes.

Gremillion's volume showcases current thinking on prehistoric horticulture for portions of the Eastern Woodlands of America and Japan in two sections. Part I, "The Archaeological Record of Plant Domestication and Utilization," opens with a retrospective on the development and growth of paleoethnobotany over the past 30 years or so. Patty Jo Watson, a pioneering researcher in both the Near East and eastern North America, reviews the early contributions of archeologists and non-archeologists alike. She considers the effect that improved sampling and the use of sophisticated technology, such as scanning

electron microscopy in seed analysis, has had on the practice of paleoethnobotany.

Following Watson's paper, Part I continues with summaries of current archeobotanical data from various study areas in the Eastern Woodlands. The first contribution by Kristen Gremillion describes early studies of plant remains recovered from Newt Kash Rockshelter in 1935 as well as her reanalysis of the original collections from this site. Newt Kash, located in northeastern Kentucky, has yielded evidence for Late Archaic/Early Woodland use of weedy annuals (*Chenopodium*, *Iva*, *Polygonum*, *Amaranthus*) as well as for use of mast nuts (hickory) during those periods. Gremillion also considers biases stemming from analysis of older collections, as well as those that are intrinsic to plant remains derived from cave/rockshelter deposits.

The next two papers by Fritz and Cowan provide further examples of the widely divergent food production systems known for the Eastern Woodlands. Fritz describes a seed cache, containing thousands of cultivated/domesticated *Chenopodium* seeds, from a rockshelter in the Ozark Uplift of south-central Missouri. Cultivated/domesticated forms of *Chenopodium*, a plant with nutritious, starch-rich seeds, have enlarged seeds with thin seed coats when compared to wild/weedy varieties. Cowan has identified patterned changes in the use of different squash species (*Cucurbita*) by Archaic and Woodland peoples of eastern Kentucky. He argues persuasively that strains with unique traits were preferred at different times during prehistory. Based on available data, thick-walled squashes with little edible fruit (useful as containers) were apparently favored over more edible varieties with thinner walls, and vice versa. The reasons behind these alternating shifts in plant use remain relatively poorly understood.

The final contribution in Part I by Crawford summarizes what is currently known about prehistoric food production for the northern islands of Japan. Particularly interesting are Crawford's discussions of barnyard grass (*Echinochloa* sp.) and green foxtail (*Setaria* sp.), both of which he considers economic species of some importance. In North American archeobotanical collections both are regarded as weed species of no economic value to human populations.

Part II of the book, "Plant Resources, Human Communities, and Anthropogenic Landscapes," deals with the related issues of human/plant interaction and the creation and evolution of "settled" landscapes. The first paper by Scarry and Steponaitis details how differential patterning in plant remains from the Mississippian Moundville site in Alabama may

reflect differences in social hierarchy. This seems to be especially so in the case of maize, where frequency differences in carbonized cobs versus kernels suggests that non-elite Moundvillers labored to process maize for a privileged elite class. It is not entirely clear what the Moundville non-elites were receiving in return for their labor.

The next paper in the series by Winterhalder and Goland reviews recent developments in diet-breadth models and economic niche theory; it further suggests how both can provide insights on how humans make economic decisions given certain circumstances. Gardner's very thought-provoking contribution reviews evidence for Archaic and Woodland period mast nut utilization, again for the Eastern Woodlands study area. While much additional baseline research remains, Gardner argues convincingly for a systemic correlation between large-scale middle and late Holocene climatic shifts and significant shifts in mast nut use through time. His model is reminiscent of Bruce Smith's (1992) "Floodplain Weed Theory" in terms of its elegant simplicity.

The last two papers in Gremillion's book are by Gregory Waselkov and Julia Hammett. Waselkov's paper outlines the extreme differences between Native American and European conceptions of space and proper land use practices. He describes the disruptions to Indian land use systems, occasioned by the imposition of European political and economic hegemony during the early eighteenth century in the North American Southeast. Hammett illustrates differences, both in the structure of food production systems and in general economic strategies, for various regions within North America. She details the natural as well as cultural factors responsible for these important differences.

Gremillion's excellent volume offers something for everyone, whether one has a specific interest in paleoethnobotany or not. As with all archeological books produced by the University of Alabama Press, this one is superbly edited and accompanied by clear illustrations that accompany the text well. As an archeologist with a keen interest in prehistoric plant use, this reviewer can recommend *People, Plants, and Landscapes* without reservation.

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Jack is an associate professor in the Department of Anthropology at the University of Kansas. He attended college at the University of Oklahoma, the University of Wyoming, and the University of Tennessee and received his Ph.D. from the latter in 1986. Since then, he has conducted archeological fieldwork in the western portions of Oklahoma, Texas, and Kansas with an emphasis on the investigation of Paleoindian lifeways.

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As a full-time field archeologist from 1949 to 1968 with the Smithsonian Institution, the National Park Service, and The University of Texas at Austin, Ed directed rescue archeological fieldwork at hundreds of sites at about 40 reservoir projects in Texas and Louisiana. Later he taught at Southern Methodist University and Illinois State University, retiring from the latter in 1983. An interest in historical archeology that developed from two years (1954-1956) of intense exploration of Jamestown, Virginia, led to fieldwork at a variety of historic sites in Texas, Illinois, New York, Newfoundland, and Micronesia. In retirement he continues to publish on long-standing interests: archeological ethics, theory/methodology, typology, and history of archeology.

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BITIKOFER, SHAUN	5841 SWARTZ RD	KANSAS CITY	KS	66106	LIF
BLANK, BERT	398 7TH ST	PHILLIPSBURG	KS	67661-2426	FAM
BLASING, BOB	618 W 12TH ST	GRAND ISLAND	NE	68801	LIF
BOSLEY, MARY ALICE	105 N 4TH, PO BOX 625	DIGHTON	KS	67839	IND
BOWIE, HOWARD & AILENE	1412 COMMUNITY DR	DERBY	KS	67037-2902	FAM
BOYER, WILLIAM & PAT	121 SOUTH BAY	GREENSBURG	KS	67054	FAM
BRADBURY, CAROL C	10201 W FORD AVE	BEACH PARK	IL	60099-3925	IND
BRADFORD, CAY	1501 INVERNESS DR #318	LAWRENCE	KS	66047-1836	FAM
BRADY, CINDY & RONALD	PO BOX 232	KANOPOLIS	KS	67454	FAM
BROADBENT, CARLDON	RT #4	BELOIT	KS	67420	IND
BROOKS, LOWELL	PO BOX 582	BOOKER	TX	79005-0582	IND
BROWN, KATHLEEN	26409 S FLAME TREE DR	SUN LAKES	AZ	85248	IND
BRUNSELL, JANE R	223 S 2ND	LINDSBORG	KS	67456	LIF
BRYAN, JEANNINE & JERRY	PO BOX 22	BURDEN	KS	67019-0022	FAM
BUDE, JIM	11712 GLEN ARBOR TERR	KANSAS CITY	MO	64114-5559	IND
BURNER, LAURA	PO BOX 161	LATHAM	KS	67072-0161	FAM
BURRUSS, JIM	1164 E 66TH ST	KANSAS CITY	MO	64131-1403	IND
BUSSEN, JEROME	BOX 123	WALLACE	KS	67761-0123	IND
BUTLER, TODD L & SUSAN E. KSHS	6425 SW 6TH AVE	TOPEKA	KS	66615-1099	FAM
BUTTON, ROBERT	ROUTE 3 BOX 169	GREAT BEND	KS	67530-4448	IND
BYERS, BETH	205 S POPLAR	BELOIT	KS	67420	IND
CALDERWOOD, MIKE	6330 NW 78TH	TOPEKA	KS	66618-4001	IND
CALHOUN, MYRON & NANCY	2001 DUNBAR RD	MANHATTAN	KS	66502-3907	FAM
CASE, TERESA & MICHAEL MCDONALD	1627 PAWNEE	LEAVENWORTH	KS	66048-1140	FAM
CASTONGUAY, A WADE & NADYNE	BOX 92-A RR 3	CONCORDIA	KS	66901-9442	FAM
CHALFANT, LOREN E	722 W MCFARLAND	HILL CITY	KS	67642-1635	IND
CHAPMAN, DEAN E	1297 STEPHENRIDGE CT	ST. CHARLES	MO	63304	LIF
CHAPMAN, TAMARA & DELWIN	BOX 124	UTICA	KS	67584	FAM
CHENEY, NADINE	ROUTE 1 BOX 105	TRIBUNE	KS	67879	LIF
CHESTNUT, SAM I	102 FREMONT	MORLAND	KS	67650-0122	IND
CLARK, RANDY A	3605 N RAYL RD	BUHLER	KS	67522	FAM
CLIFFORD, JAMES M	12322 GRANADA LN	LEAWOOD	KS	66209-2635	IND
COBB, TOM & DORIS	RFD HC72 BOX 35	COLDWATER	KS	67029	FAM
CONRAD, MARY	3900 N 55TH ST	KANSAS CITY	KS	66104	LIF
CONRAD, MARY	3900 N 55TH ST	KANSAS CITY	KS	66104	IND
COOK, EVA C	16404 W 126TH TERR	OLATHE	KS	66062-1132	FAM
COON, STEPHEN E	1306 E 21 ST	LAWRENCE	KS	66046-3216	IND
CORMODE, FRANCIS & BARBARA	11448 HIGHWAY 9	LANCASTER	KS	66041-9502	FAM
COWDERY, ROBERT & SUE	7520 E 21ST, NO 10	WICHITA	KS	67206	FAM
CRIZQUI, DR. ORVEL A	2027 NAISMITH DR	LAWRENCE	KS	66046-2662	LIF
CULBERTSON, BRENDA	4041 SW 10TH AVE #232	TOPEKA	KS	66604-1916	IND
DAHLSTEN, PAUL & NORMA	430 N CHESTNUT	LINDSBORG	KS	67456	FAM
DALE, FRANK D	HC 64 BOX 26	COLDWATER	KS	67029-9318	LIF
DANIELS, CELIA	1521 SW COLLEGE AVE	TOPEKA	KS	66604	FAM
DARROW, MARK	513 E 2ND	MINNEAPOLIS	KS	67467	IND
DAVIS, EILEEN	714 NE WABASH	TOPEKA	KS	66616-1442	IND
DAVIS-STEPHENS, LINDA	BOX 175	JENNINGS	KS	67643	FAM
DECKERT, LEON & ELLA MAE	522 W IOWA	GREENSBURG	KS	67054	FAM
DECKER, LOWELL	320 W JEWELL AVE	SALINA	KS	67401	FAM
DETRICH, VERNA	BOX 589	CHAPMAN	KS	67431-0589	LIF
DICKINSON, SCOTT	12136 W 82ND TERR	LENEXA	KS	66215	LIF
DIETRICH, DELBERT	206 E 13TH	ELLIS	KS	67637-1723	FAM
DOBBS, DR EDITH	2935 WILLOW	HAYS	KS	67601	LIF
DOLEZAL, FERN & LLOYD	310 W 3RD	ELLSWORTH	KS	67439-3011	FAM
DONOHUE, WAYNE & KARLA	7724 SW URISH RD	AUBURN	KS	66402	FAM
DOUBEK, VAN	624 SCHOOL ST	PRATT	KS	67124	IND
DREWS, WILLIAM R	3111 FARMINGTON RD	HUTCHINSON	KS	67502-2439	IND

