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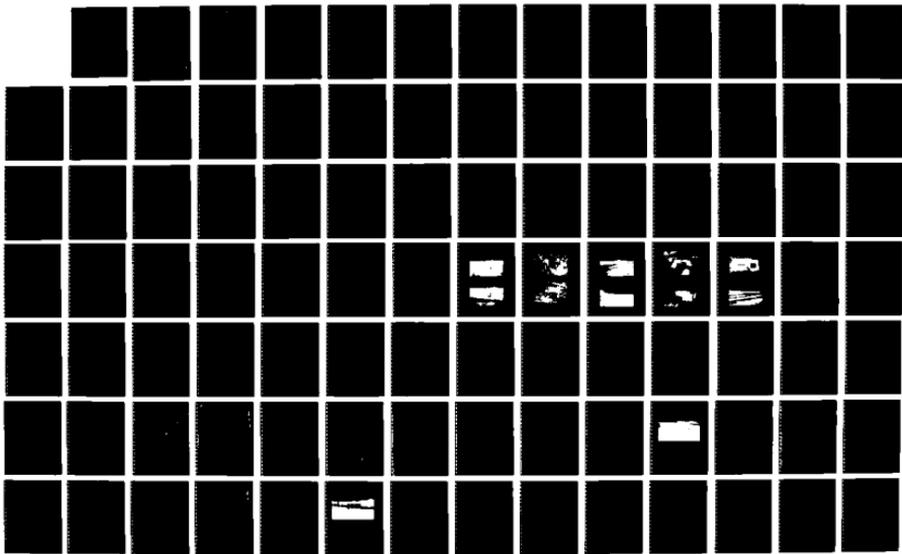
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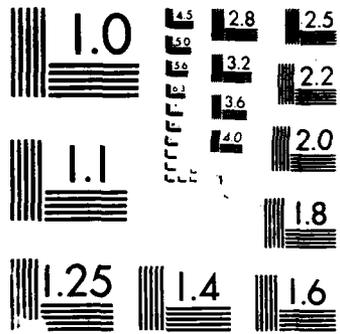
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ARCHEOLOGICAL TESTING OF SITES 32CS42 AND 32CS44
CASS COUNTY, NORTH DAKOTA

FINAL REPORT

AD-A207 668

Testing Accomplished and Report Prepared by
Cultural Research & Management, Inc.
Bismarck, North Dakota

Richard Persinger, Principal Investigator

Project Completed for
U.S. Army Corps of Engineers
St. Paul District
1135 U.S. Post Office & Custom House
St. Paul, Minnesota

Contract Number DACW37-87-M-1491

September, 1988

Richard Persinger
Principal Investigator

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Cultural Research & Management, Inc.
Bismarck, North Dakota

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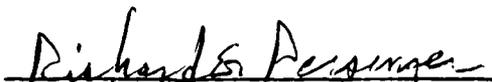

Principal Investigator

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Management Summary

The U.S. Army Corps of Engineers, St. Paul District, plans to construct flood control features near West Fargo, North Dakota. In compliance with federal laws and regulations for identification and protection of significant cultural resources, the Corps of Engineers contracted with Cultural Research & Management, Inc. to archeologically test two cultural material scatters, 32CS42 and 32CS44, and to prepare a mitigation plan for the sites if necessary. Field testing, laboratory analysis, and report preparation were accomplished between September 21, 1987, and September 1, 1988, under a budget of \$7052.58. Preparation of a mitigation plan for the sites was not necessary or appropriate. A mitigation plan was, therefore, not prepared.

Field testing of the sites included systematic and controlled surface collection and excavation of auger probes and formal 1m x 1m test units. Cultural materials were found to be sparse throughout the sites, and most materials were found on the ground surface. Excavations at 32CS42 resulted in recovery of animal bone fragments, a single shard of pottery, and a fragment of shattered red chert. Excavations at 32CS44 resulted in recovery of animal bone fragments, one flake of white chert, and a fragment of tooth enamel. All recovered materials were found within the plow zone, and no cultural materials were discovered outside the cultivated fields. Laboratory analysis included cleaning of cultural materials and identification, when possible, of artifacts according to functional and material types. Laboratory analysis was limited by the small number of materials recovered and by the non-diagnostic nature of the recovered materials.

On the basis of the results of excavations, controlled surface collections, and earlier surface collections, the sites are tentatively associated with the Late Woodland Period/Culture. Cultural materials within the sites appear to be entirely disturbed by modern agricultural activities, and the sites do not exhibit a likelihood to yield important cultural information. These sites therefore are not recommended to be eligible for nomination to the National Register of Historic Places, and no further cultural research or consideration of the sites as potentially significant cultural resources is recommended.

ARCHEOLOGICAL TESTING OF SITES 32CS42 AND 32CS44, CASS COUNTY, NORTH DAKOTA

1.0 Introduction

The Sheyenne River causes periodic flooding in the West Fargo/Riverside area of Cass County, North Dakota. To help prevent flood damages, the Corps of Engineers proposes to construct a diversion channel, two sections of levee, closure structures, and interior drainage facilities at West Fargo (Appendix A, Scope of Work:2.01).

As part of the preliminary project study, the Corps of Engineers contracted with Powers Elevation, Inc. to perform a cultural resource survey of the proposed project area. The survey resulted in the identification of two archeological sites, 32CS42 and 32CS44, which could be impacted by the construction of the proposed diversion channel in Section 11, T.139N-R.50W (see Figures 1 and 2). Both sites were reported to be thin lithic scatters located in plowed fields (see North Dakota Cultural Resource Survey forms for these sites in Appendix B of this report). Site significance and potential eligibility for nomination to the National Register of Historic Places (NRHP) were not determined by the Powers Elevation survey.

In September, 1987, the Corps of Engineers contracted with Cultural Research and Management, Inc. to conduct a Phase II testing program at the two archeological sites. The objectives of the testing are to provide (1) information adequate to determine whether the resources are eligible for nomination to the National Register of Historic Places; (2) a Phase III mitigation plan for any eligible resources that will undergo a direct or indirect impact; and (3) detailed time and cost estimates for the mitigation. Cultural Research, Inc. initiated the fieldwork phase of the project on September 21, 1987. Richard E. Persinger served as Principal Investigator and James L. Hixon as field assistant. Fieldwork was interrupted for three days to allow for the harvest of a soybean crop covering one of the site areas. This phase of the project was completed on October 2, 1987.

This report presents a summary of previous archaeological and historical projects within the study area, provides a brief description of the environment, gives a theoretical and methodological overview, describes all field and laboratory methods employed, presents the results and evaluation of the testing program, and gives our conclusions and recommendations concerning these two sites.

2.0 Previous Archeological and Historical Studies

Possibly the earliest known reference to the archaeological resources in the Red River drainage system is Hayden's documentation of the remains of an earth lodge village (Wood 1971) east of the present community of Lisbon, North Dakota and approximately 50 miles southwest of the present study area. This site later became known as the Biesterfeldt or Sheyenne-Cheyenne Earth Lodge Village site and

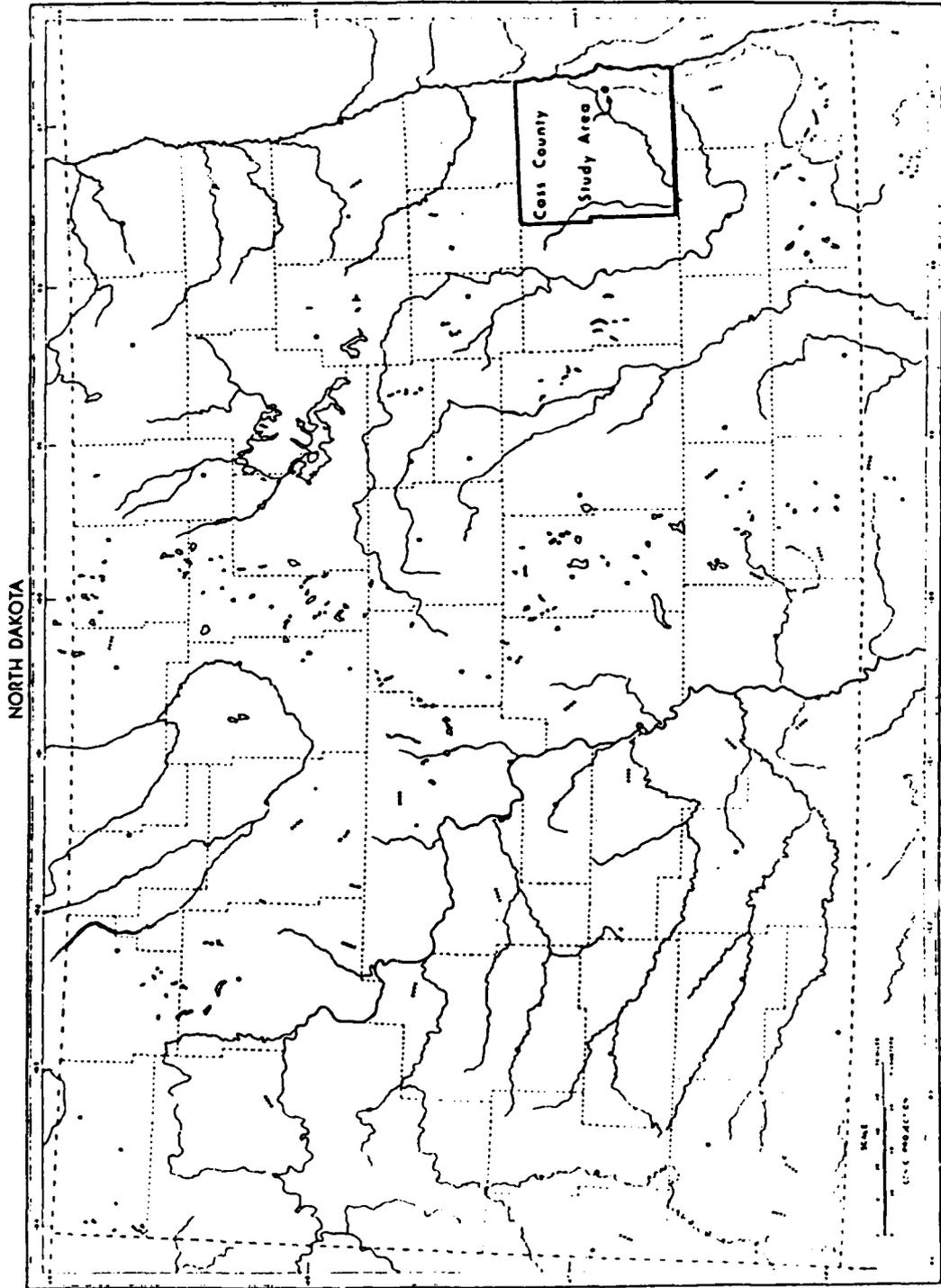
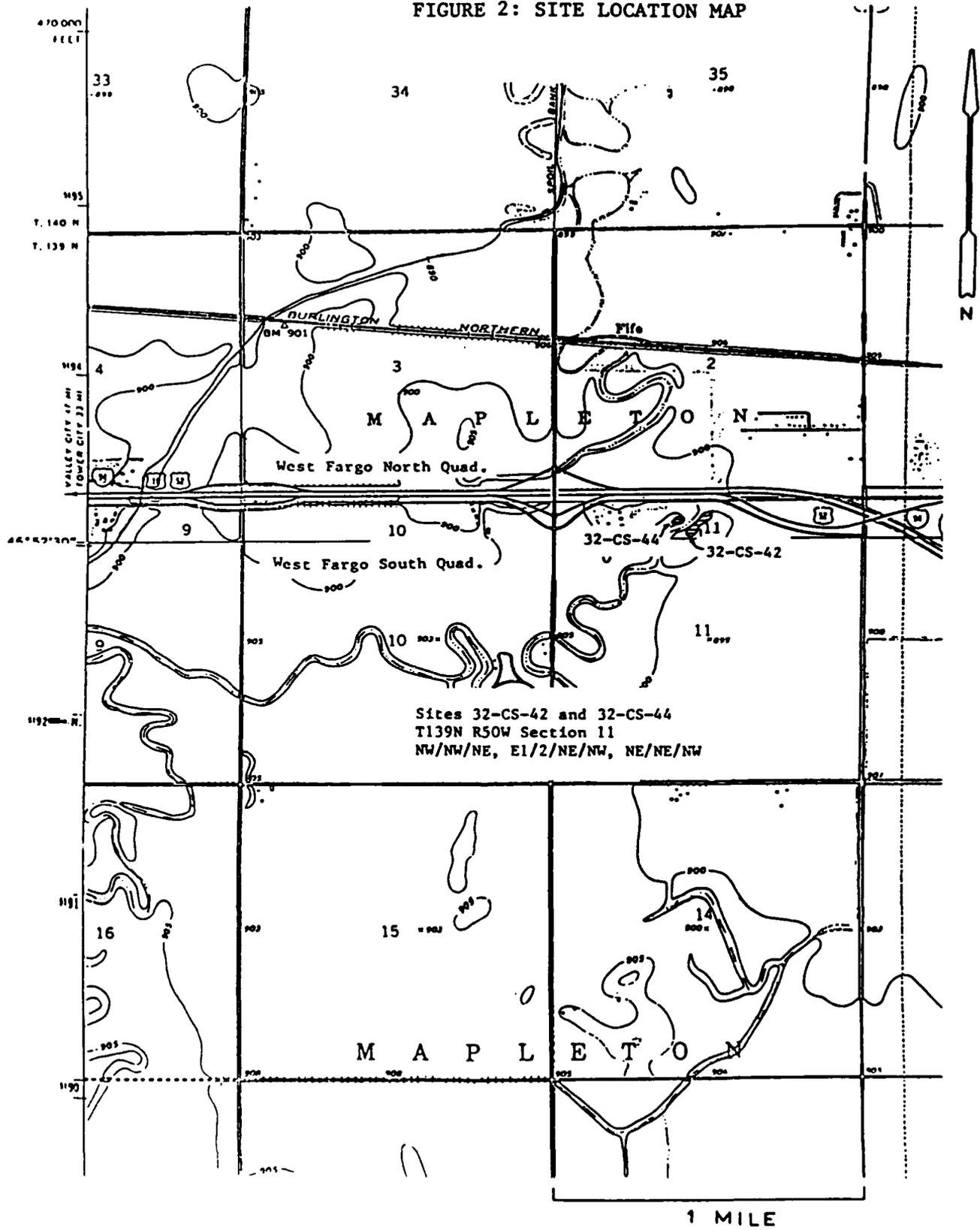


FIGURE 1: PROJECT LOCATION

FIGURE 2: SITE LOCATION MAP



the site may represent a Post-contact Cheyenne habitation (Wood 1971:70).

Much of the regional archaeological work performed by both advocational and professional archaeologists has until recently been focused on burial mounds. D. Gunn (1868) reported results of his excavation of a burial mound in 1867 near the present city of Winnipeg, Manitoba.

T. H. Lewis, as part of the Northwest Archaeological Survey, mapped features such as burial mounds, rock alignments, and abandoned village sites in eastern North Dakota between 1883 and 1890 (Lewis 1890). Nearly 80 of these sites were surveyed along the Sheyenne River, and numerous other sites were mapped along the the Red River and its smaller tributaries (Lewis 1890). Perhaps the closest site mapped by Lewis to the present project area was a complex of six conical mounds north of Fort Abercrombie in the Red River and within 30 miles south of West Fargo.

Detailed descriptions of the Northwest Archaeological Survey have never been published. Lewis (1886:371) made occasional general statements in his writings that "many mounds can be found ... scattered through the valley of the Cheyenne (sic) River" below Devils and Stump Lakes. Lewis also recorded the first survey of the aforementioned Biesterfeldt site (Wood 1971:57). Several of the sites mapped by Lewis have been excavated and will be discussed below.

As settlement accelerated in North Dakota during the late 1800's and early 1900's, interest in archaeological features, most notably burial mounds, began to increase. Probably foremost among North Dakota's advocational archaeologists of that era was Henry Montgomery, a former president of the University of North Dakota. Montgomery's "exploration of the remains of prehistoric man in Dakota Territory" began in 1883 and extended into the twentieth century (Montgomery 1906). Montgomery appears to have concentrated his efforts on exploration of burial mounds in the Devils Lake area and along the Red River valley in present day North and South Dakota (Montgomery 1906). He also chronicled burial mound excavations in Manitoba (Montgomery 1908).

Noted North Dakota historian Orin G. Libby mapped burial mounds on the Forest River in the extreme eastern portion of the state at the turn of the century (Larson 1986). Archaeologist Gordon Hewes (1948) was informed that J.M. Gillette, then of the State Normal School (Valley City State College) had "excavated skeletons ca. 1907" from a conical mound on the outskirts of Valley City. Edwin Milligan, another advocational archaeologist active in North Dakota in the early 1900's, investigated the Wray Mounds Complex. First mapped by Lewis (1890), these mounds are located on the south bank of the Sheyenne River near Lisbon, North Dakota and within 50 miles southwest of the current project area.

Systematic archaeological investigations in eastern North Dakota really began in the 1930's. Most of these investigations still

concentrated on burial mound sites, however. University of Minnesota archaeologist Albert Jenks (1932) reported on investigations conducted at an extensive burial complex near Arvilla, North Dakota, about 80 miles north and slightly west of the present West Fargo project area. Jenks and colleague Lloyd Wilford also excavated two mounds included in the Fordville mound group sometime in the early 1930's (Larson *et al.* 1986). The Fordville mounds are located above the Forest River approximately 100 miles northwest of the present testing area.

In 1938 archaeologist W.D. Strong undertook the first systematic archaeological investigations in the lower Sheyenne Basin (Vehik and Vehik 1977). While the majority of the time was spent excavating the Biesterfeldt site, Strong (1940) also mentioned that he opened a mound near Lisbon, North Dakota "which contained few artifacts but had several painted buffalo skulls." After reexamining Strong's original field notes and collection, Beckes and Keyser (1983) concluded that the Lisbon mound "is affiliated with the widespread, Middle Woodland Sonota Complex defined by Neuman" (1975).