DYCUS, DON	8207 MELROSE DR	LENEXA	KS	66214-3621	IND
EDINGTON, GARY	254 COUNTY RD 180	EMPORIA	KS	66801	IND
EDWARDSON, LILLIAN	1242 NW 39TH ST	TOPEKA	KS	66618-1122	IND
EITEL, HOWARD & LELA	PO BOX 309	LINDSBORG	KS	67456-0309	FAM
ELMORE, GEORGE & KAY	817 KANSAS	LARNED	KS	67550-2528	FAM
ERNST, WALTER & LAVERNA	PO BOX 97	ENTERPRISE	KS	67441-0097	FAM
ESSEX, J.L	4 HOLLOW GLEN LN	TOMBALL	TX	77375	IND
FAUBION, JANE	723 BELL MEAD PL	LAWRENCE	KS	66046-4659	IND
FEAGINS, JIM D	13213 BENNINGTON AVE	GRANDVIEW	MO	64030	LIF
FISHER, BRENDA & REX	115 S MAIN ST	NEOSHO RAPIDS	KS	66864-8759	FAM
FITCH, WARREN H	1016 W 1ST ST	CHANUTE	KS	66720	IND
FITZGERALD, BETTY & CARL	341 N HOBART	GLEN ELDER	KS	67446	FAM
FOGLER, FRANK	1707 COUNTY LN	ATCHISON	KS	66002-1006	IND
FOLLIS, IRENE & DOREN	R2 BOX 88	HOXIE	KS	67740	FAM
FOLSOM, CHAINY J	PO BOX 2123	SHAWNEE MISSION	KS	66201	STU
FORT HAYS STATE UNIVERSITY	600 PARK ST	HAYS	KS	67601-4099	IST
FOUST, MARYLIE	2722 SE LAKE TERR	TOPEKA	KS	66605	LIF
FRANK, ANITA	6362 SW 10TH ST	TOPEKA	KS	66615	IND
FRASER, JOHN W	12525 CRAIG	GRANDVIEW	MO	64030	IND
FRIHART, DALE	204 W KANSAS	PITTSBURG	KS	66762-5112	IND
FROGLEY, KEVIN	10105 US HWY 59	OSWEGO	KS	69356	IND
FULTON, ERNEST & LOUISE	PO BOX 123, 513 BLAKE	ELLSWORTH	KS	67439	FAM
GAMBLE, DENNIS	2649 SE BURTON	TOPEKA	KS	66605	CON
GARRETT, KENTON	PO BOX 127	LANSING	KS	66043	CON
GARST, CHRISTINE	RT 1 BOX 70	WEBBER	KS	66970	FAM
GENTINE, LYNN	2835 ROWAN	WATERFORD	MI	48329	IND
GEORGE, MIKE	PO BOX 347	OREGON	MO	64473	IND
GHERE, SHAROL	406 NE 70TH AVE	HARPER	KS	67058-9644	FAM
GHISELLI, WILLIAM B	2306 W 79TH TERR	PRAIRIE VILLAGE	KS	66208-3840	IND
GILBERT, DORIS	2510 W 50TH PL	SHAWNEE MISSION	KS	66205-2020	IND
GILBERT, MILDRED S	2139 TARA	TOPEKA	KS	66611-2544	IND
GILLETTE, EDWARD	753 STATE AVE #860	KANSAS CITY	KS	66101	IND
GILLIAND, WILL & PAT	2524 SW MISSION	TOPEKA	KS	66614	FAM
GLICKLEY, CHRISTINE LABRUZZO	15823 W 143RD TERR	OLATHE	KS	66062-2591	IND
GOFF, MAURICE & JOAN	8111 WINDWOOD CIR	WICHITA	KS	67226-1839	FAM
GOODDEN, DENNIS	4517 CEDAR RIDGE CT	LAWRENCE	KS	66049	FAM
GRAVES, LOIS	5521 EISENHOWER AVE	GREAT BEND	KS	67530-6309	DEC
GREITL, ANNE	1039 SW BELLE	TOPEKA	KS	66604-2041	IND
HAND, DAVID	1795 HWY 140	ELLSWORTH	KS	67439-8540	FAM
HARTMAN, MICHELE D	21805 W 179TH	OLATHE	KS	66062-9542	IND
HAWLEY, MARGARET	BOX 121	OSAGE CITY	KS	66523-0121	IND
HAWLEY, MARLIN & AMY	2146 ALLEN BLVD #4	MIDDLETON	WI	53562	FAM
HEASTY, DONALD & CAMILLA	1814 N EDWARDS	WICHITA	KS	67203-1445	FAM
HEIMAN, ARVILLA	702 N CHESTNUT	BELOIT	KS	67420	IND
HENRY, BRENDA	625 S 2ND	ATWOOD	KS	67730	FAM
HIGGINS, JOE & CHARLOTTE	734 NW 58TH	TOPEKA	KS	66617	FAM
HOLTBY, JIM	18786 258TH RD	ATCHISON	KS	66002-3189	IND
HOLTMEYER, MIKE	15079 SWEET BRIAR DR	BASEHOR	KS	66007-3030	IND
HORNER, NANCY, MIDDLE SCHOOL	400 E KANSAS	ARKANSAS CITY	KS	67005-1243	IST
HOUDYSHELL, WILLIAM & VIRGINIA	739 ALBERT AVE	SALINA	KS	67401	FAM
HOWELL, JEAN & BILL - H-BAR RANCH	90244 SW 130TH AVE	COATS	KS	67028	FAM
HOWSE, RICHARD & PAULA	5833 S MAPLEWOOD	TULSA	OK	74135	FAM
HUSS, JAMES A	317 N 15TH ST	ATCHISON	KS	66002-2214	IND
JACKSON, GREG & ALICE	2206 VILLAGE LN	SALINA	KS	67401-3798	FAM
JARVIS, ESTHER M	1422 SW 32ND ST	TOPEKA	KS	66611-2442	IND
JEWETT, WILLIAM R	4206 W 73RD ST	PRAIRIE VILLAGE	KS	66208-2929	IND
JOHNSON, CAROLYN	1001 FIRST AVE	DODGE CITY	KS	67801	IND
JOHNSON, ELMA M & MARK A	110 SOUTH PINE	LINDSBORG	KS	67456-2300	FAM
JOHNSON, NELL	407 W WISCONSIN AVE	GREENSBURG	KS	67054-1754	IND
JOHNSON, PAUL & ROBIN	2567 23RD AVE	GYPSUM	KS	67448	FAM
JONES, PAT	11 E 110TH ST	KANSAS CITY	MO	64114-5011	IND
JUSTUS, EARNEST W	202 TAYLOR ST	DEKALB	MO	64440-9501	IND
KANSAS HERITAGE CENTER	1000 2ND AVE, PO BOX 1207	DODGE CITY	KS	67801-1207	IST
KSHS LIBRARY & ARCHIVES DIVISION	PO BOX 3585	TOPEKA	KS	66601-3585	IST
KANSAS STATE UNIVERSITY	149 FARRELL	MANHATTAN	KS	66506-1200	IST
KECK, DICK & CYNTHIA	2709 W 74TH ST	PRAIRIE VILLAGE	KS	66208	FAM
KENNEDY, CRYSTAL	1820 E 50TH RD	LECOMPTON	KS	66050	IND
KEPLINGER, DOROTHY & DEAN	RT 1 BOX 99	GRENOLA	KS	67346-9612	FAM
KIMBALL, HARRY	PO BOX 707	TONGANOXIE	KS	66086-0707	FAM
KING, MARSHA	2525 SW BELLE AVE	TOPEKA	KS	66614-1752	IND
KLEINMAN, BARBARA & BERNIE	5001 W 65TH TERR	PRAIRIE VILLAGE	KS	66208-1366	FAM
KOLLER, DONALD G & RITA L	1513 N BUCKNER	DERBY	KS	67037-2948	FAM
KRAISINGER, MARGARET	822 WEST 4TH	HALSTEAD	KS	67056	IND
KREISSLER, ALICE	6709 O'NEIL	WICHITA	KS	67212-6332	IND
KUHN, DONALD	2509 PINE ST	HAYS	KS	67601-0898	IND
LAMPE, LINDA	10470 DEERFIELD LN	OLATHE	KS	66061-2776	IND
LENARD, MATTHEW S	101 MOSSLAND DR	CLARKSVILLE	TN	37042-3569	STU
LENARD, R ROBERT	101 MOSSLAND DR	CLARKSVILLE	TN	37042-3569	FAM
LINDBURG, MAXINE	311 W 25TH	HUTCHINSON	KS	67502-3655	IND
LIPPINCOTT, KERRY	441 KIRK AVE	CASPER	WY	82601	IND

LOMSHEK, JERRY	304 S CHICOPEE RD	PITTSBURG	KS	66762-6823	FAM
MACGREGOR, BARBARA	1542 BERKELEY RD	EMPORIA	KS	66801-5560	IND
MALLOUF, ROBERT J	BOX C-71, SUL ROSS ST. UNIV.	ALPINE	TX	79832	IND
MANDEL, ROLFE	3739 SW SPRING CREEK LN	TOPEKA	KS	66610-1222	IND
MARSH, GARY & DIANE	724 N CLAY	LIBERAL	KS	67901-2941	FAM
MARSHALL, JOHN & BERNADINE	5149 LOCUST	KANSAS CITY	KS	66106	FAM
MARSHALL, W ROSS	6624 CRAIG ST	MERRIAM	KS	66202-3747	IND
MAXWELL, DONALD & MARY ELLEN	25094 160TH CT	LEAVENWORTH	KS	66048	FAM
MCCALLISTER, DAN	PO BOX 235	WAKEFIELD	KS	67487-0235	IND
MCCARTY, DUANE E	3100 W 22ND ST APT B4	LAWRENCE	KS	66047-3605	IND
MCCHESNEY, KAROL	PO BOX 98	MUNDEN	KS	66959-0098	IND
MCCLINTOCK, VAIL & GLADYS	212 E 2ND	BELOIT	KS	67420	FAM
MEHL, JANE	3 BOX 77	BELOIT	KS	67420	IND
MELTON, BETTY & DON	ROUTE 2 BOX 104	BELOIT	KS	67420	FAM
MENDENHALL, REV. TOM	2601 ARIZONA	HUTCHINSON	KS	67502-5123	IND
MIDWEST ARCHEOLOGICAL CTR	100 CENTENNIAL MALL N	LINCOLN	NE	68508-3804	IST
MILLER, WAYNE F	ROUTE 1 BOX 25	DEERFIELD	KS	67838-9501	IND
MILLIKEN, PATRICIA	3005 SADDLEWOOD DR	BONITA	CA	91902-2001	IND
MONTGOMERY, MARIAN	4204 WIMBLEDON DR	LAWRENCE	KS	66047-2033	IND
MORGAN, JEFF	1224 SW TAYLOR	TOPEKA	KS	66612	IND
MULDER, CLEVE & CLETA	721 UNIVERSITY PL	SALINA	KS	67401	FAM
MULDER, LOREN & CHRISTIE	2000 E SUNSET BLVD	PRETTY PRAIRIE	KS	67570	FAM
MURPHY, HELEN	35 E 53RD ST	LONG BEACH	CA	90805-5829	IND
MURRAY, KENT C & GLENNA J	409 SOUTH WALNUT ST	PAOLA	KS	66071-1974	FAM
NICHOLS, DEBORAH J	710 KIMBERLY CT	EXCELSIOR SPRGS	MO	64024	IND
O'BRIEN, DR PATRICIA J	DEPT. OF SOCIAL ANTHRO., KSU	MANHATTAN	KS	66506	LIF
O'TOOLE, ELISABETH	221 S LOOMIS AVE	FR COLLINS	CO	80521	FAM
O'TOOLE, JOHN	1841 STANFORD AVE	ST PAUL	MN	55105	FAM
ODELL, GEORGE H	524 S ALLEGHENY	TULSA	OK	74112	LIF
OREGON TRAIL ADVENTURE CO	1898 E 56 RD	LECOMPTON	KS	66050-4074	CON
PALMER, LON R	358 W 8TH	HOISINGTON	KS	67544-1924	IND
PANKRATZ, DICK	6425 SW 6TH AVE	TOPEKA	KS	66615-1099	IND
PAQUETTE, ANGIE	3215 DRIFTWOOD DR	MANHATTAN	KS	66502	IND
PARMENTER, CHARLES JOHN	2723 S TOPEKA #302	WICHITA	KS	67216-1082	IND
PARSONS, WADE A	406 W PARTRIDGE LN	ANDOVER	KS	67002	IND
PEARMAN, DOROTHY	7220 SW ASBURY DR APT 107-W	TOPEKA	KS	66614-4718	LIF
PEARS, MARGENE	4748 FREEMAN RD	MANHATTAN	KS	66502-8849	IND
PEARSON, GAIL & ROBIN	501 N WESTERN AVE	BELOIT	KS	67420-1849	IND
PEARSON, GENEVA & DELMAR	ROUTE 3 BOX 71	BELOIT	KS	67420	FAM
PERTTULA, TIM	10101 WOODHAVEN DR	AUSTIN	TX	78753-4316	IND
PETERSON, JOHN & FRAN	2756 CHIPPERFIELD RD	LAWRENCE	KS	66047-3183	FAM
PORTER, BARBARA & KRISTIN	BOX 75	HANOVER	KS	66945-0075	FAM
PORTER, MAX	490 FISHER DR	PHILLIPSBURG	KS	67661-2809	IND
PRIVAT, GARRY & MARILYNN	623 ELLINWOOD	OSAGE CITY	KS	66523-1225	FAM
REED, EVELYN	BOX 141	COLDWATER	KS	67029-0141	LIF
REED, HAROLD & MARGIE	3825 E STIMMEL RD	SALINA	KS	67401	FAM
REED, WENDELL	10132 NW 60TH AVE, RT 4 BOX 58	PRATT	KS	67124	IND
REICHART, MILTON	607 LINN ST	VALLEY FALLS	KS	66088	LIF
REXROAD, VIRGINIA	300 CRESCENT BLVD	HUTCHINSON	KS	67502-5512	CON
RICE, SHARON	2049 PLYMOUTH RD	MANHATTAN	KS	66503-7542	IND
RITTERBUSH, LAUREN & BRAD LOGAN	UNIVERSITY OF KANSAS	LAWRENCE	KS	66045	FAM
ROBB, JIM & TRISH	PO BOX 66	DANVILLE	KS	67036-0066	FAM
ROBB, PAULINE L	824 E 35TH AVE	SPOKANE	WA	99203-3162	IND
ROBERTS, JAMES E & KAREN M	10617 E 42ND ST APT F	KANSAS CITY	MO	64133-1523	FAM
ROBERTS, TERRY E	1517 YORKTOWNE CIR	MANHATTAN	KS	66503	IND
ROECKERS, HENRY J	120 N WALNUT, RR1 BOX 2A	GARNETT	KS	66032-6403	IND
ROECKERS, RICHARD	3120 SW CREST DR	TOPEKA	KS	66614-3911	FAM
ROMINE, JOHN & PHYLLIS	37180 W 303RD ST	PAOLA	KS	66071	FAM
ROPER, DONNA	1924 BLUEHILLS RD	MANHATTAN	KS	66502-4503	CON
ROWLISON, DON	COTTONWOOD RANCH-RR1 BOX 57M	STUDLEY	KS	67759	LIF
ROYCE, CLARE H	RR BOX 93	LANGDON	KS	67549	LIF
SAGE, SHARON	9130 SW 97TH	AUBURN	KS	66402-9610	FAM
SAMPEL, T. MARK	517 COLUMBIA ST	COUNCIL GROVE	KS	66849-1626	FAM
SAVELY, CHARLIE & SHERRY	RT 1 BOX 8	GREENSBURG	KS	67054	FAM
SCHMIDT, REX & JANE	H-C 69 BOX 28	WILMORE	KS	67155	FAM
SCHOEN, CHRIS & ROXANNE GISSLER	177 NW THE DRIVE	TOPEKA	KS	66606	FAM
SCHRATER, JUDY	8102 SUMMERS RD	HUTCHINSON	KS	67502	IND
SCHUYLER, ROBERT L	33RD & SPRUCE STS	PHILADELPHIA	PA	19104-6324	IND
SCOTT, FREDERICK WM	PO BOX 442256	LAWRENCE	KS	66044	IND
SEARCH, JAMES J	1518 S 7TH	ATCHISON	KS	66002-3138	LIF
SHAW, JUNE	1407 WILTON LN	ST. LOUIS	MO	63122-6942	IND
SHERRADEN, KEN	760 S BROADWAY	SALINA	KS	67401	LIF
SHINN, ORVAL	PO BOX 498	PLEASANTON	KS	66075-0498	IND
SHIVELY, BARON	823 N ELM ST	MCPHERSON	KS	67460-2183	FAM
SHRINER, DAWN RENEE	1576 AVE JJ	ELLSWORTH	KS	67439	IND
SHRYOCK, ELISE	1143 EUCLID	AUGUSTA	KS	67010	IND
SINES, LORI & TERRY	12530 166TH ST	LINWOOD	KS	66052	FAM
SKAHAN, VICKI	5012 SHADY LN	JEFFERSON CITY	MO	65109-0479	FAM
SLOCUM, DUSTI	726 WILSON LN	IOLA	KS	66799	STU
SMITH, KENNETH & CLORENE	313 W GARFIELD. PO BOX 774	GREENSBURG	KS	67054	FAM