Lloyd Wilford (1970) supervised the excavation of one of the Femco Mounds (21WI1) in August, 1940. The excavation resulted in the exposure of human skeletal remains, a small amount of cultural material, and a subsurface rock cairn in apparent association with the ossuary (Wilford 1970). The Femco Mounds, originally recorded by Theodore Lewis in 1886 (Winchell 1911), are located above the Red River, five miles north of Breckenridge, Minnesota and approximately 40 miles southeast of the current testing area.

Martin Kivett (1948) surveyed the Bald Hill Reservoir area for a week in 1947 and discovered ten archaeological sites. These consisted of six camp sites, three mound sites, and one site of an undetermined nature. One of the cultural resources recorded in Kivett's survey is the now famous Bald Hill Mound Site, 32BA1, located about 60 miles west and slightly north of the present West Fargo project area. During the summer of 1948, archaeologist Gordon Hewes (1949) excavated two mounds at site 32BA1, both of which contained central burial chambers with oak logs in which several disarticulated burials were found. In addition, some intrusive extended burials were found in one of the mounds (Hewes 1949:324-327). Neuman (1967) reported a date of A.D. 90 +/- 150 for one of the mounds. Neuman (1975) includes the material from 32BA1 in his Sonota Complex which dates from A.D. 1 to A.D. 600.

In August, 1953, Wilford (1970) excavated the McCauleyville Mound, 21WI2, located above the east bank of the Red River near Kent, Minnesota and approximately 30 miles southeast of the West Fargo area. 21WI2 was originally surveyed by Lewis in 1886 (Winchell 1911). Excavation yielded a few charred human bones and a paucity of cultural material (Wilford 1970). During the mid-1950's Wilford (1955) formally assigned the aforementioned Fordville Mound group to the Arvilla Complex.

Eldon Johnson (1962) undertook a survey of the Lake Agassiz basin in 1959 in an attempt to document the nature and frequency of archaeological sites in the area. The results of this survey indicated that there were a variety of materials from Paleo-Indian to Woodland times, and the potential was high for finding additional sites on the Lake Agassiz beaches. Johnson (1962) focused his research on the Arvilla mounds and on the burial mounds at the southern end of the Red River valley.

During the late 1960's University of North Dakota (UND) archaeologist Kenneth Cole conducted a series of cultural resource surveys along portions of three major tributaries of the Red River in North Dakota. These inventories included work on the Forest, Turtle, and Goose rivers (Cole 1968a, 1968b, 1968c); Cole's work included excavation and testing of several burial mounds along the Forest River (Cole 1976; Larson *et al.* 1986).

The mid-1970's appears to mark the beginning of a period of de-emphasis of burial mound exploration in eastern North Dakota. UND continued to conduct relatively small scale archaeological surveys along the Red River tributaries during this time (cf. Loendorf and Good 1974; Loendorf 1977).

Two extensive studies undertaken within the Sheyenne River Basin in the late 1970's, including a comprehensive literature review by Susan and Rain Vehik (1977). During the fall of 1977 Rain Vehik performed an intensive pedestrian survey of portions of the Sheyenne River Basin (Vehik 1979). The survey was conducted in eight areas within Cass, Ransom, Richland, and Gregg Counties, North Dakota. Five historic and 56 prehistoric sites were recorded (Vehik 1979). Seventy-one percent (40) of the prehistoric sites were camps/occupation sites situated primarily in the alluvial bottomlands along the Sheyenne River. The remaining sites consisted of 13 burial mound sites, one earthen embankment site, and one stone circle site (Vehik 1979).

During the fall of 1978 and summer of 1979 the University of North Dakota Archaeological Research (UNDAR) organization conducted an intensive pedestrian survey and a non-systematic testing program of cultural resources at Lake Ashtabula, which is north of Valley City, for the U.S. Army Corps of Engineers in order to evaluate the National Register of Historic Places significance of the sites and provide recommendations for mitigation of impacts to them (Fox 1980). A total of 41 sites were located, of which 34 were prehistoric sites, four were historic/architectural, and one was paleontological.

A statewide archaeological survey was conducted in Minnesota between 1977 and 1980 (Minnesota Historical Society 1980). A part of this survey was a stratified random sample survey of portions of Clay County under the directorship of Moorhead State University's Mike Michlovic (1978). Fourteen previously unrecorded prehistoric sites were located along the Red River in Clay County (Michlovic 1978). Some of these sites are within ten miles of the current project area.

During the summers of 1980 and 1981, Michlovic (1981; 1982) directed an intensive pedestrian survey along a 24 mile north-south stretch of the Red River in Norman County, Minnesota. The Norman County survey resulted in discovery of 36 previously unrecorded sites and five find spots, all of which were situated within one-quarter mile from the Red River (Michlovic 1982). All but one of the sites from this survey were ceramic bearing. Site 32NR11, the southernmost site recorded, is located approximately 15 miles north by northeast of West Fargo, North Dakota.

Three of the sites recorded during the 1980-1981 survey have been subsequently excavated. Extensive test excavations at site 21NR11 revealed a clustering of undisturbed cultural material between 20 cm and 40 cm below the surface (Michlovic 1982). Diagnostic artifacts from site 32NR11 included unnotched triangular projectile points and Sandy Lake ware ceramics (Michlovic 1981).

The Canning Site, 21NR9, was extensively excavated in 1982 and has subsequently been placed on the National Register of Historic Places (Michlovic 1986; 1988). Canning is a multi-component site with a Sandy Lake upper component present to approximately 30 cm below surface and a lower cultural level between 50-100 cm below surface which yielded bison bones, lithic material, and charcoal. The lower component has been dated between 2710 \pm 110 and 4330 \pm 115 years B.P. (ca. 760-2380 B.C.) based upon two radio-carbon dates. This places this component in the Archaic time frame (Michlovic 1986). The Canning site is just south of Hendrum, Minnesota and is located approximately 20 miles north and slightly east of the current testing area.

The Mooney site (21NR29), originally recorded during the Norman County Red River Survey, was extensively excavated by Moorhead State University in 1983 (Michlovic 1985). This is a stratified multi-component site consisting of a Late Woodland occupation which was identified by the Sandy Lake ceramics and a deeply buried Archaic occupation. Three thermoluminescence dates on the Sandy Lake pottery averaged 940 B.P., and an Archaic component which was defined at about 1.6 m below surface has been radio-carbon dated to about 1460 B.C. The Mooney site is located immediately outside of Halstad, Minnesota, which is about 30 miles northeast of West Fargo, North Dakota.

In the summer of 1985, Larson-Tibesar Associates, under contract with the State Historical Society of North Dakota, conducted a Class II cultural resources inventory along the Forest River Valley in northeastern North Dakota (Larson et al. 1986). The survey consisted of the inventory of 25 sections of land in Walsh and Grand Forks Counties, North Dakota. The cultural resource inventory resulted in the recordation of 231 properties ranging in age from Late Paleo-Indian to recent historic times. The majority of the prehistoric materials are believed to be from Late Archaic to Late Prehistoric time periods (Larson et al. 1986). The southernmost area surveyed lies approximately 100 miles northwest of the current project area.

In 1986 the Anthropology Department at the University of North Dakota (UND) conducted a Class I record and literature search of nine locations in eastern North Dakota, western Minnesota, and northeastern South Dakota under consideration by the U.S Air Force for construction of OTH-B radar facilities (Gregg *et al.* 1986). The closest locations analyzed by UND in 1986 to the present project area are the Blanchard study area, which contains portions of northern Cass County, and the Galesburg study area located at the juncture of Cass, Steele, and Trail Counties, North Dakota. No systematic cultural resource investigations had been conducted within either the Blanchard or Galesburg study areas, so consequently no cultural resources had been formally recorded therein. However, Gregg *et al.* concluded that the potential is high for existence of prehistoric sites, particularly in the Galesburg study unit.

In 1986 Moorhead State University conducted an archaeological investigation along a strip of land in southern Cass County, North Dakota to archaeologically sample a portion of the Red River valley (Michlovic 1987). The work consisted of three phases: I) a pedestrian survey and inventory of 3200 acres to locate surface sites in the Lake Agassiz physiographic province; II) test excavation of two prehistoric sites; and III) a deep coring of five selected alluvial fans on the Lake Agassiz beach deposits.

Ten prehistoric sites and two isolated finds were located during the pedestrian survey. Most sites were found on the Red, Sheyenne, and Maple River levees (Michlovic 1987). No diagnostic artifacts from the Archaic or Paleo-Indian periods were found in the random sample and all sites were assumed to be Woodland period occupations (Michlovic 1987). Site 32CS33 was recorded on the Sheyenne River near Horace, North Dakota and appears to be the site nearest to the current project area. This site is situated approximately eight miles southeast of West Fargo.

One of the sites that was tested is the Danke-Reinke site, 32CS29, located near the confluence of the Red and Sheyenne Rivers, approximately ten miles northeast of the current project area. Results from tests at Site 32CS29 have caused Michlovic (1987) to conclude that at least two components are present at the site. One is a Woodland occupation which is located in and just below the plow zone. Some of the ceramics associated with this component are Sandy Lake ware (Michlovic 1987). A more deeply buried component(s) are also present. A non-diagnostic grit-tempered rim sherd was found at a depth of approximately 30 cm, and in the same unit the base of a Besant projectile point was recovered from stratum which was between 60-64 cm in depth. Two radio-carbon dates were obtained from wood charcoal samples at the site and ranged between 1860 \pm 80 and 2200 \pm 60 B.P. (Michlovic 1987). Both of these dates correspond to the Initial Woodland or Late Archaic periods and confirm the belief that materials of this age are present in the Red River Valley, even though in the past these materials have not been recovered from surface sites along the river (Michlovic 1987).

The second site tested during the 1986 Cass County Survey was the Wichman site, 32CS30, which is located within a loop of the Maple River, approximately 15 miles southwest of the West Fargo area. Most artifacts at the Wichman site were found within the top 40 cm (Michlovic 1987). Diagnostic artifacts included three small triangular, unnotched projectile points typical of the Late Woodland period. Some of the ceramics recovered at the site were classified as Sandy Lake, while others were grouped as Northeastern Plains ware and are likened to sherds described by Schneider (1982) from the James River valley.

Five locations were selected for auger probing in the alluvial fan area. No cultural materials were found. However, three of the bore holes produced evidence of a buried A horizon indicating that former land surfaces have been deposited away from modern stream courses and that there is some potential for buried archaeological remains along the glacial Lake Agassiz beaches (Michlovic 1987).

In the summer of 1986 and spring of 1987 Powers Elevation, Inc. under contract with the U.S. Army Corps of Engineers, St. Paul District, conducted a cultural resources inventory of the proposed flood control project along the Sheyenne River in Cass County, North Dakota, near the city of West Fargo. Project fieldwork consisted of intensive pedestrian survey, inspection of river cutbanks, and sub-surface shovel testing to locate cultural sites (Floodman 1988).

The survey resulted in the location of three prehistoric sites (32CS42, 32CS43, and 32CS44), one historic site (32CS40), one prehistoric isolated find, and one historic isolated find. The isolated finds were determined to be insignificant, and the historic site was felt to be not eligible for nomination to the National Register of Historic Places (NRHP). The three prehistoric sites were judged to be of undetermined eligibility for nomination to the NRHP (Floodman 1988). No further work was required at site 32CS43, because it was outside the proposed corridor of the new levee and would not be adversely effected by the flood control project. Floodman (1988) recommended that a Phase II archaeological testing program be carried out at 32CS42 and 32CS44 to formally determine their ability to yield important scientific information prior to project construction activities. The present report, in part, represents the results of this testing program.

2.1 Cultural Chronology

The following cultural contexts are intended to outline the chronology and major themes of prehistory in the general vicinity of the proposed project.

Prehistory

The project area is within a general archaeological region known as the Northeast Plains, which is defined by inter-related characteristics of environmental history and human adaptations and utilization of available materials and food sources (Gregg 1985).

The general region is thought to share broad traditions and cultures throughout prehistory. For the purposes of this report the prehistory and early history of the study area will be divided into four temporal periods each of which will be subdivided into several cultural traditions. The Early Prehistoric period (11,500-7,500 B.C.) is comprised of the Paleo-Indian tradition which is characterized by the use of large fluted and unfluted spear points. The Middle Prehistoric period (7500 B.C.- A.D. 600) consists of the Archaic tradition, which partially overlaps the Early and Middle stages of the Plains Woodland tradition. This period is basically characterized by the use of atlatl aided dart points; however, the bow and arrow had been developed and were probably introduced into the study area near the end of this period. The Late Prehistoric period (A.D. 600-1740) is made up of the Plains Woodland tradition and the Plains Village tradition and is generally characterized by the use of small notched and unnotched arrow points.

The following section will detail each of the temporal periods with descriptions of the various cultural traditions and complexes present or potentially present within the Red River basin and surrounding areas. Diagnostic artifacts collected during this project are, when possible, fit into a temporal and cultural framework and to denote the relationships between these manifestations and named complexes on the Northern Plains.

Paleoindian Period

Paleo-Indian occupations are dated ca. 11,500-7,500 B.C. on the Northern Plains. The tentative, initial date corresponds with the first human occupation of the area. The Paleo-Indian tradition is characterized by a variety of hunting and gathering adaptive strategies, each with a strong focus on big game (Gregg 1985:81). Using Jennings (1968) model, the Paleo-Indian tradition is divided into the Clovis, Folsom, and Plano complexes.

The Clovis complex is defined on the basis of the fluted Clovis projectile point type and associated material remains and is dated ca. 9500-9000 B.C. (Haynes 1966:107). Clovis people subsisted mainly on the flesh of large, terminal Pleistocene fauna, most notably mammoths but also bison, horses, and camels (Gregg 1985:85). Smaller game including jackrabbits, coyotes, prairie dogs, and even snails, mussels, and hackleberry seeds were consumed by a least portions of this group (Gregg 1985:85).

Possibly the only known Clovis projectile point from the Red River basin was recovered from site 32PB25 and is in a private collection (Brown et al. 1982). This site is located along the Pembina River near Walhalla, North Dakota, approximately 160 miles northwest of the present testing area.

The Folsom complex is defined on the basis of Folsom and Midland projectile point types and other related cultural remains. This complex is currently dated at ca. 11,000-10,000 B.C. (Haynes

1966:107) and is generally considered to be a development out of the Clovis complex (Judge 1973:69). Mammoths were no longer hunted by Folsom people because of their extinction, which may have been caused by climatic changes and/or their over-exploitation by humans. Hunters now employed mass killing techniques (traps and jumps) and consumed a large, extinct form of bison (Bison Antiquus) which they supplemented with smaller game and plants (Gregg 1985a:89).

Folsom points have been reported from Sheyenne River delta surface finds by Eldon Johnson (1962). The exact locations of these finds are not known, but they probably occurred within 50 miles south and east of West Fargo. Dr. Fred Schneider has reported one Folsom projectile point in a collection from the Sheyenne River valley south of Devils Lake (Haury and Schneider 1986).

The Plano complex is represented by a number of projectile point types which tentatively date between 11,000-75,00 B.C. As with the preceding Folsom complex, Plano people subsisted on the flesh of extinct forms of bison (Bison Antiquus and Bison occidentalis) which they supplemented with smaller game and wild plants (Gregg 1985a:90-99).

In 1978 Michael Michlovic of Moorhead State University found an Agate Basin point on the surface of the Red River valley near Glyndon, Minnesota (Michlovic 1978) which is within 20 miles of the project area. The Bayley collection in the possession of the SHSND contains apparent Agate Basin, Hell Gap, Scotts Bluff, and Eden projectile points (Thompson 1983). It is assumed that these specimens were collected from the vicinity of Alice, North Dakota (Haury and Schneider 1986), which is located approximately 30 miles southwest of West Fargo. The base of a Late Paleo-Indian projectile point was recently found on the surface along the Forest River valley in Grand Forks County, North Dakota (Larson 1986), approximately 70 miles north and slightly west of the current study area.

Plains Archaic Tradition

Plains Archaic lifeways, like the Paleo-Indian, were based on hunting and gathering adaptations, but to essentially modern resources. Early, Middle, and Late Plains Archaic periods are identified in or near the Red River basin, following the cultural chronology for the Northern Plains developed by Frison (1978). The periods are differentiated on the basis of changes in projectile point styles.

Early Plains Archaic Stage (7000-4800 B.C.):

The initial manifestations of this period are represented by large side-notched projectile points, none of which are known from the Red River basin. A Simonsom Point is present in a private collection from the Oakes area along the James River in southeastern North Dakota (Gregg et al. 1985). The Itasca Bison Kill site located at the headwaters of the Mississippi River, in central Minnesota,

contained large side-notched projectile points which were dated around 8000-7000 B.P. (Shay 1971).

Oxbow projectile points, probably dating 5300-4800 B.P. (Gregg 1986), are the earliest points to occur commonly from the Red River basin. Moorhead State University reported numerous Oxbow and Parksdale Eared points from private collections on the Minnesota side of the Red River (Michlovic 1979). Oxbow style projectile points have been recorded from archeological surface surveys along the Forest River (Loendorf and Good 1974; Larson *et al.* 1986) and the Pembina River (Brown *et al.* 1982) in extreme eastern North Dakota. Excavations at the Canning site (21NR9) near Hendrum, Minnesota revealed the presence of an Oxbow or Oxbow-like point associated with a fire-stained area dated in excess of 4,000 years B.P. (Michlovic 1981, 1986, 1988).