SMITH, RICHARD N	1618 DAKOTA	LEAVENWORTH	KS	66048-1110	FAM
SMITH, WALTER J III	350 E 181ST ST	SCRANTON	KS	66537	IND
SMITH, WAYNE	1635 2ND RD	RAYMOND	KS	67573-9624	IND
SOLOMON, TERRY	2552 170TH AVE	ELLIS	KS	67637-9291	IND
STANLEY, ELLEN MAY	BOX 1057	DIGHTON	KS	67839-1057	CON
ARCHAEOLOGICAL RESEARCH CENTER	2425 E. ST CHARLES ST, BOX 1257	RAPID CITY	SD	57709-1257	IST
STAUFFER, JIM F	521 N MAPLE	MCPHERSON	KS	67460	IND
STAUFFER, RICHARD	2001 LINCOLN	EMPORIA	KS	66801-5426	IND
STEIN, MARTIN	6425 SW 6TH AVE	TOPEKA	KS	66615-1099	LIF
STEIN, PAT AND KELSEY	4931 SW 53RD	TOPEKA	KS	66616	FAM
STITES, DEAN & VALORIE	405 W BUFFALO	GIRARD	KS	66743	FAM
STONE JR, BILL & TERRI	312 S COLORADO, PO BOX 226	KANAPOLIS	KS	67454-0226	FAM
STRECKER, ANITA & NEIL	407 N 6TH	WAKEENEY	KS	67672	FAM
STRICKLER, BRENDA	13001 STONEBRIDGE RD R2 BOX 274	ARGYLE	TX	76226	LIF
STRICKLIN, HENRY & SAUNDRA	208 E ASH, PO BOX 265	WEIR	KS	66781-0265	FAM
STRICKLIN, WILLIS	RR 1 BOX 301	GALENA	KS	66739-9525	IND
STUBBS, MICHAEL	PO BOX 5819	SANTA MONICA	CA	90409-5819	IND
SUDBURY, BRYON	PO BOX 2282	PONCA CITY	OK	74601	LIF
TAYLOR, JEAN	BOX 204	IUKA	KS	67066	IND
TEVIS, KAREN & DAN	416 S TERRACE	WICHITA	KS	67218-1406	FAM
THIES, RANDALL M	6425 SW 6TH AVE	TOPEKA	KS	66615-1099	LIF
THOMAS, WARREN	106 WILSHIRE	COFFEYVILLE	KS	67337-2545	FAM
THOMPSON, JOE B	PO BOX 353	CRESO	IA	52136	IND
THOMPSON, ROBERT & FRED A	817 COLLEGE	ATCHISON	KS	66002-3057	FAM
THURMOND, J PETER	KT 1 BOX 62B	CHEYENNE	OK	73628	LIF
TODD, ARTHUR & HELEN	ROUTE 1 BOX 112C	GREENSBURG	KS	67054	FAM
TODD, CLARENCE	104 EASBURY, PO BOX 82	EFFINGHAM	KS	66023-0082	IND
TROTMAN, JEFF	PO BOX 1005	ULYSSES	KS	67880	IST
TUCKER, VITA J & KEITH	7015 W 133RD ST	BURLINGAME	KS	66413-9583	FAM
UNIVERSITY OF KS ANTHROPOLOGY	SPOONER HALL	LAWRENCE	KS	66044	IST
UNIVERSITY OF KS LIBRARIES	SERIALS DEPARTMENT	LAWRENCE	KS	66045-2800	IST
UNIVERSITY OF OKLAHOMA	401 W. BROOKS ST	NORMAN	OK	73019	IST
VEHIK, DR SUSAN	455 W LINDSAY, RM 521	NORMAN	OK	73019	IND
VRBAS, JEANETTE	RR 2 BOX 26A	ATWOOD	KS	67730-9607	IND
WALLEN, ROSE MARIE & MIKE	116 MILL ST.	LINDSBORG	KS	67456	FAM
WALLINGFORD, CAROLYN	2020 C ST	LINCOLN	NE	68502-1651	IND
WALTERS, CLEAT & VIRGINIA	2409 24TH ST	GREAT BEND	KS	67530-4448	FAM
WALTERS, DARYL & SHIRLEY	1817 SW 34TH ST	TOPEKA	KS	66611-2579	FAM
WARD, ROGER	234 RANDOM RD	EL DORADO	KS	67042-4224	IND
WATKINS, KENNETH	327 WEST BURBANK	FREDERICKSBURG	TX	78624	LIF
WEDEL, VERNON	823 SPRUCE	HALSTEAD	KS	67056	LIF
WEINHOLD, BARRY	103 E 8TH	ELLSWORTH	KS	67439	IND
WESSLING, JOANIE & RUTH	603 E 6TH ST	BELOIT	KS	67420-2503	FAM
WESTHOFF, PAUL R	3312 W 132ND ST	LEAWOOD	KS	66209	IND
WESTON, TIM	6425 SW 6TH AVE	TOPEKA	KS	66615-1099	IND
WETHERILL, BERT	12304 WALMER	OVERLAND PARK	KS	66209	IND
WETZEL, THERESA	7521 NW HODGES	SILVER LAKE	KS	66539-9635	FAM
WIDDOWS, BOB & ALICIA	619 BLAKE ST	ELLSWORTH	KS	67439-4236	FAM
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WILLIAMS, PAT	RT #3 BOX 23	BELOIT	KS	67420	IND
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YANKE, BASIL	108 E AVE B	PIERCEVILLE	KS	67868	FAM
YARMER, ROBERT E	PO BOX 158	ELLINWOOD	KS	67526-0158	IND
YOUNG, AL	214 S INDEPENDENCE	BELOIT	KS	67420	LIF
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museum graphic

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Vol. XVIII, NO. 3

SUMMER, 1966

THE KIWI OF NEW ZEALAND Page 3
By ROY E. COY



ST. JOSEPH AND THE CIVIL WAR Page 4
By CHARLES RADCLIFFE



IT'S A LONG WAY NORTH Page 12
By FLOYD LAWHON



BEDROOM FURNITURE Page 14
By ROY E. COY



IN MEMORIAM Page 15



VISITORS FROM TOKYO JAPAN Page 16



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A New Zealand soldier holds a kiwi at the Hawkes Bay Acclimatisation Society's Game Farm, Green Meadows.
Credit: New Zealand Publicity Photo.

THE KIWI OF NEW ZEALAND

By ROY E. COY

The bird on the cover is one of the strangest and probably the most primitive of all birds. It is the Kiwi of New Zealand, and is one of many rare items from the museum's famous K. V. Painter collection. (Mrs. K. V. Painter is an active member of the Museum's board of directors.)

The most interesting thing about the Kiwi is the enormous size of its egg which is five inches long and weighs nearly one pound. This is one-fourth to one-third of the birds average body weight.

The Kiwi is no longer common in New Zealand and is seldom seen because it is also shy and retiring. They feed at night and only infrequently come out during the daytime, spending most of the day hidden in burrows or under the spreading roots of large trees in the tree fern forest it loves.

It is a primitive flightless bird about the size of a large chicken,

although they will vary in size depending upon the species. It is a member of the ratites (bird with no keel on the breast bone). There are only three living species and two known fossil species.

Three very unusual items about this bird are first, the nostrils open at the very tip of the bill. Second, they have a keen sense of smell which is almost entirely lacking in other birds. Third, the male does all the incubating of the chalky white eggs. While hunting for food it makes a continual sniffing sound through the nostrils, and it can sink its long bill or beak down into a rather deep hole. When foraging for worms it moves about with a slow action of the body, and the long flexible beak is driven into the ground generally to the very root and is immediately withdrawn with a worm held at the extreme tip of the mandibles or it is moved to and fro by an action of the head and neck. The body of the bird is held

perfectly steady. It is amusing to watch the extreme care and deliberation it will use in drawing the worm from its hole in the ground. It coaxes it out by degrees and then draws up its head with a jerk and swallows the worm all in one piece.

While the Kiwi does have wings, they are not visible and are very small and useless. The feathers of this bird look almost like fur and it is without doubt one of the world's strangest birds.

It is protected in New Zealand by law, and the people there are quite fond of their native bird. Its picture can be found on New Zealand postage stamps and in many forms of advertising pertaining to New Zealand products.

The Kiwi is of the genus *Apteryx* from a group of the section *Ratitae*. When cornered they use as a defensive measure the sharp claws on their feet. Do not miss seeing this bird on your next visit to the St. Joseph Museum.

ST. JOSEPH AND THE CIVIL WAR

By
CHARLES
RADCLIFFE

The Civil War, or the War between the States, was in many respects the most momentous event in the eventful history of this community. St. Joseph at the time had played a prominent role in two gold rushes, was the western terminus of the first railroad across the state, and the eastern terminus of the Pony Express. St. Joseph was a border city in a border state and though the last shot was fired over 100 years ago, the city suffered from the effects and events of that era of American history for many years.

Buchanan County and St. Joseph was settled largely by people from the Southern States. The fact that over 2,000 slaves valued at \$1,500,000 were owned here will readily explain the strong feeling against abolition by a considerable portion of the community.

On February 18, 1861, an election was held to choose three delegates to a state convention being held at St. Louis to decide the course of Missouri upon the question of secession or loyalty. Ex-Governor Robert M. Stewart, Willard P. Hall and Robert W. Donnell were elected. The first two were strong outspoken Union men, while the latter had sympathies with the South. Public sentiment was fairly reflected in the vote for these delegates.

Many prominent local men were ardent followers of Missouri's firebrand Governor, Claiborne F. Jackson, who had declared that the destiny of all slave-holding states was alike. Two of the men were M. Jeff Thompson, former Mayor-engineer and railroad promoter, and J. H. R. Cundiff, then the fiery editor of "The Gazette." Both were very vocal on the local scene in advocating complete withdrawal from the Union at the first signs of any attempts of federal subjugation of any state. Both men had large followings in St. Joseph, as did the two Union men, Stewart and Hall.

The pot began to bubble in early March of 1861, when a new game was played in Missouri. The game was called "Raid a Federal Arsenal," and soon the Federal Arsenal at Liberty, Missouri was ransacked, with the active assistance of a delegation from St. Joseph. A large portion of the arms and military equipment taken there, was brought to St. Joseph under the cover of night and hid around the town in various attics and cellars. The secession fever was spreading and soon St. Joseph's two militia companies were infected. The Emmet Guards and the Jackson Guards were strongly divided in sentiment over the secession question, so it became necessary to dis-

band the two militia companies. This was unfortunate, as in events to come, there was no way left of maintaining civil order in the city.