The Old Copper complex was established in northern Wisconsin and the Upper Mississippi valley at the time equivalent of the Red River basin's Early Archaic period. People in the upper Midwest had discovered the rich deposits of copper ore in Upper Michigan and learned to surface mine for nearly pure chunks of the metal. The copper was cold hammered into a wide variety of tools, such as spear points and axes, as well as ornaments (Gregg 1986). Old Copper complex artifacts have been found on the abandoned beaches of glacial Lake Agassiz (Johnson 1964; Steinbring 1966). Much of the material has been found on both sides of the Red River in the Grand Forks, North Dakota vicinity (Steinbring 1966). Copper continued to be mined and made into tools and ornaments from the times of the Old Copper complex until late in prehistory (Gregg 1986).

Middle Plains Archaic Stage (4800-3500 B.P.):

The McKean complex is a manifestation of the Middle Plains Archaic period found in most of the Northern Plains. Expressions of the McKean complex appear to be rare in eastern North Dakota and western Minnesota, but have been viewed in private collections from the Red River valley (Michlovic 1979). The earliest levels of the Lockport and Cemetery Point sites on the Red River in Manitoba produced McKean materials (MacNeish 1958).

Late Archaic Stage (3500-2300 B.P.):

This period is represented by the Pelican Lake complex and apparently represents considerable refinement of the communal bison hunting techniques developed earlier (Gregg 1985). Pelican Lake points have been noted in private collections in Clay County, Minnesota (Michlovic 1979). Pelican Lake points have also been found during surface surveys conducted along the Forest River (Larson *et al.* 1986) and the Pembina River (Brown *et al.* 1982) both in extreme eastern North Dakota. As mentioned previously, the Mooney site, located near Halstad, Minnesota, contained an Archaic component found more than one and a half meters below the surface; this component yielded a radio-carbon date of approximately 1460 B.C. (Michlovic 1985).

Plains Woodland Tradition

Plains Woodland lifeways are thought to have been similar in many ways to those of the preceding Plains Archaic periods. However, the practice of mound burial mortuary ceremonialism, the production of ceramic vessels, and the possible intensification in the use of seedy plants and grasses for food appear to have been Plains Woodland developments (Gregg *et al.* 1986). The Plains Woodland period can be subdivided into three stages: Early, Middle, and Late.

Early Plains Woodland Stage (400-100 B.C.):

Presently there is little direct evidence of Early Woodland cultures in or near the Red River basin (Vehik 1979; Beckes and Keyser 1983). The Danke-Reinke site (32CS29) located in Cass County, North Dakota contains a buried undetermined ceramic level radio-carbon dated between 310 B.C. and A.D. 170, which could be considered an Early Woodland occupation (Michlovic 1987). The Naze site (32SN246) located along the James River in Stutsman County, North Dakota yielded a ceramic-bearing component dated within the 550-410 B.C. time range (Gregg 1987). While not formally assigned, ceramics associated with this component are said to be similar to Fox Lake Trailed ware (Gregg 1987).

Middle Plains Woodland Stage (100 B.C.-A.D. 600):

Several cultural complexes flourished during the Middle Plains Woodland stage, three of which have been defined in eastern North Dakota: Besant, Sonota, and Laurel.

Prior to 1975 the Besant complex was conceptualized as incorporating components which were later assigned to the Sonota complex by Neuman (1975). Besant is characterized by a distinct pottery type; in fact it represents the earliest named archeological unit with ceramics in North Dakota (Gregg 1985). The base of a Besant projectile point was recovered from a depth of 60-64 cm at the Danke-Reinke site in eastern Cass county (Michlovic 1987). Numerous Besant and Besant-like projectile points have been collected from the surfaces along the Forest River (Larson *et al.* 1986 and the Pembina river (Brown *et al.* 1982) in extreme eastern North Dakota.

The Sonota complex is known from villages, camps, and human burial mounds in the Missouri River valley in south-central North Dakota (Neuman 1975), in the Sheyenne River valley (Hewes 1949; Beckes and Keyser 1983), and in the Upper James River valley (Snortland-Coles 1988). The Sonota complex is defined on the basis of distinctive side-notched dart points (Neuman 1975), ceramic vessel styles (Neuman 1975; Wood and Johnson 1973), and certain features of Sonota mortuary ceremonialism (Neuman 1975).

The Laurel complex is known from the eastern margins of the Plains in east-central Saskatchewan, across southern Manitoba, northern Minnesota, Ontario and Wisconsin, and the Upper Peninsula of Michigan (Stoltman 1973). Laurel has also been identified in the prairie-forest ecotone region of west-central Minnesota at the Lake Bronson Site (Anfinson *et al.* 1978), which is located about 125 miles north and slightly east of the West Fargo project area. Ceramics likened to Laurel pottery have been found recently at a surface site on the Forest River in eastern North Dakota (Larson *et al.* 1986). Laurel pottery has also been indentified on the upper James River at the Beeber Site (32LM235) (Schneider 1982) and at the Jamestown Mounds Site (Snortland-Coles 1988).

Late Plains Woodland Stage (A.D. 600-1740):

The lifeways of the Late Plains Woodland stage differed from those of the Middle stage in that the use of the bow and arrow appears to have been well established by the beginning of the Late stage. Late Plains Woodland cultural people produced better made ceramics than their predessors and are postulated to have been hunter-gatherer-horticulturalists whose gardening was subordinate to hunting and gathering in terms of food production (Gregg 1986). Numerous cultural complexes have been assigned to the Late Plains Woodland stage, several of which have been defined in the Red River basin.

The Arvilla complex is based primarily on the consistent reoccurring patterns of a number of burial mound sites in a geographic area extending from the St. Croix River valley in east-central Minnesota, west to the Red River valley, north along that river to the Pembina Plain and to the Winnipeg area (Johnson 1973). St. Croix Stamped ceramics, which have been associated with Arvilla burial mounds in Minnesota (Anfinson 1979), have been recently discovered at the Jamestown Mounds site in east-central North Dakota (Snortland-Coles 1988). The complex developed rapidly about A.D. 500-600 and disappeared in the southern portion of the geographic area by A.D. 900, but may have continued for several centuries in the Red River basin in Manitoba (Johnson 1973).

In reassessing the complex, Syms (1982:152) states that "burial practices appear to be of little value for defining Arvilla because there is a tremendous variation in the nature of the pits and of the burials". Syms instead, produces a list of traits which he feels is useful in distinguishing Arvilla from other burial complexes. The trait list includes sandstone abraders, shell beads, perforated clam shell gorgets, snail shell (*Natica*), and elbow pipes (Syms 1982:156). Syms (1982:152) admits, however, that "even the most common items appear in less than half the sites".

Some of the mounds of the previously mentioned Fordville Mound site along the Forest River in Walsh County and the Arvilla Mound on the Turtle River in Grand Forks County, North Dakota have been placed in this complex (Johnson 1973).

The Blackduck complex may have supplanted Arvilla in northern Minnesota about A.D. 1000 (Beckes and Keyser 1983:137). Anfinson (1979:23) believes that, viewed as a whole, the Blackduck ceramic tradition spans the period from at least A.D. 800 to the period of historic contact. Blackduck sites appear throughout the northern Great Lakes and the known sites indicate a rapid expansion into the eastern Dakotas (Beckes and Keyser 1983:137). Syms (1977:136) suggests that increased population pressures, competition for resources, or technological innovation may have been partially responsible. Buchner (1979:115) suggests that Blackduck is a development out of the Laurel complex.

Blackduck camp sites are substantially larger than those of the preceding cultures (Beckes and Keyser 1983:137), although circular mounds associated with Blackduck sites are modest in size compared to many earlier Laurel mounds (Anfinson 1979:24). Blackduck subsistence patterns show a definite trend from forest resources such as deer, elk, and moose to plains resources such as bison (Beckes and Keyser 1983:137).

The Blackduck complex is characterized by a ceramic assemblage which includes a distinctive rim form decorated by cord-wrapped rod impressions (Anfinson 1979). Syms (1977:106) believes that the Blackduck complex "represents the material remains of several interrelated, but autonomous Algonquin groups".

A possible Blackduck site was found on the Forest River in Walsh County, North Dakota (Toom 1983). Blackduck and Blackduck-like pottery sherds have also been reported recently from the Pembina River near the northeast corner of the state (Brown *et al.* 1982; Schweigert *et al.* 1988). Two vessels were also recovered from the previously mentioned Jamestown Mounds site which have been classified as Blackduck ware (Snortland-Coles 1988). Dr. Ann Johnson feels that ceramics collected from site 32CS42 are likely affiliated with the Blackduck complex (Floodman 1988).

Sandy Lake ware is a ceramic type tentatively defined as an expression of the Wanikan culture, a cultural sub-unit of the Late Woodland tradition dated to ca. A.D. 1000-1750 in Minnesota (Anfinson 1979:176). Characteristics of the Wanikan culture include but are not confined to: Sandy Lake ceramics, circular conical mounds, small triangular projectile points, and hearths and fire pits (Anfinson 1979:175; Birk 1977:31). Sandy Lake ware is suspected to have replaced an early Blackduck ceramic phase in the Mississippi headwaters region of central Minnesota by A.D. 1100-1200 and appears to have been contemporaneous with a late Blackduck ceramic phase in northern Minnesota (Anfinson 1979:175).

The ceramics collected by Moorhead State University along the Red River valley in Norman County, Minnesota and Cass County, North Dakota were dominated by Sandy Lake ware (Michlovic 1981, 1987). Sandy Lake ceramics have also been reported from the Pembina River (Schweigert *et al.* 1988), the Jamestown Mounds site (Snortland-Coles 1988), and also in a subsurface context at Devils Lake, North Dakota

(Michlovic 1983).

Most of the ceramics collected from the Shea site have been identified as Sandy Lake ware (Michlovic 1987, 1988). The Shea site is a small, fortified village located above the Maple River near Enderlin, North Dakota and within 40 miles southwest of the current project area. The site was tested in 1985 and 1987 and has been radio-carbon dated to A.D. 1560 (Michlovic 1987, 1988). Perhaps the most impressive find at the site was approximately two dozen corn cob fragments and kernels which indicated that the residents were at least semi-sedentary horticulturalists (Michlovic 1988).

Michlovic (1988) presents a convincing argument that Sandy Lake ware was manufactured and used by the Dakota. As mentioned previously, thermoluminescence dates on Sandy Lake pottery excavated at the Mooney site averaged 940 B.P. (Michlovic 1985). If the relationship between Sandy Lake ware and the Dakota proves to be accurate, then it is possible that the Dakota resided at least occasionally on the prairie edge for the last one thousand years.

Woodland sites constitute over half of Vehik's (1979) inventory in the Sheyenne River basin. Thirteen Woodland sites were recorded by UNRAR during their Sheyenne River survey (Haury and Schneider 1986). Of these, five could be identified as having either Middle or Late Woodland components.

Plains Village Pattern (A.D. 1000-1740)

Lovick and Ahler (1982:55) feel that the "distinguishing feature of the Plains Village lifeway was the practice of intensive horticulture focusing on the staple maize, beans, squash, and sunflowers grown in garden plots scattered on the floodplains of the Missouri." These villagers also depended upon bison and other products of hunting and gathering (Gregg 1985:137). The key element in the Plains Village adaptive strategy was the production of a dependable, storable, surplus food supply (Lovick and Ahler 1982:55).

The origin of the Plains Village pattern has been debated. Traditionally, it was believed that the Plains Village people entered North Dakota from the south by following the Missouri River north (Lehmer 1971). Current researchers have presented evidence which suggests that some Plains Village groups were originally from Woodland cultures who adopted a horticultural lifeway (Fawcett 1988; Ahler, Falk, and Picha 1982; Snortland-Coles 1988). The investigations by Michlovic (1987, 1988) at the Shea site, as mentioned above, may enhance the latter theory.

The Plains Village Tradition is not well known for the Red River valley. Michlovic (1981) described trailed designs on body sherds collected at Red River sites in Minnesota which suggest relationships with the Middle Missouri tradition. At the Mooney site, near Halstad, Minnesota, ceramics not attributable to Sandy Lake wares were described as variations of Plains Village types (Michlovic 1985). Michlovic (1987) has classified these sherds along with

ceramics from the Wichman site in Cass County, North Dakota as Northeastern Plains ware. It appears, however, that Michlovic (1988) has recently assigned at least some of this pottery to the newly developed Red River ware, which has similarities to late period pottery found along the James River. Schneider's (1982) Periods 3 and 4 on the James river correspond to the Plains Village pattern. Some of the pottery recovered from the Shea site has also been assigned to the Red River ware (Michlovic 1988). Red River ware is described as being "similar in some ways to Sandy Lake ware, but smoothed rather than cord-roughened and tempered with grit and crushed rock instead of shell" (Michlovic 1988).

The Biesterfeldt Site represents a manifestation of the Plains Village pattern and is located on the Sheyenne River near Lisbon, North Dakota. Biesterfeldt, which dates to the mid-1700's, contains some Euro-American trade goods and may represent an earth lodge village which was occupied by members of the Cheyenne tribe (Strong 1940; Wood 1971).

Vehik (1979) recorded fourteen Plains Village sites within the Sheyenne Basin in Ransom County, North Dakota. In addition, Haury and Schneider (1986) specifically identified four cultural material scatters on the Sheyenne River as Plains Village occupations.

Historic Period

The historic period is here considered to be the period after the beginning of direct Euro-American influence in the area. The following description is excerpted from historical cultural overviews of the general region (Nicolai et al 1978. Schweigert 1977). The following overview is brief because it has little relevance to the present project, which is testing of two prehistoric sites.

Assiniboin Indians, who may have seasonally occupied the study region at that time, had made contact with French traders near Lake Superior at least as early as 1656, and by 1681 the traders were carrying the trade to the Assiniboins. The Assiniboins were an offshoot of the Dakota or Sioux Nation, which was slowly migrating westward onto the open plains. French traders established Fort Huillier among the eastern Dakota tribes in eastern Minnesota in 1696, which almost certainly brought European manufactured items to the Sheyenne River region by means of trade between the Dakota tribes (Innis 1956:46, 59). The first known map of the region was drawn by trader Peter Pond in 1775, and Euro-American traders had possibly penetrated and explored the lower Sheyenne River area by that date (Wagner 1955).

During much of the early historic period, the Sheyenne drainage was generally a non-occupied hunting area disputed between the Dakotas and the Chippewas. Conflict between the two nations was heightened by the Euro-American fur trade. The earliest documented visit by Euro-Americans to the Sheyenne River was a reconnaissance trip by North West Company trader Reaume in 1791, during which he and his Chippewa escorts were attacked by Dakotas (Coues 1965:164).

Between 1794 and 1821, a number of wintering posts were established by British traders along the Red River, including a Hudson Bay Company post at Georgetown, about 16 miles south of Fargo. British traders were expelled from United States territory in 1821, and from that date to the beginning of settlement in the 1860s the fur trade was carried on from several posts at Lake Traverse and other locations in the region (Tohill 1929; Keating 1959; Chittenden 1936). Native American occupation of the area ended after the 1862 Minnesota Massacre, and in 1867 the Dakota tribes who had controlled the area were assigned permanent reservations removed from the present study area (Royce 1899; Murray 1952).

Permanent historic settlement of the lower Sheyenne area substantially began in the early 1870s, after the Northern Pacific Railroad built its transcontinental line through the region. Availability of railroad grant lands at low costs allowed development of "bonanza" farms in the Red River Valley, some of which held thousands of acres devoted to industrial production of wheat and other grains. Bonanza farming was essentially a promotional attempt to raise demand and prices of land, however, and by 1915 nearly all of the large farms had been divided and sold (Drache 1964).

Typical settlers of the region claimed parcels of 160 acres or less of non-railroad lands under the Homestead Act, the Timber Culture Act, or the Pre-emption Acts, or they purchased railroad grant lands or public lands. After 1920 the number of farms began to decrease, with an attendant growth in the average acreage of farming units. The rich lands of the Red River Valley, including the lower Sheyenne River area, are suitable for a variety of crops, and after World War II many farmers diversified their cropping to include sugar beets, potatoes, sunflowers, and soybeans (Drache 1964; Staples 1976; R.L. Polk & Company 1906).

3.0 Environmental Background

The following information is excerpted from published Corps of Engineers documents, whenever possible, primarily the report of the Powers Elevation survey of the project area (Floodman 1988).

3.1 Physiography and Topography

Roughly the eastern three-quarters of Cass County is located within the Red River Valley of the central lowlands, which is a botanically defined area which was covered by tall grass prairie prior to settlement. The central lowlands are distinguished from the Great Plains region of the western portion of the state which is covered by short to medium grass prairie (Bluemle 1977).

The Red River Valley occupies a strip of land about 40 miles (65 kilometers) wide on the eastern margin of North Dakota. The Red River Valley is a flat plain resulting from the sedimentation on the floor of glacial Lake Agassiz. More than 95% of the area is gently

sloping (slopes of less than 8%) and local relief is less than 25 ft. (8 m.) in most areas (Bluemle 1977).

The flat terrain of the Red River Valley is broken by the escarpment of the Sheyenne River delta and the beaches of Lake Agassiz. The Sheyenne delta covers a 60 square mile area (155 square kilometers) in the southcentral portion of Cass County. Northeast of Leonard, it rises 75 to 100 ft. (23 to 30 m.) above the lake plain. To the west, it merges with the Maple River delta and the shore deposits of glacial Lake Agassiz. The surface of the Sheyenne delta is relatively flat; local relief is typically less than five feet (U.S. Department of Agriculture 1983).

About 480 square miles (124 square kilometers) in the western part of Cass County are glaciated plains. The glaciated plains consist of gently rolling landscape. More than 80% of the area has relief less than 100 ft. (30 m.), but relief ranges from 100 to 300 ft. (30 to 90 m.) in places (Bluemle 1977).