Immediately after the disbanding of the militia companies, two enterprising young men, John Thornton and Reuben Kay, pulled Governor Jackson's supporters together, formed two companies and went into camp near the Patee House. April of 1861, here in Missouri was rainy and windy, and on the wind came the sounds of martial strife in the East.

In St. Joseph there was a stirring, an uneasiness, an air of careful watching and waiting to see what would happen. The fracture of the town started mildly, some threats uttered against men who wanted to stay loyal to the Union, some abuse toward those who had voted for Lincoln. Then came the call for Missouri troops to help suppress the Southern rebellion. This caused the final rupture, as many felt the call should be answered, others believed that the South should be left alone, to go their own way in peace.

Feelings were running at a fever pitch and it seemed the very air

hummed with tension. Torchlight parades filled the streets at night, as loyal Union men would march through the streets, only to meet Confederate sympathizers marching the other way. At first only fists and curses filled the air, but every one knew that something was going to happen.

The City Council, hoping for the best, tossed out a dove of peace in the form of a city ordinance forbidding the flying of any flags in the city. The dove came back to roost with scorched tail feathers. Instead of easing the tension, it snapped the tether of violence and terror. John L. Bittinger, a prominent Republican, who had been appointed postmaster by President Lincoln, raised the United States flag over the post office. The post office was then located in a building on the east side of Second Street, just north of Francis Street. The postmaster rationalized his actions by stating, "City ordinances do not have any effect on Federal establishments." The postmaster's answer and the flying of the flag incensed the town's southern elements and was construed by the two military companies as a direct affront to them. On a balmy morning in early June 1861, after the flag had been flying defiantly for several days, a mob gradually collected in the Market Square. Soon an angry discussion of what to do about the flag and the ways and means of doing it had started.

Colonel M. Jeff Thompson, who was then engaged in the real estate business opposite the post office, went down and gave the crowd a stirring address. He denounced the postmaster's course, but counseled moderation. Then as if seized by a sudden impulse, he did the exact opposite of what he had counseled. Colonel Thompson ran to the rear of the post office building, scrambled up on to the roof of a small woodshed and from there with catlike agility gained the roof of the post office. The next sight of him his associates received was when he had torn the flag from the pole and waved it at the restless crowd in Market Square, while blowing excitedly on a tin horn.

The crowd roared its approval of his actions, and several pistols were fired into the air. Soon the roof of the post office was covered with people who had crowded upon the roof to join Colonel Thompson. The flag was ripped to pieces; the pole was broken off and lowered down to the screaming, milling mass of people, who carried it in triumphant



The removing of the flag from the U. S. Postoffice — this act allowed, brought on mob violence in the city until martial law could be invoked.

procession to the bank of the Missouri River, near the ferry landing, where it was demolished and cast into the water. There was no resistance and the rabble had a clear field.

A contingent marched toward the Turnverein Hall, where another flag was displayed. Several members of the Turnverein Society were standing guard on their building. Seeing the menacing crowd coming in their direction, and knowing the destruction of the post office flag, saved their flag by quickly lowering and hiding the flag in a little used loft of their building. As the last vestige

of the Union disappeared from sight, Rebel flags blossomed out all over the city.

Mobs of Confederate sympathizers marched through the streets, cheering for the South, Jeff Davis, the Confederacy, Jeff Thompson or anything that struck their fancy.

As evening drew a curtain of night upon the riotous scene, the mob fury rose to a higher crescendo. Riverfront taverns were looted, and "old Redeye and Panther squall" whiskey helped to befuddle, confuse and lessen control. Stores began to suffer and looting was widespread. Negro shanties along the river were

burned, the occupants escaping with only their lives. Some of the crowd hung President Lincoln in effigy from several street corners.

The mob roamed restlessly up and down the streets unchecked, searching for more victims or stores on which to wreak vengeance. Union men stood guard in their homes, armed with rifles and revolvers. Sanity and reason had packed up and fled town, as mob rule was in full sway. In the anarchy of mob violence, one means of communication was forgotten by the marauding mob. The telegraph line was still in operating order to the outside world.

That evening, the Mayor of St. Joseph, F. W. Smith, a staunch Union man, seeing all hope of trying to reconcile the lawless mob to peace and order, wired for help to the Federal troops at Fort Leavenworth, Kansas Territory.

Sheer weariness and too much whiskey slowed the mob and the participants began to drop out. As dawn came and the bleary-eyed crowd began to stir, cursing the effects of the pop-skull liquor consumed the night before and wondering at the smoke still drifting around, the sound of a bugle call sliced across the morning calm like a saber slash. People craned their necks to see what had caused that and wondered what was happening. They saw a compact body of blue clad horsemen entering the city.

We have an eye witness account by a man who was a member of the Dragoons. Mr. Patrick McEneany, who was born March 15, 1835 in Ireland, emigrated to this country

during the Great Potato Famine of 1848. After a hitch in the army, he rode for the Pony Express in Nebraska territory from April 1860 to August 1860, at which time he re-enlisted in the calvary.

As a trooper in Company K, 2nd U. S. Dragoons, he served throughout the Civil War. It is as a member of this Dragoon Company he arrived in St. Joseph to help quell the civil disturbance. Mr. McEneany states:

"We got orders to be ready to start at once with cartridge boxes filled, horses shod and one days rations cooked to take with us and oats enough for one feed for the horses. Every man cooks and all. Jeff Thompson made threats over in Weston the day previous he would take the commissary and magazines and so on. That was the report at the time. C and K troops 2nd U. S. Dragoons were the only troops at Fort Leavenworth at the time and the message Jeff got from the men was a plenty. He did not come but went up the Missouri to St. Joe where he erected a liberty pole and nailed a rebel flag on it. That was not sufficient but he and his gorillas downed old glory off the post office and raised the confederate flag. That was not enough they threatened to hang the postmaster. While all this was going on around St. Joe we were still at Fort Leavenworth all ready to move. One morning two companies of the 2nd infantry arrived and that night about midnight "Boots and Saddles," "To horse" and the "assembly" sounded in the quarters and such a fuss. Everything had to be done very quietly even the Buglers notes in the quarters was sounded slow. Well to make a long story short it took us from the time we were aroused from sleep till we were ferried across the Missouri, one hour and 20 minutes. We got into St. Joe in the morning early at a gallop by fours. After resting a while we unsaddled and the 1st Sgt. Henry Sacks took one half the troop to water the horses. When he returned Sergt Nicholas W. Nolan took the other half. After watering Nolan seen the flag and that settled it. We all took a look and some said it was an English Flag some said it was French one fellow fixed it by saying it was a half breed. So we were ordered to fall in with our side arms afoot no sabres and follow the Sergt. We marched up first to the post office and asked what flag that was on the post office and who hoisted it. The answer was a Col. Thompson ordered it put up and he, the man said would shoot any man who would take it down.

Well said the Sergt we will see who will do the shooting threats don't count. Cutthroats will threaten. So calling Harry Williams the Trumpeter Connolly, Jackson, Thompson, Stock, Tryell and myself we were directed by the Postmaster which way to go up. We went. All this time the men were on the street looking up at the flag with their backs to the opposite side of the street. Young Jackson happened to look over and see a woman hand a gun to a man on the sidewalk. For we who were on the post office roof could see what was going on below. Then Nolan gave the command with a roar rear rank about face. Both ranks take intervals and shoot any man or woman you see with a gun in his or her hand. We will see who will commence the shooting. Men fire low be steady and take good aim. There was no shooting we put up our guidon in place of the rebel flag. The old postmaster cried with joy when we handed him the flag. Then came the tug of war off for the Liberty pole not one could climb it. So we got an axe from the grocer on the corner and cut it down taking the rag off and rolled it around a rock and threw it into the Missouri. Then the cat yells and hoots and hisses came from the crowd of rowdies. We were treated fine by the people of St. Joe and we were quartered at the Hotel until our wagons arrived with our tents. The German who owned the brewery sent a barrel of ale every morn after stables so we dispenced with the coffee for that meal. The young people used to come down and see us go through the sword exercise every evening at retreat and seemed to like it. There was some very fine young people and just as we were getting acquainted the two companies of Infantry E and F relieved us and we had to go guard Platte bridge on the Hannibal St. Joe R. R.

The rowdies got their work in on the infantry by killing one of their numbers with several stabs in him. His name was Matthew Ryan of F Company 2nd Infantry Capt. Sully."

After the arrival of the Dragoons into St. Joseph, the rebel camps near the Patee House were hurriedly disbanded. Some men, realizing the futility of trying to fight the well armed Dragoons, returned to their homes in the city and surrounding countryside. Others, made of sterner stuff, formed another company for the express idea of going south to join the Confederate Army. This company fled from St. Joseph and hid themselves in the heavily timbered hills south of St. Joseph. Mean-



Patrick McEneany. Pony Express Rider and Soldier. McEneany served in the 2nd U.S. Dragoons who put down the civil strife in St. Joseph in 1861.



The Battle of Lexington. Many St. Joseph men participated in this battle as Confederate soldiers.

while, in the city itself, there was a secret movement of the arms and the military equipment, taken in the raid on the Federal Arsenal at Liberty, Missouri. The arms and equipment was being loaded by night, from the various attics and cellars, onto wagons, then covered with hay and being driven through the federal camp in the daytime to divert suspicion.

Once outside the city the wagons were delivered to the waiting company and were taken south with this company. This was the only organized troop movement of St. Joseph men to go south during the war. Many others followed either singly or in small disorganized squads. It is roughly estimated that between 1,600 and 2,000 men went off to the south from St. Joseph. As there are no records to refer to, it is impossible to give details of their service.