3.2 Geology

The Red River Valley was initiated several million years ago as a narrow, shallow valley whose axis was several miles east of its current location, where the Dakota Group sandstone was exposed at the surface. The upward movement of ground water helped initiate the valley in the area of springs. With time, the Red River eroded its way to the hard igneous Precambrian rock of the Canadian Shield. The river then shifted westward, where the igneous rock is found at greater depth. As it moved westward, the river carved away the softer shale and sandstone. The west wall of the valley was marked by springs where the Dakota Group aquifers and, as erosion continued, the Lower Paleozoic aquifers, were exposed. Seepage from these springs transported sediment to the river. This resulted in the formation of the steep-sided Pembina Escarpment which became increasingly higher as the river migrated westward.

The face of the Pembina Escarpment was eroded and steepened by glacial ice during the Pleistocene Epoch. The Red River Valley was eroded and eventually filled by a layer of glacial till which stopped the upward flow of ground water. This ended the erosion by the river and its westward migration. The river valley was filled by melting waters of the glaciers as they retreated. The modern floor of the Red River Valley was formed by the sedimentation of the most recent meltwater lake to occupy the valley, glacial Lake Agassiz. The modern Red River of the North now flows on top of this former lake plain (Bluemle 1977).

The West Fargo flood control project lies entirely within the flat, featureless Red River Valley physiographic region. The Sheyenne River tributary of the Red River also flows along the top of the former glacial lake plain. Geologic deposits found along the modern Sheyenne River are referred to as the Walsh Group. This group consists of Holocene sediments, as does the modern Red River Valley.

This area is characterized by river and stream alluvium intermittently deposited since the Pleistocene, with silt and fine sand with coarse sand and considerable detritus in places. The surrounding plains consist of Pleistocene sediments of the Coleharbor Group. This includes flat-bedded clay and silt and sand of lake sediment origin in level areas representing the former floors of glacial Lake Agassiz (Bluemle 1977).

Also present in western areas of Cass County between the glaciated plains and the flat lake bed are gravel and sand, commonly clean and well sorted, representing beach sediment deposited along the former shore lines of glacial Lake Agassiz. Well-developed beach ridges occur in places, but in other areas the shore sediment is simply sand and gravel of little relief (Bluemle 1977). Also present are poorly-sorted, silty gravel and sand, representing delta sediment deposited by the Maple and Sheyenne Rivers as they emptied into glacial Lake Agassiz. Topography is flat to hilly, with some wind-blown dunes (Bluemle 1977).

3.3 Soils

The soils for the project area were identified using the U.S. Department of Agriculture (1983) Soil Survey for Cass County, North Dakota. This soil survey listed the Overly series as the soil unit present at the two sites. The Overly series consists of deep, moderately well drained, moderately slowly permeable soils on glacial lake plains. The soils formed in moderately fine textured lacustrine sediment with slopes limited to 6 percent or less. The top 15-20 cm of this soil is typically a black (10YR 2/1) silty clay loam. This upper stratum includes the plow zone and is referred to as the Ap horizon. Below this, a series of B horizons of a dark brown (10YR 4/2) to dark greyish brown (2.5Y 4/2) silty clay loam extends to a depth of between 40 cm and 100 cm. These horizons include the Bw1, Bw2, and Bk. These similar B horizons were indistinguishable in our test units and were considered together as the "B Horizon." Below our "B Horizon" a C1 Horizon of light olive brown (2.5Y 5/4) silty clay was typically found. Except for the plow zone, all soils encountered during our testing were very compact, blocky, and difficult to excavate and screen.

Overly soils are similar to Gardena and LaDelle soils and commonly are adjacent to Bearden, Fargo, Lindaas, and Perella soils. Gardena soils have less clay than Overly soils. LaDelle soils have an irregular decrease in organic matter and are on terraces and flood plains. Bearden soils have a layer of accumulated lime within 16 inches of the surface. Fargo, Lindaas, and Perella soils are poorly drained. Lindaas soils have an argillic horizon.

3.4 Flora

The project area falls within the Northern Floodplain forest vegetational zone. The surrounding prairies contain Bluestem Prairie vegetation. These vegetational zones, as defined by Kuchler (1964), are summarized below.

The physiognomy of Northern Floodplain Forest is low to tall broadleaf deciduous forest, open to dense, often with lianas. Dominant species are cottonwood (*Populus deltoides*), black willow (*Salix nigra*), and American Elm (*Ulmus americana*). Other components include *Acer negundo*, *A. rubrum*, *A. saccharinum*, *Betula nigra* in the eastern part; *Celastrus scandens*, *Celtis occidentalis*, *Clematis virginiana*, *Fraxinus americana*, *F. pennsylvanica*, *Gleditsia triacanthos*. *Juglans nigra* in the southern part; *Parthenocissus quanquefolia*, *Platanus occidentalis*, also in the southern part; and *Populus sargentii*, *Rhus radicans*, *Salix amygdaloides*, *S. interior*, *Smilax hispida*, *Symphoricarpos orbiculatus* and *Ulmus rubra*. The occurrence of this vegetational type is from North Dakota to Oklahoma (Kuchler 1964).

The physiognomy of the Bluestem Prairie is dense vegetation of tall grasses and numerous forbs. Dominant species are big bluestem (*Andropogon gerardi*), little bluestem (*Andropogon scoparius*), switchgrass (*Panicum virgatum*), and Indian grass (*Sorghastrum nutans*). Other components include: *Amorpha canescens*, *antennaria neglecta*, *Aster ericoides*, *A. laevis*, *Baptisia leucantha*, *B. leucophaea*, *Bouteloua curtipendula*, *Erigeron strigosus*, *Galium tinctorum*, *Helianthus grosseserratus*, *Koeleria cristata*, *Liatris aspera*, *L. punctata*, *L. scarriosa*, *Panicum leibergii*, *P. scribnerianum*, *Phlox pilosa*, *Psoralea argophylla*, *P. floribunda*, *Silphium laciniatum*, *Solidago altissima*, *S. missouriensis*, *S. rigida*, *Sporobolus heterolepis*, and *Stipa spartea* in the northern part. The occurrence of this vegetation type is from North Dakota and Minnesota southward to Oklahoma (Kuchler 1964).

3.5 Fauna

The floral assemblage of the area provides habitat for a variety of faunal species. Smaller mammals include jack rabbit (*Lepus tounsendii*) and ground squirrel (*Citellus richardsoni*). Semi-aquatic species such as beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*), and mink (*Mustela vison*) also inhabit the area. Predators include longtailed weasel (*Mustela frevata*), red fox (*Vulpes vulpes*), and coyote (*Canis latrans*). Large mammals include white-tailed deer (*Odocoileus virginianus*). Grizzly bear (*Ursis horribiles*), bison (*Bison bison*), and elk (*Cervus canadensis*) and moose (*Aces americanus*) formerly inhabited the area (Bailey 1926).

Waterfowl are plentiful and include Canada goose (*Branta canadensis*), mallard (*Anas ptalyrhynchos*), green-winged (*Anas carolinesis*) and blue-winged (*Anas discoro*) teals, northern shoveler (*Spatula clypeata*), pintail (*Anas acuta*), redhead (*Aythya americana*), and wood duck (*Aix sponsa*). Other avian species include Killdeer (*Charadrius vociferus*), great horned owl (*Bubo virginianus*), sharp-tailed grouse (*Pedeoecetes phasianellus*), and ring-necked pheasant (*Phasianus colchicus*).

3.6 Climate

Cass County has a continental climate. The weather is usually quite warm in summer and winters are usually very cold. Most precipitation falls during warm weather and is normally heaviest in late spring to early summer. Snowfall is usually light and blows into drifts leaving much of the ground surface free of snow. Average winter temperature is 20 degrees F. and the average minimum temperature is 11 degrees F. In summer the average temperature is 68 degrees F. with a maximum daily average of 82 degrees F. Total annual precipitation is 20 inches. Sixteen inches or 80% of the annual precipitation, falls between April and September. Average relative humidity is 60%. Prevailing winds are from the north, with the average highest windspeed of 14 miles per hour in the spring (U.S. Department of Agriculture 1983).

4.0 Theoretical and Methodological Overview

This project consisted of two phases: evaluation of the two sites and construction of a plan for mitigating flood control project affects if necessary. The initial phase was intended to provide information about the potential of the sites to yield significant information about past human activities or behavior. The project was limited in scope to addressing general questions which are essential to a determination of the National Register eligibility of the sites. The primary goals of the project were to answer the following questions:

- A. Does the site contain sufficient intact cultural material to potentially answer questions concerning site function, site organization as reflected in distinct activity areas, or methods or techniques of stone tool manufacturing?
- B. Does the site contain, or has it yielded, artifacts such as projectile points, ceramics, or carbonized materials which are diagnostic of cultural chronology?
- C. Does the site contain floral and/or faunal materials which are suitable to provide information about subsistence patterns or seasonality of site occupation?

Neither of the sites tested was determined to be eligible for nomination to the National Register of Historic Places, and therefore the construction of a mitigation plan (Phase Two) became unnecessary for the completion of this project.

5.0 Field Methods

Prior to actual site testing, each site was closely re-examined for purposes of collecting diagnostic artifacts, locating surface artifacts to be plotted on our site maps, and aiding in establishing site boundaries.

32CS44

Surface reconnaissance of 32CS44 was facilitated by recent cultivation, which afforded excellent visibility. A datum was established as described by Floodman (1987), after which a grid system was established over the entire site area and artifacts were point-plotted. The grid system extended well beyond the apparent site boundaries as defined by the surface scatter.

Thirty-six auger probes were excavated at ten meter intervals along north-south and east-west grid transects in 32CS44. These probes were excavated with an eight-inch, two-man power auger and extended well into the B and in some cases the C soil horizon. Probe depth maximums ranged from 63 cm. to 125 cm. below surface. Vertical control in auger excavation was maintained by means of a rule taped to the auger shank. In some instances, a two-handled manual posthole digger was used for excavation to greater depths than those attainable with the power auger. The manual posthole digger was also used to remove the soil from the deeper levels of the probe holes.

All soil excavated from auger probes was screened through 1/4" wire mesh. All artifacts recovered were retained for further analysis and curation; clay nodules, stones and non-cultural vegetable matter were returned to their respective probe excavations. Notes were kept concerning individual probe location, total depth, artifacts observed and stratigraphy. All auger probes were backfilled as they were completed.

32CS42

Field conditions at adjacent site 32CS42 dictated the use of a modified auger probing approach. The recent bean harvest had left a heavy chaff cover over the site area, limiting surface visibility to 10% or less and making determination of site boundaries difficult at best. To compensate for the poor surface visibility, the testing strategy was altered to allow more intensive examination. A datum was re-established in the central part of the site, as described by Floodman (1987) in his original site form when visibility was close to 100%. From this datum, an intensive grid system was laid out over the entire projected site area. Ancillary, linear grid lines were also placed in north-south and east-west directions from the known site area. A total of 106 auger probes were excavated at 10-meter intervals throughout the grid system. Probe excavation procedures and documentation were identical to those used at 32CS44. Mapping of surface artifacts was delayed until a strong wind had removed enough of the harvest chaff to permit a re-survey of the site area and point plotting of artifacts.

Following the auger probing and point plotting of surface artifacts observed at each site, locations for four (4) 1x1 meter test excavation units were selected at each site. Test units were excavated at locations where surface survey and subsurface probing had indicated greatest potential for presence of buried cultural materials. Provenience was established by tying the north-

east corner of each excavation unit to a particular auger probe location.

Following the stratigraphic removal of the disturbed plow zone level, excavation units were generally excavated in arbitrary 10 cm. levels, using shovels and trowels. All measurements were taken from the ground surface and all excavated soil was screened through 1/4" wire mesh. Standardized forms were completed for each level, describing the types and quantities of artifacts, cultural features (none), soil stratigraphy, and natural disturbances such as rodent burrowing. A 20cm. square soil column was left intact in the south-east corner of each excavation unit. Representative soil samples were taken from each level for later fine mesh water screening and possible recovery of artifact size grades that may have passed through our 1/4" screens. All units were excavated through the plow zone well into the lighter colored, silty-clay B-horizon and in some instances into the grey clay C-horizon.

Following excavation, profiles were drawn of the north and east walls of the unit and black-and-white photographs taken of at least one wall of each unit. The excavation units were then backfilled and the ground surface returned to as near a pre-excavation state as possible.

6.0 Laboratory Methods

All materials recovered during the field investigations were returned to the laboratory where they were washed prior to sorting, quantification, and analysis. Water screen samples were washed over sixteen-per-inch window screen. Water screening of level samples produced no additional cultural materials. Wheat and bean stubble, chaff and roots, a few small pebbles, and insect remains were the only other materials recovered.

The paucity of recovered cultural materials precluded any sophisticated analytical procedures or other functional analysis studies. The materials were simply sorted into the following categories: lithic, ceramic, fire-cracked-rock and bone. The lithic category was further broken down to define:

1. An identifiable tool or projectile point
2. A primary, secondary, tertiary flake, shatter, or core
3. Material type

Bone fragments were categorized as either burned or unburned and examined for evidence of cultural modification or possible taxonomical identification. Fire-cracked-rock was described according to material type and color. All artifacts recovered during the project are temporarily stored at the Bismarck offices of Cultural Research & Management, Inc. prior to permanent storage at the State Historical Society of North Dakota or return to the surface owner of the sites.

The ceramic collection from testing conducted at site 32CS42 consisted of a single small, grit tempered, smooth body sherd. The specimen contains a heavy amount (more than 40%) of finely crushed granite grit particles. The sherd, which measures 4.8 mm in thickness, has a reddish brown (5YR4/4) colored exterior surface, while the core and interior surface are gray (5YR5/1). Both surfaces are smooth and neither contain indication of being decorated.

The sherd cannot be assigned to a specific ceramic ware based solely on the its attributes. The specimen may have been part of a completely smooth, plain bodied vessel or the smoothed-over portion of a vessel body dominated by cord-roughened, fabric-impressed, or simple stamped surface treatments.

Dr. Ann Johnson believes that other ceramics collected at this site are affiliated with Blackduck pottery (Floodman 1988). The pottery collected by Floodman from site 32CS42 in 1986 is not presently curated at the State Historical Society of North Dakota and could not be viewed by the authors. This specimen may be associated with the Blackduck sherds collected at the site, but a definite association could not be determined.

7.0 Results

7.1 32CS42

This site was originally described by Floodman (1987) as a sparse scatter of cultural materials situated on a terrace adjacent to a small intermittent stream course. Associated with the cultural artifacts is a scatter of fractured, burned and calcined bone, mussel shell fragments and fire-cracked-rock. The entire site area is currently under cultivation. The site was tentatively identified as a Late Woodland occupation.

The surface inventory produced the bulk of the cultural and other materials studied, despite the poor ground visibility mentioned above. Five flakes of lithic debris, five fragments of fire-cracked-rock, three small bone fragments, a mussel shell fragment, and a fragment of tooth enamel were observed and point-plotted on the site map. No features were observed during our investigations at 32CS42, but two areas of artifact concentrations were noted: one in the central part of the site near datum and the other near excavation unit #3. See Table 1 for a complete inventory and description of these surface plotted artifacts.

Auger probes excavated at 32CS42 produced five bone fragments from probe #14 and another single bone fragment from probe #33. None of these bone fragments appeared to be culturally modified and all were too fragmentary to be taxonomically identifiable. The relevance of the bone to the cultural occupation cannot be ascertained. The only other material collected was a single pottery sherd excavated from probe #8. This is a small (15x9mm), grit tempered, smooth body sherd. The sherd cannot be positively identified, but it is possibly

FIGURE 3: 32CS42 SITE MAP

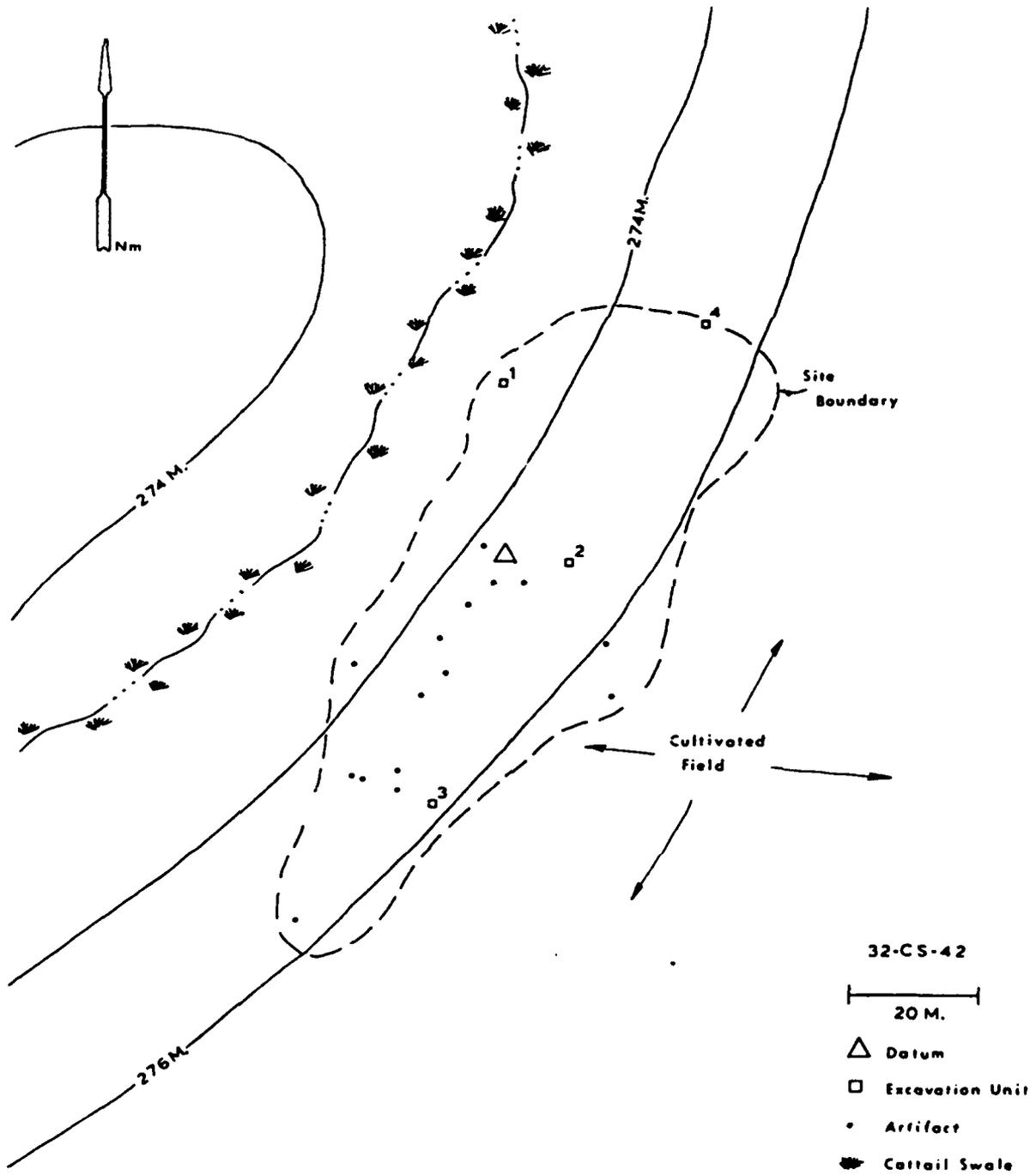


TABLE 1: SURFACE FIND INVENTORY, 32CS42

<u>Artifact</u>	<u>Description</u>
A	F.C.R. - Granite - pink/grey
B	Tertiary flake - white chert - 1.0cm x 1.5cm
C	F.C.R. Granite - pink/grey
D	Secondary flake - K.R.F. -unpatinated
E	Bone fragment
F	Bone Fragment
G	Mussel shell fragment
H	Tooth enamel fragment
I	Secondary flake - white chert 1.3cm x .8cm
J	F.C.R. - Granite - grey
K	Tertiary flake - K.R.F. unpatinated 1.5cm x 1.6cm
L	Secondary flake - grey chert 1.8cm x .6cm
M	Bone fragment
N	F.C.R. - granite - pink/grey
O	F.C.R. - granite - pink/grey

TABLE 2: EXCAVATION UNIT INVENTORY, 32CS42

	<u>Provenience</u>	<u>Materials Recovered</u>
Excavation unit 1.	Probe #14	No cultural material
Excavation unit 2.	Probe #33	No cultural material
Excavation unit 3.	Probe #73	One red chert shatter fragment noted in level 1, at 12cm.
Excavation unit 4.	Probe #8	No cultural material

FIGURE 4: 32CS42 AUGER PROBE GRID

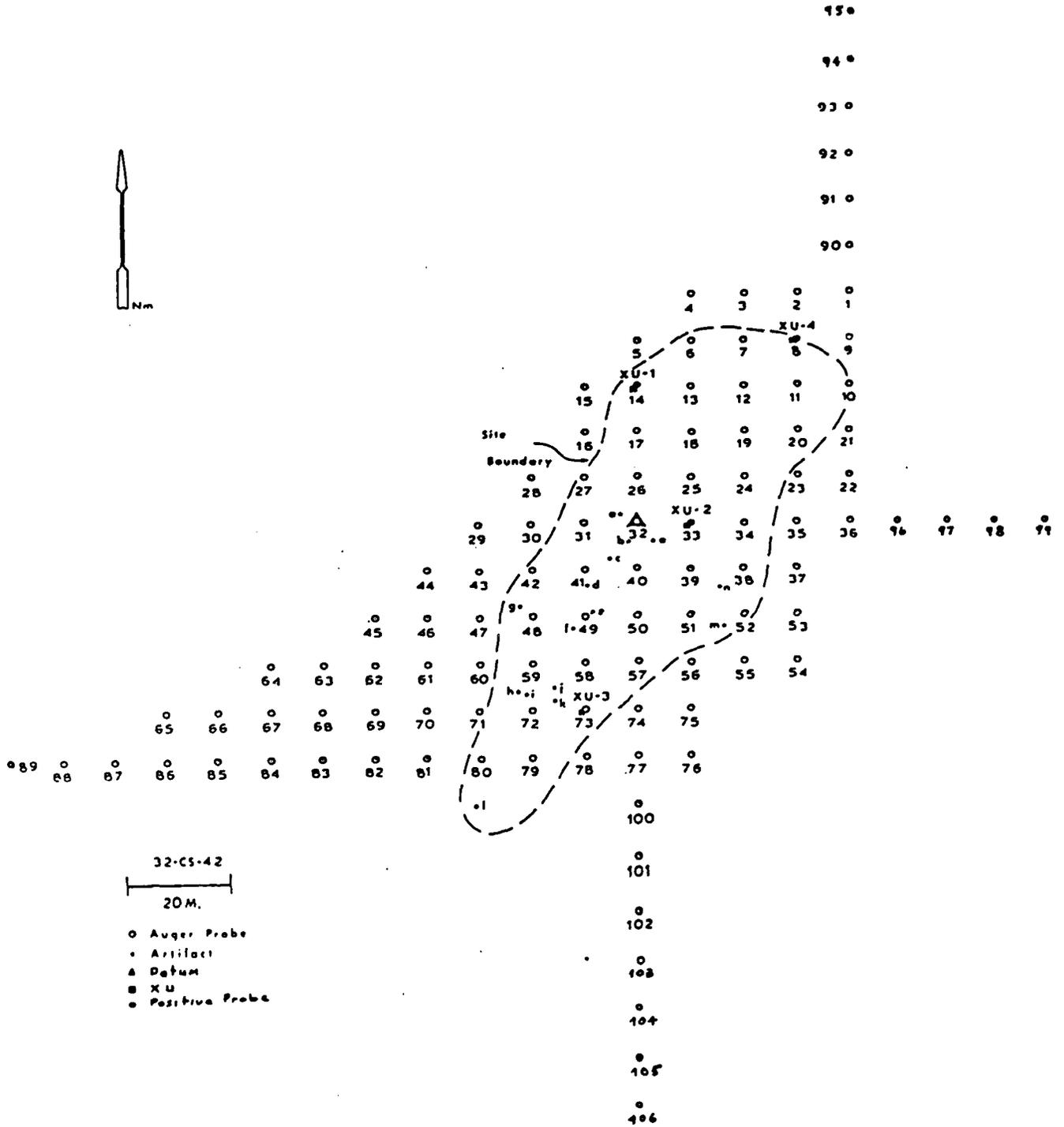


TABLE 3: AUGER PROBE INVENTORY, 32CS42

<u>Probe #</u>	<u>B2-Horizon</u>	<u>C-Horizon</u>	<u>Total Depth</u>	<u>Results</u>
1	20cm	68cm	74cm	negative
2	20cm	60cm	70cm	negative
3	16cm	68cm	80cm	negative
4	18cm	72cm	80cm	negative
5	23cm	82cm	90cm	negative
6	25cm	70cm	80cm	negative
7	21cm	74cm	80cm	negative
8	20cm	48cm	70cm	pottery sherd in plow zone
9	20cm	58cm	70cm	negative
10	20cm	60cm	70cm	negative
11	19cm	60cm	75cm	negative
12	19cm	64cm	75cm	negative
13	18cm	90cm	100cm	negative
14	17cm	90cm	100cm	5 small bone fragments in plow zone
15	20cm	115cm	125cm	negative
16	25cm	73cm	80cm	negative
17	25cm	81cm	90cm	negative
18	20cm	60cm	70cm	negative
19	18cm	72cm	80cm	negative
20	18cm	66cm	80cm	negative
21	18cm	71cm	80cm	negative
22	18cm	68cm	80cm	negative
23	15cm	63cm	70cm	negative
24	20cm	58cm	70cm	negative
25	20cm	61cm	70cm	negative
26	20cm	66cm	80cm	negative
27	18cm	82cm	90cm	negative
28	18cm	116cm	120cm	negative
29	20cm	114cm	118cm	negative
30	19cm	78cm	90cm	negative
31	17cm	76cm	85cm	non-cultural pebble
32	16cm	68cm	75cm	negative
33	16cm	48cm	60cm	one bone fragment in plow zone
34	17cm	49cm	60cm	negative
35	15cm	47cm	60cm	negative
36	15cm	54cm	60cm	negative

TABEL 3: AUGER PROBE INVENTORY, 32CS42

<u>Probe #</u>	<u>B2-Horizon</u>	<u>C-Horizon</u>	<u>Total Depth</u>	<u>Results</u>
37	14cm	47cm	50cm	modern clinkers
38	14cm	44cm	50cm	negative
39	15cm	42cm	50cm	negative
40	15cm	41cm	50cm	negative
41	16cm	37cm	50cm	negative
42	18cm	62cm	70cm	negative
43	20cm	96cm	100cm	negative
44	20cm	117cm	120cm	negative
45	20cm	109cm	115cm	negative
46	21cm	97cm	105cm	negative
47	19cm	84cm	90cm	negative
48	17cm	61cm	70cm	negative
49	15cm	33cm	50cm	negative
50	14cm	36cm	50cm	negative
51	14cm	37cm	50cm	negative
52	16cm	64cm	70cm	negative
53	16cm	37cm	50cm	negative
54	16cm	50cm	29cm	negative
55	18cm	32cm	50cm	negative
56	18cm	46cm	60cm	negative
57	16cm	39cm	50cm	negative
58	16cm	47cm	50cm	negative
59	18cm	48cm	50cm	negative
60	18cm	60cm	70cm	negative
61	18cm	84cm	90cm	negative
62	20cm	86cm	90cm	negative
63	21cm	97cm	110cm	negative
64	22cm	111cm	126cm	negative
65	22cm	114cm	130cm	negative
66	23cm	107cm	113cm	negative
67	22cm	92cm	97cm	negative
68	20cm	88cm	95cm	negative
69	18cm	66cm	75cm	negative
70	17cm	65cm	75cm	negative
71	16cm	39cm	50cm	negative
72	16cm	50cm	60cm	negative

TABLE 3: AUGER PROBE INVENTORY, 32CS42

<u>Probe #</u>	<u>B2-Horizon</u>	<u>C-Horizon</u>	<u>Total Depth</u>	<u>Results</u>
73	15cm	35cm	50cm	negative
74	15cm	41cm	50cm	negative
75	16cm	39cm	50cm	negative
76	18cm	41cm	50cm	negative
77	15cm	42cm	50cm	negative
78	16cm	36cm	50cm	negative
79	18cm	51cm	60cm	negative
80	18cm	46cm	55cm	negative
81	20cm	66cm	75cm	negative
82	20cm	73cm	80cm	negative
83	20cm	69cm	75cm	negative
84	21cm	72cm	80cm	negative
85	22cm	74cm	90cm	negative
86	22cm	82cm	95cm	negative
87	20cm	112cm	120cm	negative
88	22cm	120cm	127cm	negative
89	24cm	138cm	145cm	negative
90	21cm	63cm	70cm	negative
91	20cm	65cm	75cm	negative
92	22cm	68cm	70cm	negative
93	19cm	697cm	70cm	negative
94	19cm	74cm	85cm	negative
95	20cm	77cm	85cm	negative
96	14cm	50cm	55cm	negative
97	16cm	46cm	50cm	negative
98	17cm	44cm	50cm	negative
99	15cm	45cm	50cm	negative
100	15cm	41cm	50cm	negative
101	16cm	43cm	55cm	negative
102	18cm	44cm	60cm	negative
103	16cm	42cm	60cm	negative
104	15cm	40cm	50cm	negative
105	15cm	39cm	55cm	negative
106	18cm	41cm	60cm	negative

associated with the more diagnostic sherds recovered by Floodman (1987) and tentatively identified as Early Phase Blackduck. See Table 3 for a complete inventory of auger probe results.

The four 1x1 meter test excavations at 32CS42 produced a single fragment of shattered, red chert. It was located within the plow zone level in excavation unit #3, at 12 cm below ground surface. No cultural materials were observed in the intact strata below the plow zone. See Table 3 for a complete inventory of excavation units.

7.2 32CS44

This site was originally described by Floodman (1987) as a sparse scatter of cultural materials widely scattered on a terrace above a small, intermittent stream course. Associated with the cultural materials was a scatter of fractured, burned and calcined bone, mussel shell fragments and fire-cracked-rock. The entire site area is currently under cultivation. On the basis of a ceramic sherd and a small side-notched projectile point, Floodman (1987) tentatively identified this site as a Late Woodland occupation. He also mentioned the possibility that this site may be related to adjacent site 32CS42.

Recent cultivation of the site area at 32CS44 resulted in excellent surface visibility and allowed a thorough re-survey of the site. As at Site 32CS42, reexamination of the site surface resulted in the location of the bulk of the materials discovered at the site. Seven flakes, one corner-notched projectile point base fragment, seven bone fragments, a mussel shell fragment and two fragments of fire cracked rock were observed and point plotted on our site map. None of the bone fragments or mussel shell fragment appeared to be culturally modified. See Table 4 for a complete inventory and description of these surface plotted artifacts.

Auger probes at 32CS44 produced bone fragments in five probe locations, a small tertiary flake of white chert in another location, and a fragment of tooth enamel in yet another probe location. None of the bone fragments appeared to be culturally modified, and all were too fragmentary to be taxonomically identifiable. However, measurements of bone wall thickness in excess of 14mm. would suggest a bovine origin for at least some of the fragments. The relevance of the bone fragments to the cultural occupation cannot be ascertained. Table 6 presents an inventory of auger probes at 32CS44.

Formal 1x1 meter test excavations at 32CS44 produced bone fragments in three of the four units excavated: Units 2, 3 and 4. As with the bone fragments recovered from auger probes, none of the bone appeared to be culturally modified and all were too fragmentary to be taxonomically identifiable. All the bone fragments were recovered from within the plow zone level. No cultural materials were observed in the intact strata below the plow zone. Table 5 presents an inventory of unit excavations at 32CS44.