The Dragoons were relieved by two companies of the 2nd Iowa Infantry who remained here from June 1861 until August 1861, when they were ordered south to help bolster the federal forces in Southern Missouri. Into the vacuum left by the departing Union troops came a Con-

federate regiment, recruited mostly from the upper northwestern counties of Missouri.

Greeted joyously at first by the Secessionist element in St. Joseph, their presence soon grew irksome. These Confederate troops remained in the city several days, levying tribute, taking what ever struck their fancy and creating an uproar as they did not hesitate to levy tribute from "Secesh" as well as staunch Union men. These poorly disciplined, poorly officered soldiers roamed the streets in drunken bands, fighting among themselves, fighting citizens and keeping the town in a continual state of upset.

When these unwelcome guests finally departed, to their rendezvous with destiny, the town heaved a collective sigh of relief. The dust of the departing Confederates had hardly settled, when a battalion of raw militia came shambling into the city. Recruited in the country to the east of St. Joseph, in the Grand River area, they had given themselves the name of the Grand River Militia.

After the strict disciplined Dragoons and the undisciplined Confederate troops, these raw troops were

a comic relief in their grotesque awkwardness. They remained only a short time in the city, but they created much amusement in their serious efforts to look and act like soldiers. One person has left a record, but he is unknown as his description of the militia was unsigned. He states:

"When the Grand River Militia would march down the street, we all hurried to see the sight. The trouble seemed that they did not have the ability to tell which leg was the right and which was the left. Also it seemed that they believed they were still following a plow. Not a one could keep in step with his neighbors, as some would take long steps, some took short steps, and some would try skip along to get in step or else they would take medium sized steps. The whole bunch would be bobbing up and down, redfaced with the effort to look military. We would line the streets laughing and cheering them on."

After the Grand River Militia left for war, there came a spell of uneasy peace in the town. Rumors came floating in from outside areas of new horrors. House and barn

burnings, people slaughtered in their front yards, or else people being ordered to leave the state. In St. Joseph there were some empty stores, and the Hannibal and St. Joseph Railroad ran fewer trains. More people began to go back east, figuring it would be suicide to stay in a city that was exposed and unguarded, ready for any outlaw gang that desired to raid it. As a consequence, the eastbound trains were heavily laden with people fleeing the city.

On the river, steamboat business dropped, as the boats were taken for military use on the lower river. Unemployment created problems, as some of the vicious elements joined the outlaw gangs. Friendship also suffered, as friends of many years fell out over the politics, parted mortal enemies, and in many instances the anger outlasted the war, not to be ended until the parties on both sides were deceased.

In October, 1861, the 16th and the 52nd Illinois Infantry arrived by the Hannibal and St. Joseph Railroad,

unloaded at the depot at 8th and Olive Streets, and paraded through the streets behind a brass band that was playing a lilting old march, "The Sergt. O'Leary." The two infantry regiments proceeded to Prospect Hill where a camp was set up. Once having established a camp, the federal forces then raised a breastworks along the edge of the hill. A legend here in St. Joseph, is that the same troops dug a road through a hill also, to facilitate the moving of supply wagons. Who knows, at least Dug Cut is still there.

The two Illinois Regiments remained through the winter of 1861 into the spring of 1862. Their arrival was a cheering sight to the loyal Unionists in the city and was a powerful deterrent in keeping outlaw gangs away. The men of the regiments conducted themselves as guests, except for one incident.

Mr. J. H. R. Cundiff, editor of "The Gazette," was a prosouthern man and he stated his views vocally in his paper. The Union soldiers soon grew tired of this constant tirade of

abuse and scorn heaped upon them and the country they had sworn to serve. So on a January day in 1862, a delegation went to talk to the fiery editor of "The Gazette." They were joined by more soldiers when the word spread as to where their destination was. The editor, brave, but not foolhardy, left town on a fast horse to go south. (He returned a Colonel after the war.) When the soldiers found the editor had left the soldiers proceeded to destroy the presses and the paper, carried off the type to be melted down for lead bullets and set the building on fire.

In the spring of 1862, the two regiments marched back down to the depot, climbed aboard the trains and left with orders to join some new general named Grant. By this time St. Joseph had become a prominent base of military operations. At least three battalions of loyal Union men were formed here at St. Joseph. Used as Home Guard regiments, these troops were used to guard the railroad against bushwhackers. Trains were a favorite target of these



Dug Cut. According to legend a ravine was widened and dug out to make a wagon road to facilitate the movement of supply wagons. Looking north.



Union entrenchments on Prospect Hill. Built by two regiments of Illinois troops in 1861 to guard St. Joseph and the river.

outlaw gangs, as was the bridge burning. The only area free of bushwhackers was the ground that the company held at that time.

The Missouri border was overrun with outlaws of all sorts, bushwhackers, thieves, robbers and other lawless types, who operated without regard to politics. The infamous Quantrell cast covetous eyes at the rich, lush, city of St. Joseph. There were two reasons why he decided not to ransack the town? There was the problem of crossing the Missouri River, then the fact that there were two federal regiments garrisoning the town.

In addition to troubles of local sources, great excitement prevailed in Kansas, after the Lawrence Kansas massacre, authored by Quantrell. An invasion of Missouri was threatened by Kansas "Red Legs." All of this combined with outlawry

already rampaging in the surrounding countryside. Farms were abandoned as people fled into St. Joseph for protection. Feuds engendered between border residents of Kansas and Missouri in the "Border War," period of 1854-57 were reopened or used as pretexts by marauders and freebooters. It was impossible for Federal authorities to quell such bands, due to the demoralized condition of the militia service.

A number of citizens of St. Joseph and of Buchanan County, disillusioned by army life, had returned from the Confederate army, and were classed as disloyal. They were however, fully as anxious to protect life and property from the marauding bands as were men loyal to the Union.

It was proposed by General Willard P. Hall that all these men, loyal or disloyal, be organized into militia

companies, to be based at St. Joseph, for use as a protecting force against the marauding, freebooters. President Lincoln saw in it not only the possibility of keeping many from reenlistment in the Confederate service, but also as a means of helping quell the border strife.

A knowledge of the conditions that existed in St. Joseph, and the surrounding territory at this time can be gathered from the testimony of Colonel John F. Williams. Colonel Williams was in command of the St. Joseph military district. Colonel Williams states:

"When I arrived at St. Joseph to take command in July 1863 I found the district in the most lawless conditions; in St. Joseph, mobs and riots were common; I found also that a number of troops then in service in the district were disobedient, and rather mutinous and were under no



A company of enrolled volunteer militia, (Paw Paws) mustered at 2nd and Francis Streets. These troops were used against marauding border gangs.

discipline or control. I urged upon the officers to subject their men to the observance of the rules and articles of war; some succeeded, others failed. The conditions and the troops were improving until Quantrell made his raid on Lawrence, Kansas; that created great excitement in the county, both among the troops and the citizens; numbers of the troops openly declaring they would not resist an invasion made in retaliation from Kansas. I found in St. Joseph and the district there, there were a great number of refugees in the city from several counties in the district, having fled to St. Joseph, after being ordered to leave the state by a band calling themselves, "Midnight Rangers."

Their mode of operation was about this: They would leave a written notice, three or four matches enclosed in it, at the victim's house, notifying him that if he did not leave his place within five days, taking his whole family, he would be hanged and his house burned down with his family inside. Then some other members of the gang, who were on friendly terms with the victim would call and condole with him, and advise him to stay. But the victim had already made up his mind to go, which they knew, and they would take advantage of his fear and buy his property at a nominal figure. Thus a system of wholesale robbery was carried on.

In St. Joseph, countrymen who came in to trade were pulled off

their horses—sometimes by soldiers and sometimes by citizens and threatened with death if they ever came back. Most of the troops in the district are now concentrated on the border to prevent raids into Missouri from the thieves and outlaws of Kansas, assisted by their friends in Missouri."

Since most of the federal troops were going south or busy trying to guard the border, it became necessary for the federal authorities to recruit, arm and train militia companies to help protect this district. After much arguing and soul searching, the authorities decided to form at least a regiment, to be used as the nucleus of a militia brigade. Men, both Union and Secessionists, hastened to answer the call for militia duty, so that in St. Joseph a regiment was formed. Colonel John Scott, was the first commander of the Eighty-first Regiment of Enrolled Missouri Militia.

After the regiment was formed, trained and armed, it went out to do guard duty along the railroad, patrol the roads, check the little farms for trouble, and try to keep the bushwhackers busy dodging the patrols. It was during this time that the militia picked up a nickname that lasted long after the regiment and brigade members had answered the "Big Muster."

One rainy evening, as the legend has it, a weary, mud caked patrol was slogging down a muddy road.

The men were brush whipped, thorn scratched, and foot sore. They had spent the day up in the heavily timbered hills, chasing outlaws, now were on the way back to St. Joseph. As the rain thickened, and stomachs growled hungrily, a farmer, standing on the porch of his cabin, watching the "weary willies" going by his little hard scrabble farm, called out.

"Where ya' been?"

"Up in them hills," answered a rear rank private, who could smell the cooking odors from the cabin.

"Watch' a been doing?" was the query.

"Pickin' Paw Paws!" came the answer from the disgruntled private. The rest of the patrol roared with laughter and carried the story back to the regiment. Later, when the brigade was formed, it called itself the Paw Paw Brigade.

To people, who are not acquainted with the paw paw, it is a small banana shaped fruit that grows wild on the thickly timbered hills of Missouri. In the fall, the fruit is delicious to eat, but is hard to find.

The detractors of the militia said the name came from the fact that the militia spent most of its time hiding in the woods where the paw paws grew, instead of chasing outlaws. Well the brigade was famous or infamous, according to which side you were on.