FIGURE 6: 32CS44 SITE MAP

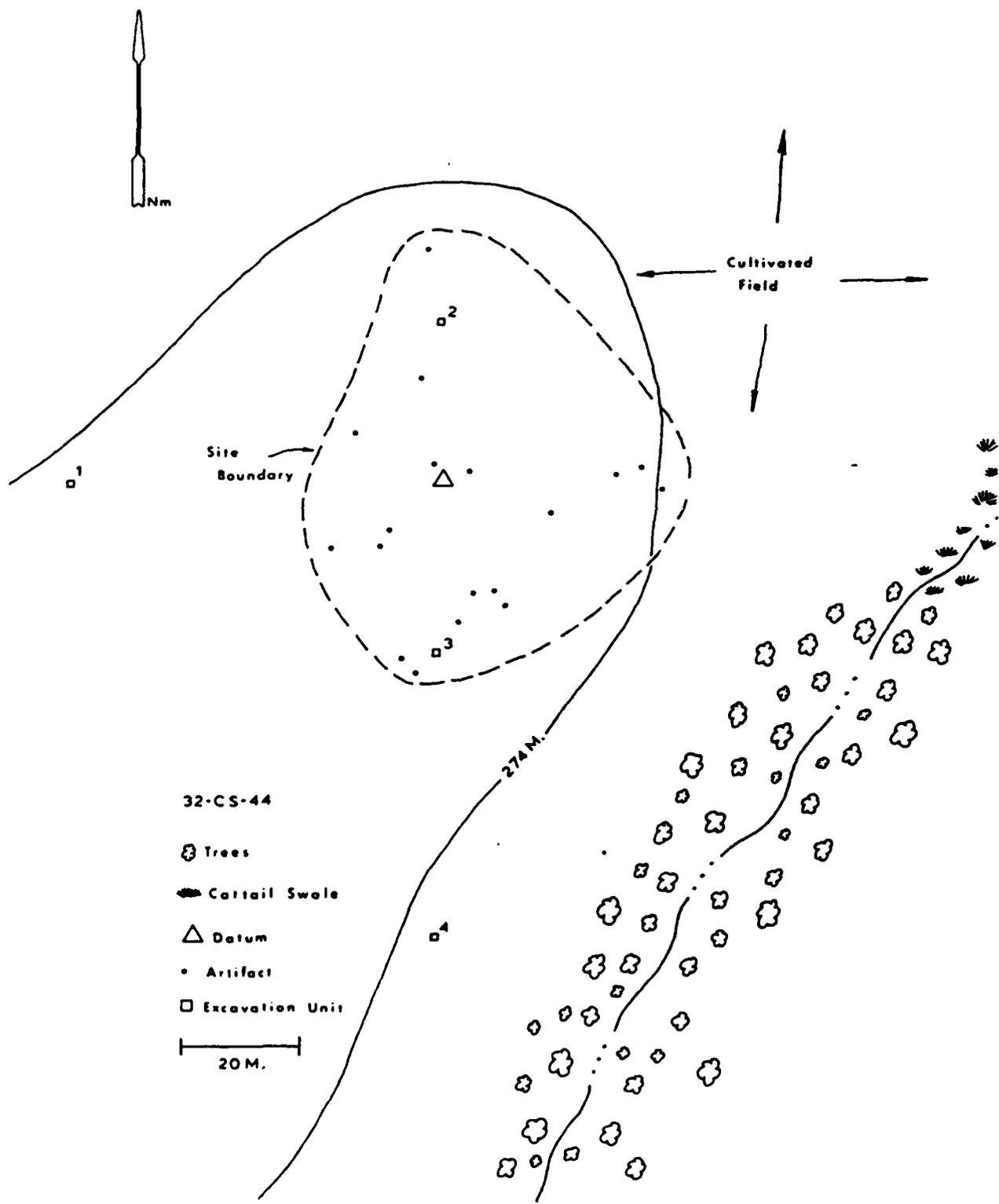


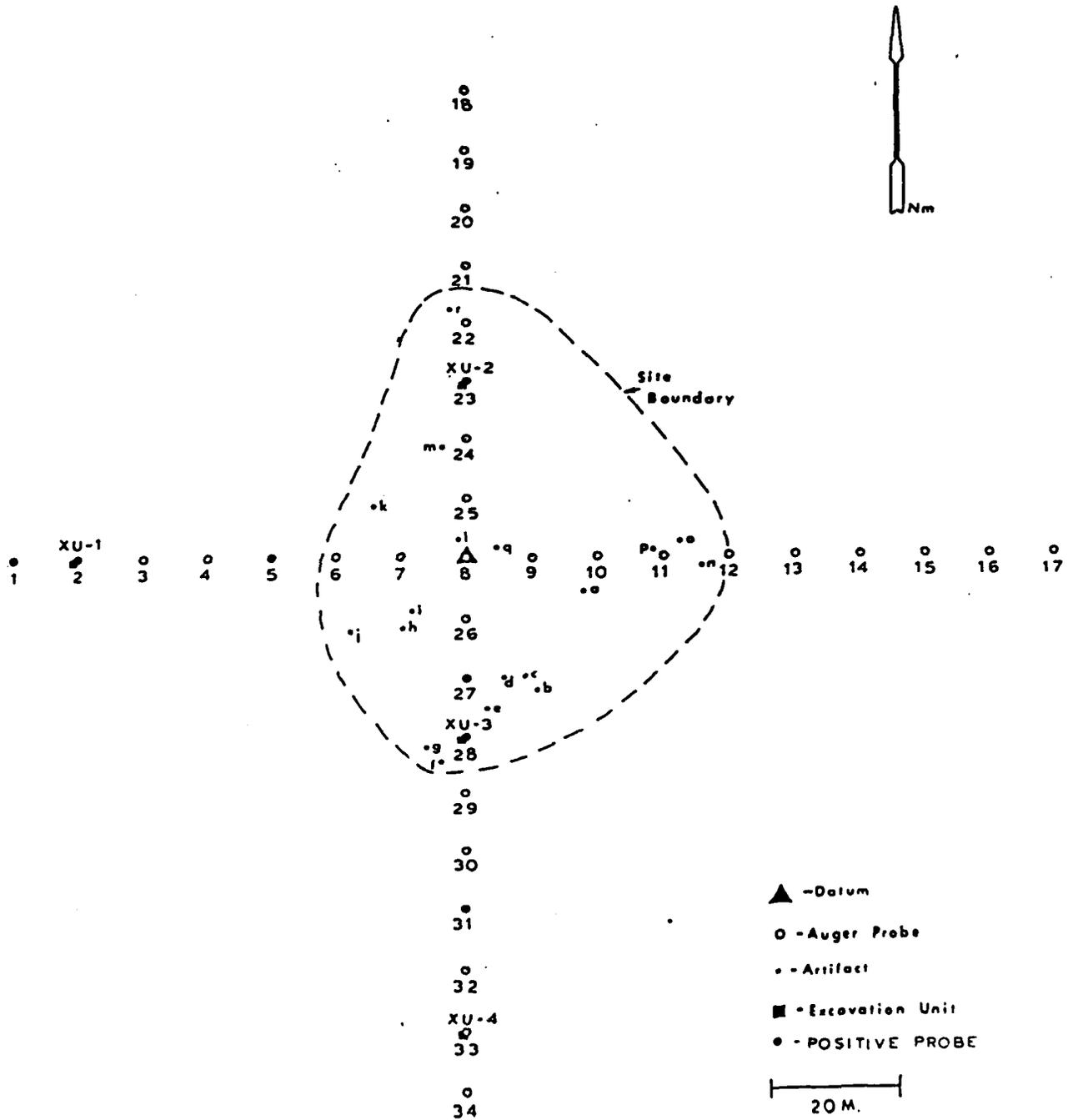
TABLE 4: SURFACE FIND INVENTORY, 32CS44

<u>Artifact</u>	<u>Description</u>
A	Mussel shell fragment
B	Bone fragment
C	F.C.R. fragment - pink granite
D	Bone fragment
E	F.C.R. fragment - pink granite
F	Bone Fragment
G	Tertiary flake -white chert 1cm x 1cm
H	Secondary Flake - tan chert 4cm x 2.5cm
I	Corner -notched point base fragment - collected
J	Bone fragment
K	Secondary flake - grey chert 2.8cm x 2.4cm
L	Tertiary flake - white chert 2.0cm x 1.6cm
M	Secondary quartzite flake - tan - 2.3cm x 1.5cm
N	Bone fragment
O	Primary flake - red chert - 2.8cm x 1.3cm
P	Bone fragment
Q	Burned bone fragment
R	Secondary flake - pink chert - 1.8cm x 1.5cm

TABLE 5: EXCAVATION UNIT INVENTORY, 32CS44

	<u>Provenience</u>	<u>Materials Recovered</u>
Excavation unit 1.	Probe #2	No cultural material
Excavation unit 2.	Probe #23	One calcined bone fragment was recovered from level 1, 0-25cm.
Excavation unit 3.	Probe #28	Two bone fragments were recovered from level 1, 0-25cm.
Excavation unit 4.	Probe #33	One small bone fragment noted from level 1, 0-20cm.

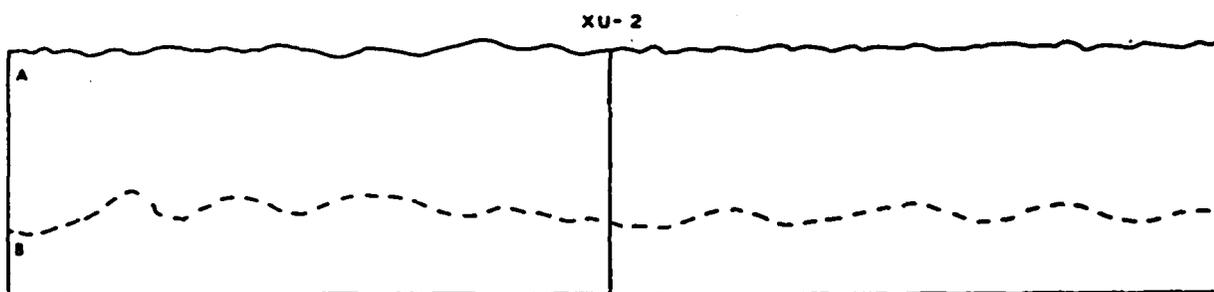
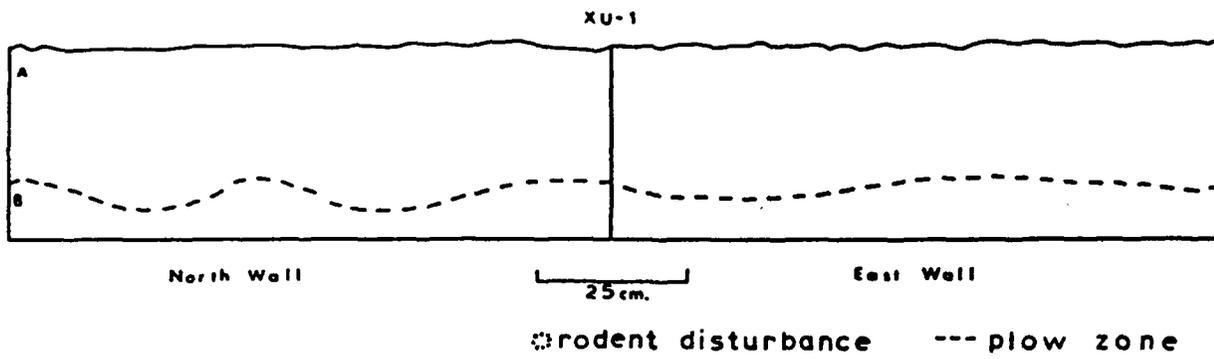
FIGURE 7: 32CS44 AUGER PROBE GRID



- ▲ -Datum
 - -Auger Probe
 - -Artifact
 - -Excavation Unit
 - - POSITIVE PROBE
- 20 M.

TABLE 6: AUGER PROBE INVENTORY, 32CS44

<u>Probe #</u>	<u>B2-Horizon</u>	<u>C-Horizon</u>	<u>Total Depth</u>	<u>Results</u>
1	24cm	75cm	80cm	1 fragment calcined bone in plow zone
2	20cm	78cm	86cm	51 bone fragments in plow zone
3	22cm	75cm	80cm	negative
4	18cm	73cm	80cm	negative
5	20cm	53cm	70cm	2 bone fragments in plow zone
6	25cm	60cm	70cm	negative
7	22cm	60cm	65cm	negative
8	24cm	60cm	74cm	negative
9	22cm	48cm	80cm	negative
10	18cm	27cm	78cm	negative
11	20cm	80cm	84cm	negative
12	20cm	30cm	63cm	negative
13	20cm	35cm	80cm	negative
14	28cm	104cm	108cm	negative
15	30cm	108cm	112cm	negative
16	30cm	110cm	115cm	negative
17	30cm	120cm	125cm	negative
18	25cm	80cm	85cm	negative
19	25cm	63cm	70cm	negative
20	22cm	69cm	75cm	negative
21	24cm	807cm	90cm	negative
22	25cm	75cm	80cm	negative
23	25cm	60cm	70cm	small tertiary flake white chert in plow zone
24	25cm	58cm	75cm	negative
25	22cm	60cm	75cm	negative
26	24cm	70cm	75cm	negative
27	24cm	51cm	75cm	12 bone fragments - 2 are burned - plow zone
28	22cm	35cm	80cm	one calcined bone fragment in plow zone
29	20cm	37cm	80cm	negative
30	20cm	21cm	80cm	negative
31	20cm	33cm	75cm	one fragment of tooth enamel in plow zone
32	22cm	35cm	90cm	negative
33	24cm	45cm	90cm	negative
34	20cm	45cm	90cm	negative
35	20cm	45cm	85cm	negative
36	20cm	50cm	85cm	negative



Wall Profiles 32-CS-44

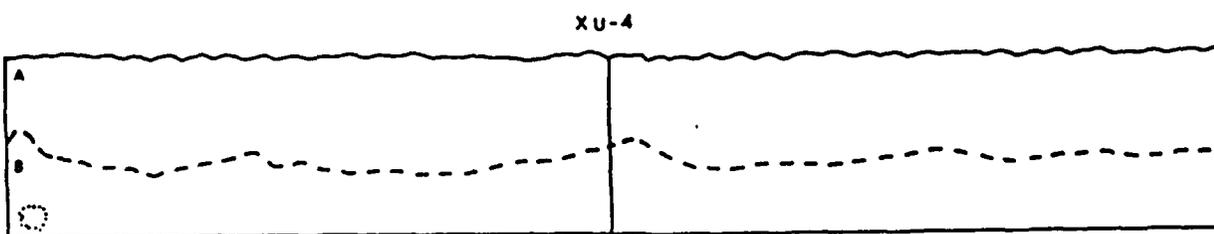
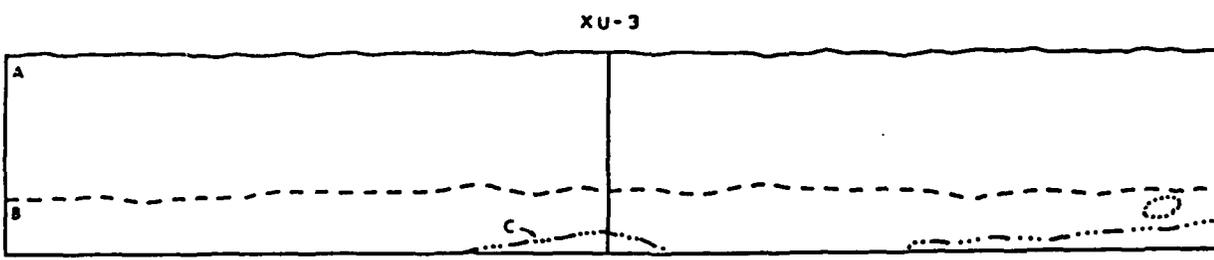


FIGURE 8: 32CS44 EXCAVATION UNIT WALL PROFILES

8.0 Evaluation and Conclusions

The Phase II cultural resources testing program has resulted in an increased understanding of sites 32CS42 and 32CS44. The following conclusions are drawn with reference to the primary research questions under which the project was undertaken.

1. Neither site contains sufficient intact cultural material to potentially answer questions concerning site function, site organization as reflected in distinct activity areas, or methods or techniques of stone tool manufacturing. The sparseness of cultural materials, the absence of identified features or function/use areas, and the apparent loss of provenience throughout the sites seem to preclude any possibility that the site would yield significant cultural information through further archeological examination. The occurrence of chert flakes on the sites indicates that some tool manufacturing or re-manufacturing took place there, but the recovered sample is too small to provide a statistically sound basis for analysis and too undistinguished to recommend this site as an appropriate candidate for such analysis.
2. The sites have yielded sufficient artifacts, primarily pottery shards and projectile points, to tentatively associate the sites with the Late Woodland Period. The similarity of cultural materials from the two sites indicates occupation of the sites was roughly contemporaneous, and the proximity of the sites may further indicate that the sites are actually components of a single occupation locality.
3. The sites do not contain floral and/or faunal materials which are suitable to provide information about subsistence patterns or seasonality of site occupation. Floral remains which may have existed in the sites have been mixed and destroyed by intensive cultivation of the sites, probably for more than a century. Faunal remains recovered from the sites consist of small shattered fragments of animal bone and tooth enamel, none of which exhibit evidence of human modification or butchering. The thickness of the bone fragments indicates the animals were larger than deer, and the bones may have come from bison or domestic cattle.

9.0 Recommendations

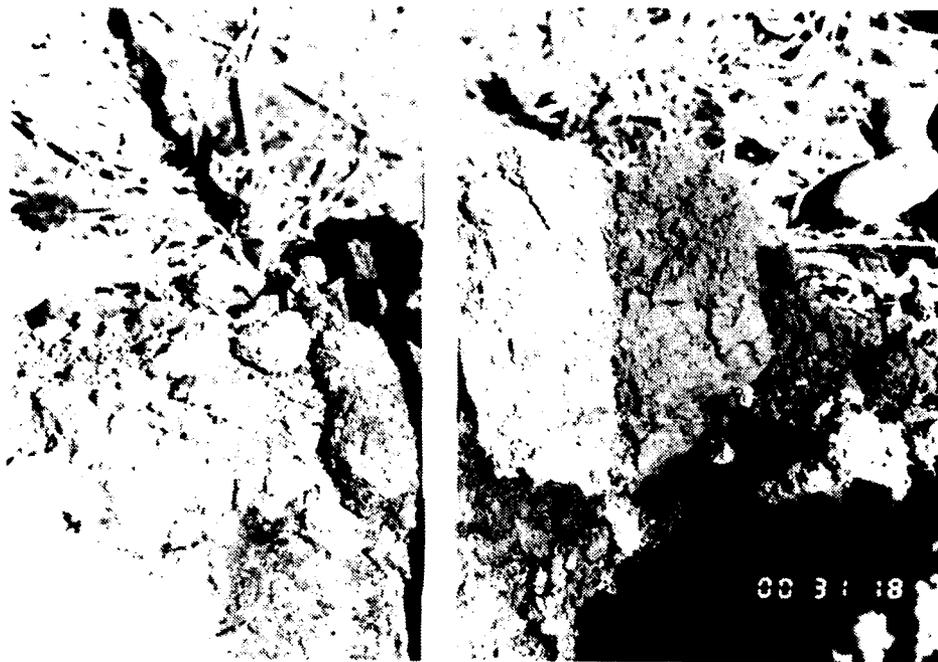
32CS42 and 32CS44 do not retain essential physical integrity, and the sites do not exhibit a likelihood to yield information important to the cultural prehistory of the region. We therefore recommend that the sites be considered not eligible for nomination to the National Register of Historic Places, and we do not recommend further cultural research concerning these sites. In respect to these sites, the proposed project area is recommended to contain "no historic properties."