One of the most outspoken opponents of the brigade was Colonel William R. Penick, then Provost Marshal of St. Joseph. The Colonel was an intense, uncompromising Union



W. A. Penick — Staunch Union man. Provost Marshall of the St. Joseph area during the war.

man. His brother was a Captain in the Confederate service, and Colonel Penick had watched the mob violence earlier in war. He had an undying hatred of southerners, disloyal men, and the arming of such people. He had much to say about the Paw Paw Militia. He states:

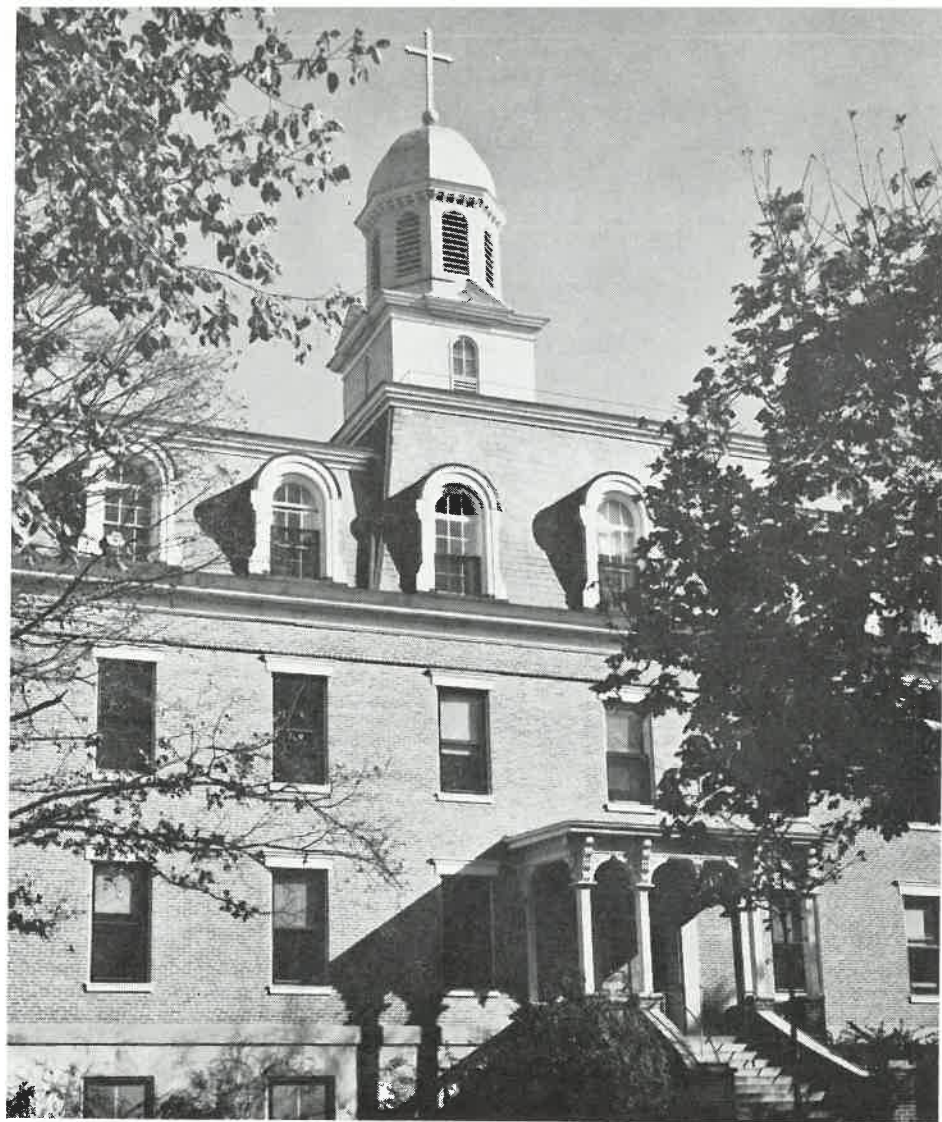
"The two companies I saw were notoriously disloyal. They were in our city to guard the polls. I placed myself in a position to look every man in the face as they marched up the street. They were the first Secessionists I ever saw carrying arms under the authority of the government, and I gave them a close inspection. I am almost confident that there was not a loyal man in the company. I saw men who had belonged to Price's army—some who were there had been in the rebel ranks at Lexington, Missouri and Blue Mills, Missouri. Some who have assisted in raising rebel flags. Some who had often cheered for Jeff Davis. Some who had acted as recruiting officers for Price's army, but who were too old to go themselves. Nearly all of them notoriously disloyal and are enrolled as sympathizers on the Provost Marshal's book."

There are two sides to every coin, we saw one side, now we see the other side. Judge Henry M. Vories of St. Joseph states:

"Those called Paw Paws, have behaved themselves very well—as far as I have been informed, and the county has been more quiet and seemed to be more secure since about the time of their organization. I think the militia called the Paw Paw have exerted themselves to keep peace in the city and county. I think they have been anxious to make a good character, knowing that they were charged with disloyalty; at least, they have done well and we have during this winter more peace and quiet than we have had since the rebellion."

It seemed that the Paw Paws did the job they had been mustered for. They hung a few outlaws, shot a few and ran the rest around the county. While they gained no glory on the battlefield, they fought outlaws in deadly little skirmishes, where a man could be killed as dead as one killed at Gettysburg.

From 1861 to 1865, the rebellion period, St. Joseph like many other cities went backwards. Business was paralyzed, labor was unemployed and conditions disturbed. As the fighting moved deeper south, St. Joseph was left in the backwash of war. A huge hospital was estab-



Convent of the Sacred Heart. Built in 1850, served as a hospital for Union Soldiers during the campaigns in the Trans-Mississippi area.

lished in the Sacred Heart Convent which sat high on a hill in the southeast part of town. The people of St. Joseph watched the blue columns of troops leave the town, headed for the swamps on the Yazoo, or the rifle pits at Vicksburg, then saw them come back on a steamboat and be carried up the hill to the hospital and either limp away minus an arm or leg or be carried out in a pine box while muffled drums beat the dirge. To those who were left behind, it mattered not if the one who had left to fight wore the Blue or

Gray. There was a oneness in the sorrow of a letter telling of a lonely grave at Vicksburg, Corinth, or Iuka. Too often the only epitaph for many was in the family Bible—John gone to war—1861.

It would be impossible to state more in this brief work concerning the men of St. Joseph who fought, suffered, and gave their lives for their cause. There is no doubt of the valor or heroism of these men nor of the loyalty and patriotism of those who lived to see the nation united and prosperous.

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By
FLOYD LAWTON

This is the way you would describe the distance that many of our birds travel in their spring migration.

It may surprise the reader to know that complete books are written on the subject of bird migration alone. Some birds migrate only a few miles while hundreds of species migrate a thousand miles or more each fall to the south and each spring to the north. A few like the Arctic Tern are long distance milers spending their summers nesting in the Arctic and their winters loafing in the Antarctic.

There are many reasons given for the migration of birds. Probably the two best are No. 1, birds nesting in the northern hemisphere have many more daylight hours in which to feed and rear their young. From actual records it has been proven that some young birds as nestlings eat their weight in food each day. To do this the parents have to work about 16 hours or more a day feeding their young. No. 2, if all the birds which winter in the tropics were to nest there it would probably be impossible to take care of the large numbers of young birds.

The first indication that we have here in the midwest of migrating

birds is in late winter when the diving ducks start arriving. Just as soon as there is open water they start moving in. The common ones consist of Red-headed Duck, Ring-necked Duck, Canvasback, Scaup, Goldeneye, Bufflehead, Ruddy Duck and the Mergansers or fish eating ducks. The latter include the Hooded Mergansers, Common Mergansers, and Red-breasted Mergansers.

Although there are many ducks that spend their winters in our area, the bulk of the puddle or pond ducks pass through our area during March and April. Of these the most beautiful and possibly the most beautiful bird in North America is the Wood Duck. This duck contrary to the habits of most ducks nests in the cavities of trees.

Along with the ducks, or sometimes a bit later, the gulls arrive. Most people call them sea gulls speaking of them generally but in reality each has a different name. There are four common species that we may expect to see in Northwest Missouri each spring. They are the Herring Gull, Ring-billed Gull, Franklins Gull, and Bonapartes Gull. It is sometimes possible to see two more species but they are considered rare in this area.

Following the gulls the terns arrive. First to arrive are the Forsters Tern, Common Tern and Black Tern. Then these are followed by the Caspian and Least Terns. The balance of water birds to pass through this area include the rail family which consists of about eight species, the heron family which are the long legged waders and finally the small shore birds.

Of the rail family the more common are the Coot or Mud Hen and the Sora Rail.

Of the long legged waders the most common are the Great Blue Heron which is frequently erroneous-

IT'S A LONG WAY NORTH

ly called the Crane, the Common Egret, Snowy Egret, Little Blue Heron and Green Heron, also the American Bittern. Occasionally we do see in this area a few rare birds belonging to this family called ibises.

The shore birds range in size from a sparrow to a rooster and in color they vary from a plain drab brown to variations that would be difficult to believe unless seen. Some of the small shore birds are so near the same size and color it is very difficult to tell them apart. Other shore birds are so brightly colored and strongly marked they may be identified at a glance in flight. Then just to complicate matters there are a few rare birds that wander to our shores from Europe keeping us ever on the alert. One of these rare European species is the Ruff which was seen at the Squaw Creek Wildlife Refuge a few years ago by David Easterla of Maryville, Missouri.