00-30-98: View to North - auger probes



00-31-15: Auger probe # 29 - swale - view to West



00-31-18: Auger probe # 68 - note clay C-Horizon



00-31-23: Excavation unit # 4 - prior to excavation -
note poor surface visibility



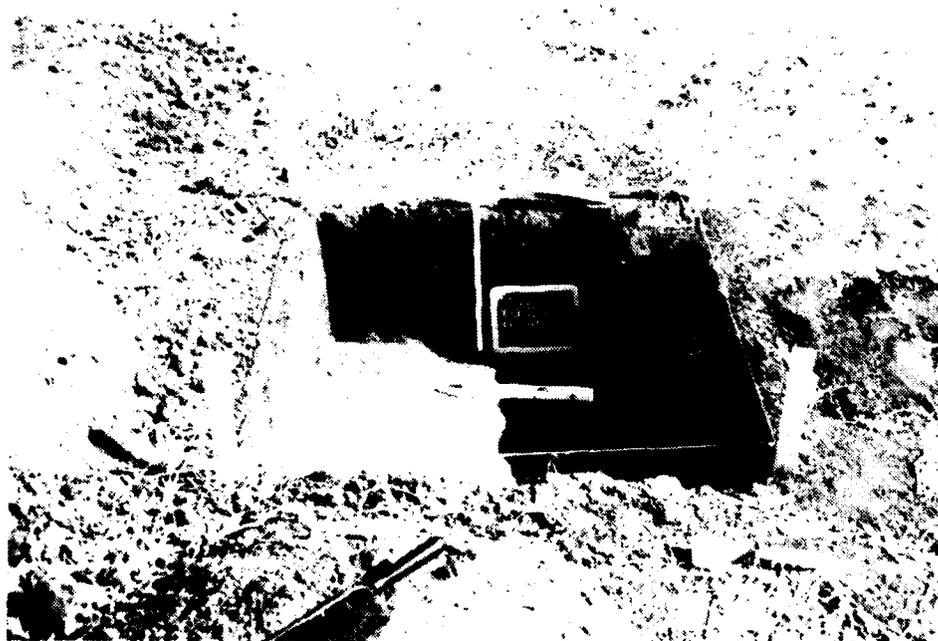
00-31-62: PE-87-CS-1 site mapping



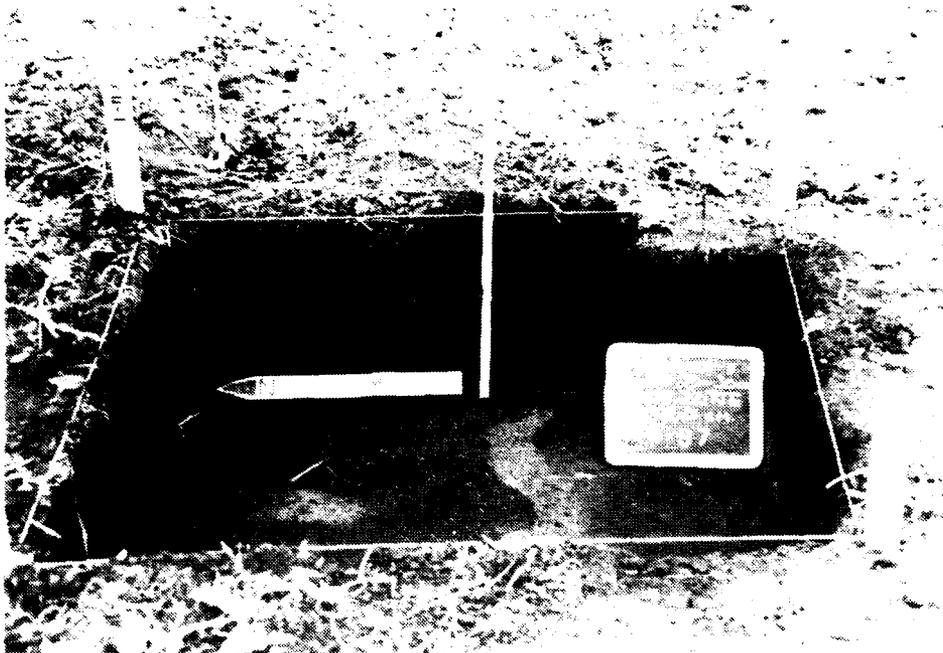
00-31-75: PE-87-CS-2 testing in progress - view to NE



00-31-44: Excavation unit # 2 L-3 40cms - note distinct strata



00-31-49: Excavation unit # 2 L-3 40cms - East wall



00-31-25: Excavation unit # 1 - 0-30cm



00-31-35: Site overview - testing in progress - view to NE

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APPENDIX A: SCOPE OF WORK

SCOPE OF WORK
PHASE II CULTURAL RESOURCES INVESTIGATION
OF TWO SITES NEAR WEST FARGO, NORTH DAKOTA

1.00 INTRODUCTION

1.01 The Contractor will undertake Phase II testing at two archaeological sites near West Fargo, Cass County, North Dakota.

1.02 This cultural resources investigation partially fulfills the obligations of the Corps of Engineers (Corps) regarding cultural resources, as set forth in the National Historic Preservation Act of 1966 (Public Law 89-665), as amended; the National Environmental Policy Act of 1969 (PL 91-190); Executive Order (EO) 11593 for the "Protection and Enhancement of the Cultural Environment" (Federal Register, May 13, 1971); the Archeological and Historical Preservation Act of 1974 (PL 93-291); the Advisory Council on Historic Preservation "Regulations for the Protection of Historic and Cultural Properties" (36 CFR, Part 800); and the applicable Corps regulations (ER 1105-2-50).

1.03 The laws listed above establish the importance of Federal leadership, through the various responsible agencies, in locating and preserving cultural resources within project areas. Specific steps to comply with these laws, particularly as directed in PL 93-291 and EO 11593, are being taken by the Corps "... to assure that Federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural, or archeological significance." A part of that responsibility is to locate, inventory, and nominate to the Secretary of the Interior all such sites in the project area that appear to qualify for listing on the National Register of Historic Places.

1.04 EO 11593 and the 1980 amendments to the National Historic Preservation Act further direct Federal agencies "... to assure that any federally owned property that might qualify for nomination is not inadvertently transferred, sold, demolished or substantially altered." In addition, the Corps is directed to administer its policies, plans, and programs so that federally and non-federally owned sites, structures, and objects of historical, architectural, or archeological significance are preserved and maintained for the inspiration and benefit of the people.

1.05 This cultural resources investigation will serve several functions. The report will be a planning tool to aid the Corps in meeting its obligations to preserve and protect our cultural heritage. It will be a comprehensive, scholarly document that not only fulfills federally mandated legal requirements but also serves as a scientific reference for future professional studies. It will identify resources that may require additional investigations and that may have potential for public-use development. Thus, the report must be analytical, not just descriptive.

2.00 PROJECT DESCRIPTION

2.01 The Sheyenne River causes flooding in the West Fargo/Riverside area of Cass County, North Dakota. To help prevent flood damages, the Corps of Engineers proposes to construct a diversion channel, two sections of levee, closure structures, and interior drainage facilities at West Fargo.

2.02 A cultural resource survey of the proposed project area was conducted by Powers Elevation, Inc. in 1986-87. This survey resulted in the location of two sites that could be impacted by construction of the proposed diversion channel. The results of this survey are detailed in a report entitled Revised Draft Final Report of the Phase I Cultural Resources Investigation of a Proposed Flood Control Project along the Sheyenne River, at West Fargo, North Dakota. This report, which was prepared under contract with the St. Paul District, Corps of Engineers, is currently under review and not available for distribution.

2.03 One of the sites located during this survey is site PE-87-CS-1 (field number - no state site number currently available). This site is located in the NW $\frac{1}{4}$, NW $\frac{1}{4}$, NE $\frac{1}{4}$ and E $\frac{1}{2}$, NE $\frac{1}{4}$, NW $\frac{1}{4}$, Section 11, T139N, R50W (see inclosed NDCRS site form). This site is a thin prehistoric scatter in a plowed field. The extent of buried deposits is unknown.

2.04 The other site located during the survey is site PE-87-CS-2. This site is located in the NE $\frac{1}{4}$, NE $\frac{1}{4}$, ^{NW $\frac{1}{4}$} Section 11, T139N, R50W (see inclosed NDCRS site form). This site is also a thin prehistoric scatter in a plowed field across a small stream from site PE-87-CS-1. It is possible that the two sites are related. Again, the extent of buried deposits is unknown.

3.00 DEFINITIONS

3.01 Cultural Resources include any building, site, district, structure, object, data, or other material relating to the history, architecture, archeology, or culture of an area.

3.02 Phase II Testing is the intensive testing of those sites that may provide important cultural or scientific information. This testing will result in (1) information adequate to determine whether the resource is eligible for inclusion on the National Register of Historic Places; (2) a Phase III mitigation plan for any eligible resources that will undergo a direct or indirect impact; and (3) detailed time and cost estimates for the mitigation.

3.03 Phase III Mitigation is the mitigation of the direct or indirect impacts of construction upon eligible sites through the systematic removal of data. It typically includes the excavation of either a systematic sample or a complete recovery of cultural deposits and the thorough analysis and interpretation of the data recovered. The excavation, analysis, and interpretation methods must be adequate to address the important research questions on which the resource was determined eligible. In addition, because Phase III mitigation destroys the resource, data should be collected to address future research questions.

4.00 TESTING SPECIFICATIONS

4.01 The Contractor will conduct Phase II Testing at sites PE-87-CS-1 and PE-87-CS-2, in accordance with Sections 2.03, 2.04 and 3.02 above.

5.00 PERFORMANCE SPECIFICATIONS

5.01 The Contractor's work will be subject to the supervision, review, and approval of the Contracting Officer's representative.

5.02 The Contractor will employ a systematic, interdisciplinary approach in conducting the study, using techniques and methods that represent the current state of knowledge for the appropriate disciplines. The Contractor will provide specialized knowledge and skills as needed, including expertise in archeology and other social and natural sciences.

5.03 The Contractor will provide all materials and equipment necessary to perform the required services expeditiously.

5.04 The Contractor's testing will be sufficient to determine whether the resources meet the National Register of Historic Places eligibility criteria listed in 36 CFR, Part 60 and to complete documentation required in 36 CFR, Part 63.

5.05 If any cultural resources appear to be potentially eligible, modification of the contract may be undertaken at the Government's option to cover the cost of the Contractor preparing a Determination of Eligibility for the National Register of Historic Places.

5.06 Phase II testing will include excavation of formal test units. This may be supplemented by other techniques such as shovel testing and controlled surface collection. The formal test units will be excavated in either natural stratigraphic layers or arbitrary 10-centimeter levels. For large sites, the use of heavy equipment may be appropriate. Field methodologies and techniques will be coordinated with the Contracting Officer's representative prior to the commencement of field work.

5.07 The Contractor will screen all subsurface tests through 1/4-inch mesh hardware cloth. Representative soil samples from features, levels, or zones should be processed by flotation and examined for floral and faunal remains.

5.08 If materials suitable for radiocarbon dating are encountered, samples should be collected. The Contracting Officer's representative should be notified prior to processing them, since the costs for dating would be added as a modification to this contract at the Government's option.

5.09 The Contractor will recommend any Phase III mitigation measures that are warranted, including time and cost estimates.

5.10 The Contractor will return all tested areas as closely as practical to presurvey conditions.

5.11 If it becomes necessary in the performance of the work and services, the Contractor will, at no cost to the Government, secure the rights of ingress and egress on properties not owned or controlled by the Government. The Contractor will secure the consent of the owner, or the owner's representative or agent, in writing prior to effecting entry on such property. If requested, a letter of introduction signed by the District Engineer can be provided to explain the project purposes and request the cooperation of landowners. Where a landowner denies permission for survey, the Contractor must immediately notify the Contracting Officer's representative and describe the extent of the property to be excluded from the survey.

5.12 The Contractor must keep standard records that include field notes and maps, subsurface testing forms, photographs, and plan maps and profiles of features and excavation units.

5.13 Cultural materials and associated records from the study should be curated at an institution that can ensure their preservation and make them available for research and public view. The Contractor will be responsible for making curatorial arrangements, coordinating them with the appropriate officials of North Dakota, and obtaining approval from the Contracting Officer's representative.

5.14 When sites are not wholly contained within the project's proposed right-of-way, the Contractor shall include the area outside the right-of-way limits large enough to include the entire site within the survey area. This shall be done to delineate site boundaries and to adequately access the degree to which the site may be impacted.

6.00 GENERAL REPORT REQUIREMENTS

6.01 The Contractor will submit the following documents, described in this section and Section 7.00: field notes, a field report, a draft contract report, a final contract report.

6.02 The Contractor's field report will be a brief summary of the field work including results. It may be in the form of a letter to the Contracting Officer's representative.

6.03 The Contractor's field notes will include legible copies of notes and records kept during the investigation. Especially important is the daily field journal of the field director, and subsurface testing forms. One copy of these notes should be submitted to the Contracting Officer's representative with the draft contract report but should not be bound into the report.

6.04 The draft contract report will detail the approach, methods, and results of the investigation and make recommendations for further work. It will be submitted to the Contracting Officer's representative, who will review it and forward it to other appropriate agencies for review. Comments will be returned to the Contractor, who will make the required revisions and submit the final contract report.

6.05 The Contractor's draft and final reports will include at least the following sections, as appropriate to the study. The length of each section depends on the level of detail required of the study and the amount of information available. The reports should be as concise as possible, yet provide all the information needed for evaluating and managing the resources and for future reference.

a. Title page: The title page will provide the following information: the type of study; the types of cultural resources assessed (archeological, historical, and/or architectural); the project name and location (county and State); the date of the report; the Contractor's name; the contract number; the name of the author(s) and/or Principal Investigator; the signature of the Principal Investigator; and the agency for which the report is being prepared.

b. Management summary: This section will provide a concise summary of the study, containing all the information needed for management of the project. This information will include the reason the work was undertaken, who the sponsor was, a brief summary of the scope of work and budget, a summary of the field work and lab analysis, the limitations of the study, the results, the significance of the results, recommendations for further work, and the repository for records and artifacts.

c. Table of contents

d. List of figures

e. List of plates

f. Introduction: This section will identify the sponsors (Corps of Engineers) and their reason for the study and present an overview of the study with each site located on USGS quad maps. It will also define the location and boundaries of the study area (using regional and area-specific maps); define the study area within its regional cultural and environmental context; reference the scope of work; identify the institution that did the work and the number of people and person-days/hours involved; give the dates when the various phases of the work were completed; identify the repository of records and artifacts; and provide a brief outline of the report and an overview of its major goals.

g. Previous archeological and historical studies: This section will briefly summarize and evaluate previous archeological and historical research in the study area including the researchers, dates, extent, adequacy, and results of past work and any cultural/behavioral inferences derived from it.

h. Environmental background: This section will briefly describe the current and prehistoric environment of the study area, including its geology, vegetation, fauna, climate, ^Qtopography, physiography, and soils. The relationship of the environmental setting to the area's prehistory and history should be stressed. The level of detail in this section will be commensurate with that of the other report sections.

i. Theoretical and methodological overview: This section will state the goals of the sponsor and the researcher, the theoretical and methodological orientation of the study, and the research strategies that were applied to achieve the goals.

j. Field methods: This section will describe all field methods, techniques, and strategies and the reasons for using them. It will also describe field conditions, relevant topographic/physiographic features, vegetation conditions, soil types, stratigraphy, general results, and the reasons for eliminating any uninvestigated areas.

k. Laboratory and analysis methods: This section will explain the laboratory methods employed and the reasons for selecting them. It will reference accession or catalog numbers of any collections, photographs, or field notes obtained during the study and state where these materials are permanently housed. It will also describe and justify the specific analytical methods used, including any quantitative analysis of the data, and discuss limitations or problems with the analysis.

l. Results: This section will describe the cultural resources studied. As background, it will include each site's description, location, environmental setting, and current condition. It will discuss in depth the quantity, types, and distribution of remains and features found during the testing. It will also present the information used to evaluate each site's significance. It is particularly important that adequate information be presented on sites that are not significant, as well as on those that are significant.

m. Evaluation and conclusions: This section will formulate conclusions about the resources examined. It will assess the National Register eligibility of each resource, including information about its integrity, relationship to other known sites, anticipated data potential and limitations, and potential for answering important questions about past human behavior. It will also assess the reliability of the analysis, relate the results of the study to the stated goals, and discuss any cultural/behavioral patterns and processes that can be inferred from the results.

n. Recommendations: This section will recommend any further work deemed necessary. It will summarize Phase III data recovery measures that would be adequate to mitigate the impact of construction on the resources in the project area, as well as a time and cost estimate for this work. It will also describe any areas that were inaccessible and recommend future treatment of them. If the Contractor concludes that no further work is needed at any site, the evidence and reasoning supporting this recommendation will be presented.

o. References: This section will provide bibliographic references (in American Antiquity format) for every publication cited in the report. References not cited in the report may be listed in a separate "Additional References" section.

p. Appendix: This section will include the Scope of Work, resumes of project personnel, copies of all correspondence relating to the study, State site forms for all sites evaluated, and any other pertinent information referenced in the text.

q. Figures: The locations of all sites and other features discussed in the text will be shown on a legibly photocopied USGS map bound into the report. In addition, the locations of all subsurface tests will be indicated on maps of appropriate scale and detail, and keyed to the subsurface testing forms included with the field notes. Other figures should also be used as appropriate.

r. Tables: The report should include tables of recovered cultural materials by site and provenience (for example, excavation unit and level).

6.06 A cover letter submitted with the final contract report will include the project budget.

6.07 The Contractor will submit to the Contracting Officer's representative the negatives for all photographs that appear in the report.

7.00 FORMAT SPECIFICATIONS

7.01 There are no specific format requirements for the field report. A letter report is usually sufficient.

7.02 There are no format requirements for the field notes; however, they must be legible. If the original handwritten notes are illegible, they should be typed.

7.03 Formats for both the draft and final contract reports are as follows:

a. The Contractor will present information in whatever textual, tabular, or graphic forms are most effective for communicating it.

b. The draft and final reports will be divided into easily discernible chapters, with appropriate page separations and headings.

c. The report text will be typed, single-spaced (the draft report should be space-and-one-half or double-spaced), on good quality bond paper, 8.5 inches by 11.0 inches, with 1.5-inch binding and bottom margins and 1-inch top and outer margins. All pages will be numbered consecutively, including plates, figures, tables, and appendixes.

d. All illustrations must be clear, legible, self-explanatory, and of sufficiently high quality to be reproduced easily by standard xerographic equipment, and will have margins as defined above. All maps must be labeled with a caption, a north arrow, a scale bar, township and range, map size and dates, and map source (e.g., the USGS quad name or published source). All photographs or drawings should be clear, distinct prints or copies with captions and a bar scale.

3.00 MATERIALS PROVIDED

8.01 The Contracting Officer's representative will furnish the Contractor with access to any publications, records, maps, or photographs that are on file at the St. Paul District headquarters.

8.02 At the Contractor's request, the Contracting Officer's representative will provide information on National Register of Historic Places criteria for eligibility and on the preparation of Determinations of Eligibility.

9.00 SUBMITTALS

9.01 The field work completion date for this project will be _____. The Contractor will contact the Contracting Officer's representative at least 7 days before the field work begins to discuss the field work schedule and plans.

9.02 The Contractor will submit reports according to the following schedules:

a. Field report: A brief letter report summarizing the field work and its results will be submitted to the Corps of Engineers within 10 working days of completion of field work.

b. Draft contract report: Five copies of the draft contract report will be submitted no later than 60 calendar days after completion of the field work. The draft contract report will be reviewed by the Corps of Engineers, the State Historic Preservation Officer, the State Archeologist, and the National Park Service. The draft contract report will be submitted according to the report and contract specifications outlined in this scope of work.

c. Project field notes: One legible copy of all the project field notes will be submitted with the draft contract report.

d. Final contract report: The original and 10 copies of the final report will be submitted 60 days after the Contractor receives the Corps of Engineers comments on the draft report. The final report will incorporate all the comments made on the draft report.