There are about eighteen species of hawks that may be seen throughout the year. A few species such as the Cooper Hawk, Sharp Shinned Hawk, Red Tailed Hawk and Sparrow Hawk are here the year round and are listed as permanent residents. Both the Bald Eagle and the Golden Eagle are normally listed as winter residents. The eagles, however, move north with the break-up of ice in the northern lakes and rivers. While some of our winter hawks leave and go north, other hawk families that have wintered south of us spend the summer in our area. One thing that I sincerely wish we could teach the public is to protect the hawk family. I have many times heard the phrase "its a chicken hawk, let's shoot it." Nine out of ten times when this happens the hawk referred to is one of the large Buteo Hawks which feed mostly on rodents, snakes, and grasshoppers. It is seldom that they will take a chick-

en, let alone kill one.

Late in March the Double Crested Cormorants and the White Pelicans arrive. I believe there is nothing more beautiful than the sight of several hundred White Pelicans floating lazily in the blue sky overhead.

Just as soon as the ice breaks up in our lakes and ponds there are five members of the Grebe family that arrive on the scene. The little Pied-billed Grebe which is commonly known as the Hell Diver is the only one of this family that is common in our area and the only one to spend the summer with us. It is fun to watch the mother Pied-bill swim lazily along with the downy young on her back.

When you hear the phrase "crazy as a loon" it is generally referring to the common Loon. It does have a very strange sounding call and resembles the laughter of an insane person. These loons migrate through our area during March, April and May.

About May 1 we begin to listen for the call of the Cuckoo. There are two species, the Yellow-billed Cuckoo and the Black-billed Cuckoo. Most people call them the Rain Crow. Also at this time of the year we listen for another family of birds that are known scientifically as goat suckers. They consist of the Chuck-wills-widow, Whip-poor-will, Knight-hawk and Chimney Swift.

While there are fourteen species of Hummingbirds native to the United States, there is only one, the Ruby Throated Hummingbird that is native to our immediate area.

With the exception of the Yellow-bellied Sapsucker which resides here only during the fall, winter and spring months, and the Red Shafted Flicker which is seen here usually in the fall and early winter, the following woodpeckers can be found in this area the year round. They are the Yellow Shafted Flicker, the Hairy Woodpecker, Downy Woodpecker, Red-bellied Woodpecker and the Red-headed Woodpecker.

There are about ten species of Flycatchers common in our area, but they are here only during the spring and summer seasons. Some are summer residents while others are only transient visitants. They are strictly insect eaters. The Swallows, like the Flycatchers, are here only during the summer and are insect eaters. They consist of six species which include the Purple Martin.

The Blue Jay, Crow, Chickadee and Titmouse all belong to the same family and are permanent residents. In late April the little Red-breasted

Nuthatch which has been with us for a brief time, leaves for its summer home in the spruce forests of the far north.

As a rule the only wren that we are familiar with is the little House Wren that nests in our back yards or brush piles near our home. Surprisingly, however, there are about five species of Wren common to this area throughout the year. Some spend the summer with us and some the winter.

There are three mimic thrushes in our area throughout the year. The Mockingbird is with us the year around while the Brown Thrasher and Catbird arrive late in April and remain throughout the summer season. We have seven species of thrushes with us during the year. The Robin and Bluebird which may be seen throughout the year are the most common. The other varieties are usually here only for the summer or in some cases just pass through during the fall and spring seasons.

If you see a wren sized bird during the summer that looks like a miniature Mockingbird, you are looking at a blue-gray Gnatcatcher which arrives about mid-April and remains through the summer season.

Probably the largest family of birds to migrate through our area are the Vireos and Warblers. They begin to arrive about the second week of April and trickle through the area until about the last of May. They number approximately forty species, one-half of which are very common, while the other half are only seen occasionally.

When one mentions the Blackbird family, one thinks usually of the Blackbird itself. Actually the Blackbird family consists of the Bobolink, Meadowlarks, Yellow-headed Blackbird, Baltimore Oriole, Orchard Oriole, Rusty Blackbird, Brewers Blackbird, Common Grackle and Brown-headed Cowbird and a few others. We especially look forward to seeing the Yellow-headed Blackbird and the Bobolink.

Quite frequently people tell me of seeing a "Red bird." Probably 90% of the time they are seeing our Cardinal which is a permanent resident. From about May 1 through mid-October they may be looking at a Summer Tanager or a Scarlet Tanager, the Tanagers being only here during the summer months.

A few of the Finch family that migrates into our area in late spring for nesting only are the Rose-breasted Grosbeak, Blue Grosbeak, Indigo Bunting, and Dickcissel. As is always the case each year someone comes

up with a rare species for our area during a certain season. This spring was no exception. Mr. John Hamilton of St. Joseph, Missouri on Friday, May 6, 1966 clearly observed a Lazuli Bunting. This bird is a western species and is seldom recorded in our area. One record of this species that I would like to establish was a pair which was taken on September 13, 1894 by a Sidney Wilson. I have in my possession a manuscript written by Mr. Wilson covering sightings and collections. Anyone knowing of Mr. Wilson or anything about him, please contact the author of this article. The dates are of not only birds seen but birds collected during the years 1894 and 1895.

Last but not least to arrive on the scene is the Sparrow tribe which belongs to the Finch family. Of these we may expect to see during the year about twenty species. Of these twenty species some winter with us and migrate north during the summer, while others spend the winter in Central and South America and nest in our area during the summer.

There are, of course, a few which pass through our area in the spring and fall. I know that to the uninitiated birder this sounds like a tall tale, but while I am writing this article during early May I can't seem to find time to do it justice because I want to get out into the field and check on migratory birds.

In the immediate St. Joseph area there are more species of birds that may be seen during the last week of April and the first two weeks of May than any other three weeks during the year. As of today, May 11, 1966, there are about sixty species of birds that I may see in my own yard in one days time. By covering all of the best birding areas within fifty miles of St. Joseph it would be possible to see 150 species of birds in one day. Therefore we must make the best of the birding now because in just six or seven months from now we will be happy if we can list from thirty to forty birds in one days time.

During the hot nostalgic days of summer, we will be looking for those rare summer visitors from the south and the best place to look for them will be around the lakes and ponds of Northwest Missouri, especially those on the Squaw Creek Wildlife Refuge. Anyone looking for me on a Sunday evening during June, July, August, or September, may find me on the Squaw Creek dike at the Squaw Creek National Wildlife Area with perhaps Simon Rositzky, Robert A. Brown or possibly John Hamilton or maybe Roy E. Coy all looking for that rare bird.

BEDROOM FURNITURE BELONGING TO JESSE JAMES GIVEN TO THE MUSEUM

By ROY E. COY

Mrs. Helen B. Withers of Overland Park, Kansas presented the St. Joseph Museum with the bed and dresser originally from the Jesse James home here in St. Joseph, Mo.

Jesse James, his wife and two small children, a boy and a girl, were living in a small white frame house with green shutters, then located at 13th and Lafayette Streets where Jesse was killed by one of his gang, a young man named Robert Ford. Jesse was known in St. Joseph as Thomas Howard.

The ornate carved black walnut bed and bureau are good examples of mid to late nineteenth century

furniture. They are in excellent condition and are a definite asset to the museum's historical collection.

After Jesse James was killed on April 3, 1882, the furniture was sold at auction. Mrs. Withers great-grandmother sent her grandfather, Josephus Burke, to the sale and he purchased the furniture. We have the bill of sale and an affidavit from Mrs. Withers as to the authenticity of this furniture. The furniture is now on display on the second floor of the museum along with other items pertaining to the James, Younger and Quantrill period of American history.

Mrs. Withers said as a young girl she was afraid to sleep in the bed and also was afraid to look into the mirror. She especially feared looking into the mirror as she thought she might see Jesse James looking back at her.

According to accounts of persons acquainted with Mr. Howard, alias Jesse James, Mr. Howard was a very amiable and friendly neighbor and all liked him. He loved his family and they loved him and the story is told that in the month of December preceeding his death he played Santa Claus for his children. All local people were very much shocked to find that their lovable friend, Mr. Howard, was the famous outlaw, Jesse James.

Jesse James was almost broke when killed here in St. Joseph, having just a few coins in his pocket, a gold watch, saddle, and a gold ring. This is according to a list now in the possession of the St. Joseph Museum that was made by the local marshall. Enos Craig. At the time of his death he was wearing a rather dark reddish beard.

Within recent years there has been some question as to whether the man killed in St. Joseph was really the man Jesse James, but most reliable historians believe that the man killed in St. Joseph in 1882 was Jesse Woodson James, brother of Frank James, originally from Kearney, Missouri.



IN MEMORIAM



ROLAND A. McDONALD

It is with deep regret that I write of the death of Mr. R. A. McDonald, one of the original members of the Museum Board, and for many years secretary and treasurer of the board. He passed away on April 7, 1966 after a long illness.

He was one of the early supporters and ardent workers for the St. Joseph Museum and up until a few years ago, when his illness slowed him down, he was regular visitor to the museum. He took a personal interest in every phase of the museum and put not only his time into it but also his money. He and the late Mr. W. L. Goetz carried the museum through many dark and trying days in the museum's infant years when it was housed at the Public Library Building.

He was a very quiet and modest man, usually seen but not heard, and always ready to give his all in behalf of the museum.

He was a member of both the city and incorporated boards. Mr. McDonald was in the laundry and dry cleaning business and his knowledge in this field had many times proved a valuable aid to the museum, for a museum does have many cleaning problems with sometimes some extremely rare items.

He was an active church member and a Rotarian. He lived the Rotary motto which is "Service above Self." We all miss him at the St. Joseph Museum.





Photo by Lewis Shady, St. Joseph News-Press

VISITORS FROM TOKYO JAPAN

A large number of foreign people visit the museum every year as our register book will attest, but it is not every day that we have visitors in their native attire as these two first year students from Tokyo, Japan appeared at the museum early last spring. They were the guests of the St. Joseph Chapter JF of the P.E.O. sisterhood and are now attending Cottey College at Nevada, Missouri.

Mutsuko Mano is at the right signing the register and Voshiko Kanai is at the left. They found the museum to be very interesting and were especially interested in the American Indian collection.

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