10.00 CONDITIONS

10.01 Failure of the Contractor to fulfill the requirements of this Scope of Work will result in rejection of the Contractor's report and/or termination of the contract.

10.02 Neither the Contractor nor his representative shall release any sketch, photograph, report, or other materials of any nature obtained or prepared under the contract without specific written approval of the Contracting Officer's representative prior to the acceptance of the final report by the Government.

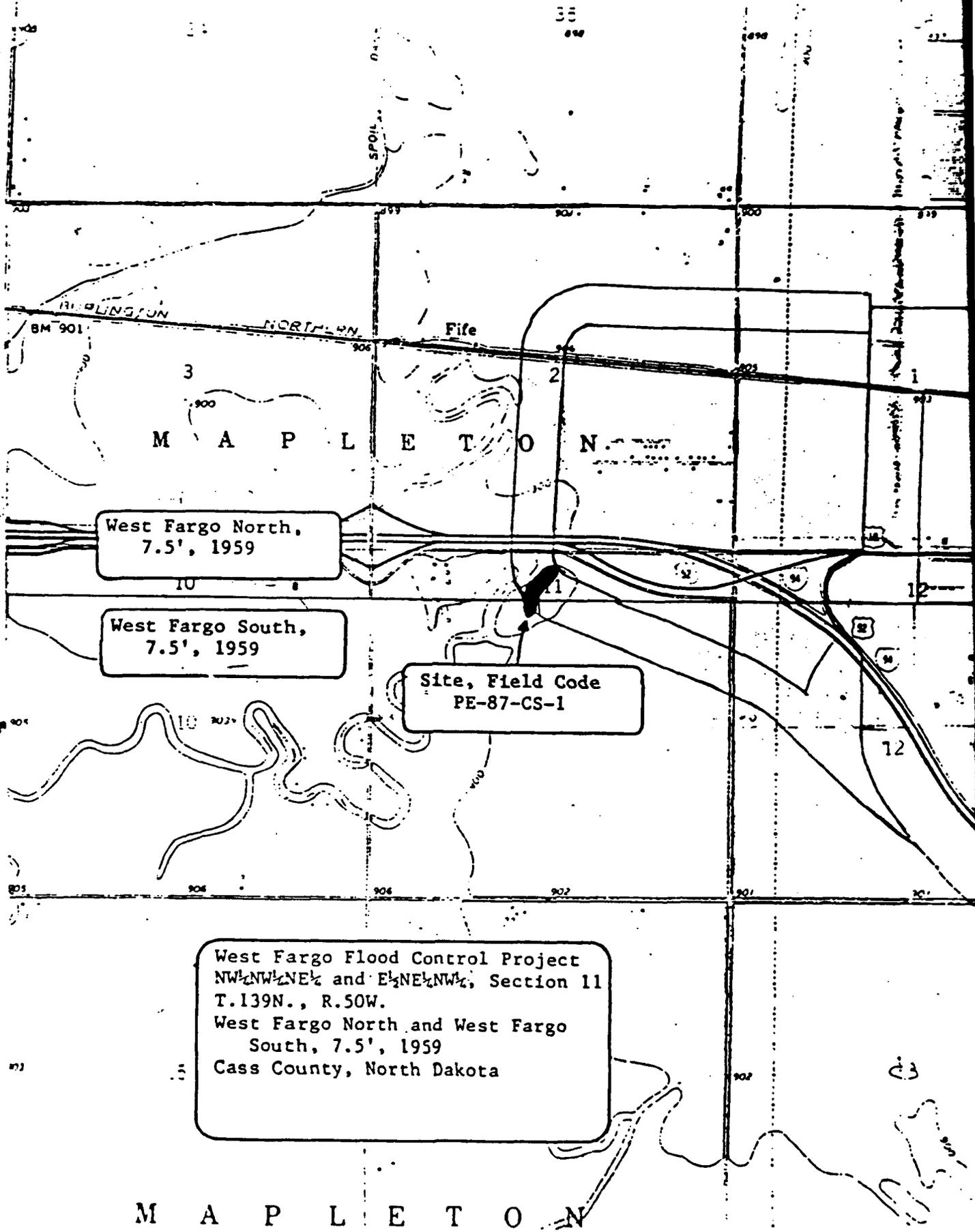
10.03 Site locations and other site and contract information will not be released to the public or any other agency or entity without specific permission of the Contracting Officer's representative.

10.04 All materials, documents, collections, notes, forms, maps, etc., that have been produced or acquired in any manner for use in the completion of this contract shall be made available to the Contracting Officer's representative upon request.

10.05 Principal investigators will be responsible for the validity of material presented in their reports. In the event of controversy or court challenge, the principal investigator(s) will be placed under separate contract to testify on behalf of the Government in support of the findings presented in their reports.

10.06 The Contractor will be responsible for adhering to all State laws and procedures regarding the treatment and disposition of human skeletal remains. If human remains are encountered, the Contracting Officer's representative will be immediately contacted. In addition, the remains will be treated with respect and not placed on public display.

APPENDIX B: SITE FORMS



West Fargo North,
7.5', 1959

West Fargo South,
7.5', 1959

Site, Field Code
PE-87-CS-1

West Fargo Flood Control Project
NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ and E $\frac{1}{2}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$, Section 11
T. 139N., R. 50W.
West Fargo North and West Fargo
South, 7.5', 1959
Cass County, North Dakota

M A P L E T O N

INTERSTATE 94

POWERS ELEVATION

OLD PAVED HIGHWAY

DRIVEWAY

SIGN

N

CULTIVATED FIELD

CULTIVATED FIELD

STREAM

INTERMITTENT

METERS

SITE LIMITS

- UNCOLLECTED LITHIC ARTIFACT
- x COLLECTED LITHIC ARTIFACT
- + COLLECTED POTTERY SHERD
- △ TEMPORARY DATUM
- FIELD EDGE
- SIGN - TRAVEL HOST MOTEL WEST FARGO



Descriptive Section, Page 2 (cont.)

1. Access: The site lies in a field southwest of a billboard, adjacent to a stream course.

3. Description of Cultural Materials (Quantify and identify)

	<u>Artifact Description</u>	<u>Azimuth</u>	<u>Meters Distance</u>	<u>Collected</u>
1	grey chert uniface	185°	112	no
2	white chert flake	187°	104	no
3	variegated chert flake	215°	58	no
4	white chert flake	230°	27.80	no
5	grey chert flake	266°	25.30	no
6	Swan River chert primary flake	255°	19.05	no
7	utilized secondary flake variegated chert	280°	10.25	no
8	serrated chert point midsection	241°	8.50	yes
9	tertiary flake Knife River flint	269°	18.85	no
10	Knife River flint corner notched	299°	27.75	yes
11	biface tan quartzite	305°	27.40	yes
12	secondary flake white chert	318°	22.80	no
13	cord impressed potsherd	12°	11.80	yes
14	cord impressed potsherd	28°	15.10	yes
15	Knife River flint utilized secondary	26°	20.50	no
16	neck pottery sherd	25°	4.95	yes
17	cord roughened pottery sherd	64°	16.30	yes
18	Swan River chert flake	82°	7.70	no
19	tertiary flake white chert	17°	44	no
20	pottery sherd	21°	93.5	yes
21	flake red and cream chert	30°	60	no
22	tertiary flake white chert	34°	64	no
23	cord-marked pottery sherd	40°	59.5	yes

Descriptive Section, Page 3 (cont.)

12. Report Title: ...Sheyenne River, at West Fargo, Cass County, North Dakota.

TOPO:

Photocopy, in 8 1/2"x11" format, the portion of the 7.5' U.S.G.S. topographic quadrangle that shows the location of the site and surrounding area. Mark the boundaries of the site on the photocopy.

Attach the photocopy as a separate page of the Site Form following the Map & Photo Section.

SITE PHOTO

B.W. Color

Photo I.D. Code _____

TO SSW →

Storage Location _____

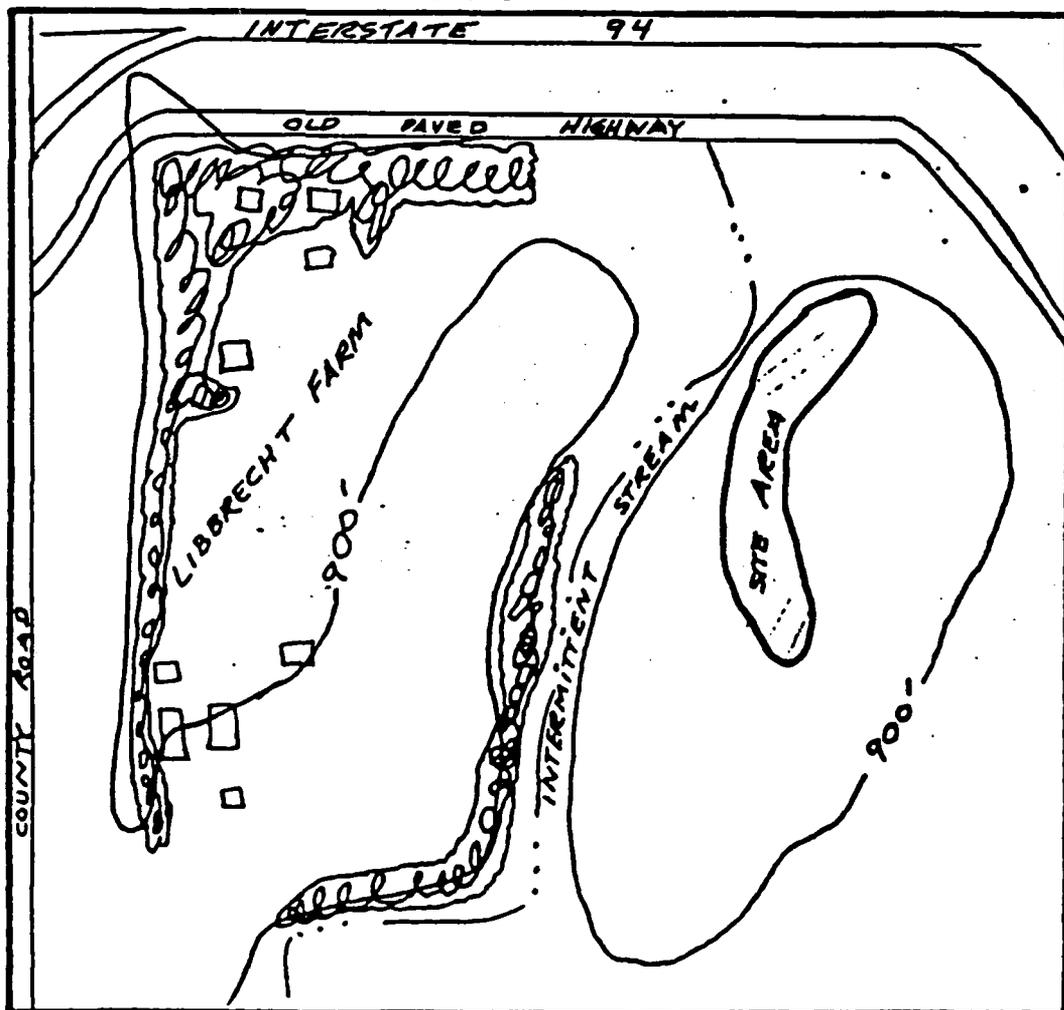
SKETCH MAP

Sketch Map:

Include north arrow, individual numbered features, artifact loci, and road or street names.

Architectural sites: include roof ridge(s) and dimensions of site.

Map Key:



Map Scale:

Recorded by _____

Date July 15 1987

6. Current Use of Site Cultivated field in soybeans fallow when surveyed.
7. Owner's Name/Address G.M. Libbrecht, Box 32A, West Fargo, North Dakota.
8. Vegetation The field was fallow and just seeded when surveyed. There was no vegetation cover.
9. Cover (% of visible ground) 100%.
10. Man-hours spent on site Four hours.
11. Project Title West Fargo Flood Control Project.
P.I. Mervin G. Floodman
12. Report Title Phase I Cultural Resources Investigation of a Proposed Flood Control Project along the (see continuation) Author Mervin G. Floodman
13. Other Published References None.
14. Description of Collections Observed None.
15. Owner-Address of Collections Observed N/A.
16. Statement of Integrity The site area is currently under cultivation. The plowzone has disturbed the context of the upper part of the site. The extent of cultural remains beneath the plowzone has not been determined. The potential for intact or stratified deposits undisturbed along the stream terrace does exist.
17. Statement of Significance The significance and NRHP eligibility of the site is undetermined, pending a subsurface evaluation of the nature and extent of the site's intact cultural deposits beneath the modern plowzone. This evaluation should precede any planned construction impacts to the site area.
18. Comments/References Anfinson, Scott, editor
1979 A Handbook of Minnesota Prehistoric Ceramics.
Occasional Publications in Minnesota Anthropology
No. 5. Minnesota Archaeological Society, Fort
Snelling, Minnesota.

1. Access From West Fargo, head west on Interstate 94. Proceed to the first exit one mile west of the last West Fargo exit. Turn south and cross the interstate on the overpass. Turn east on the old paved highway just past the eastbound freeway entrance. Follow this road easterly about 0.5 mile to the Travel Host Motel West Fargo billboard sign. (see continuation sheet)

2. Description of Site The site is situated on a terrace above the south bank of a small intermittent stream course which is a tributary to the Sheyenne River. Cultural materials are widely scattered in the cultivated field along the stream extending some 220 m north-south by 50 m east-west. These materials are most heavily concentrated in the center of the site, with a dispersed scatter on the periphery. Overall, the current density is fairly sparse. Associated with the cultural artifacts is a dense scatter of fractured, burnt and calcined bone, some clam shell fragments, cracked rock and cobbles. The relevance of the bone to the site is not known. The site is tentatively identified as a Late Woodland occupation. Projectile points are small and the ceramics are similar to those illustrated by Scott Anfinson (1979) as Early Phase Blackduck. Blackduck is dated from A.D. 800-A.D. 1400 by Anfinson. (see References, item 18, page 3).

3. Description of Cultural Materials (Quantify and identify) _____
Six prehistoric pottery sherds grit-tempered cord roughened and cord-impressed.
One corner-notch projectile point of Knife River flint.
One serrated projectile point tip/midsection of chert.
One biface fragment fire-grained quartzite.
Fourteen flakes of Knife River flint and chert.
(see continuation sheet for detailed listing of materials)

23 # of items of cultural material observed 9 # Collected

4. Artifact Repository State Historical Society of North Dakota, Bismarck.

5. Description of Subsurface Testing No subsurface testing was conducted at the site.

UPDATE FORM

SITS # 3.2 CS 42
 State County Site Number

Field Code PE87CS1 Site Name _____
 Field Code _____ Site Name _____

Map Quad WEST, FARGO, NORTH
 Map Quad WEST, FARGO, SOUTH

LTL	Twp	<u>139</u>	R	<u>50</u>	Sec	<u>11</u>	QQQ	<u>8</u>	QQ	<u>8</u>	Q	<u>5</u>
LTL	Twp	<u>139</u>	R	<u>50</u>	Sec	<u>11</u>	QQQ	<u>2</u>	QQ	<u>5</u>	Q	<u>8</u>
LTL	Twp	_____	R	_____	Sec	_____	QQQ	_____	QQ	_____	Q	_____
LTL	Twp	_____	R	_____	Sec	_____	QQQ	_____	QQ	_____	Q	_____
LTL	Twp	_____	R	_____	Sec	_____	QQQ	_____	QQ	_____	Q	_____
LTL	Twp	_____	R	_____	Sec	_____	QQQ	_____	QQ	_____	Q	_____

1. N½
2. E½
3. S½
4. W½
5. NE¼
6. SE¼
7. SW¼
8. NW¼
9. C

<input type="checkbox"/> Conical Timber Lodge	<input type="checkbox"/> Bone, worked	<u>_____</u> m. x m. Site Area
<input type="checkbox"/> CM Scatter	<input type="checkbox"/> Ceramics	<u>_____</u> Cultural Depth cm.
<input type="checkbox"/> Earthlodge Village	<input type="checkbox"/> Charcoal	<input type="checkbox"/> Depth Indicator
<input type="checkbox"/> Earthworks	<input type="checkbox"/> Copper	
<input type="checkbox"/> Fortification	<input type="checkbox"/> Faunal Remains	CULTURAL/TEMPORAL
<input type="checkbox"/> Grave	<input type="checkbox"/> Fire Cracked Rock	AFFILIATION
<input type="checkbox"/> Hearth	<input type="checkbox"/> Floral Remains	=====
<input type="checkbox"/> Jump	<input type="checkbox"/> Fossil	<input type="checkbox"/> Paleo
<input type="checkbox"/> Mound	<input type="checkbox"/> Hide, Hair, Fur	<input type="checkbox"/> Archaic
<input type="checkbox"/> Other Rock Features	<input type="checkbox"/> Human Remains	<input type="checkbox"/> Late Prehistoric
<input type="checkbox"/> Pit	<input type="checkbox"/> Projectile Point	<input type="checkbox"/> Historic
<input type="checkbox"/> Quarry/Mine	<input type="checkbox"/> Shell, worked	<input type="checkbox"/> Period Unknown
<input type="checkbox"/> Rock Art	<input type="checkbox"/> Stone, Chipped	
<input type="checkbox"/> Rock Shelter	<input type="checkbox"/> Stone, Ground	
<input type="checkbox"/> Stone Circle	<input type="checkbox"/> Trade Good	
<input type="checkbox"/> Trail	<input type="checkbox"/> Wood, worked	
<input type="checkbox"/> Miscellaneous	<input type="checkbox"/> Other	
<input type="checkbox"/> Isolated Find	<input type="checkbox"/> CM Density	<input type="checkbox"/> Basis for Dating

<input type="checkbox"/> Landform 1	<input type="checkbox"/> Landform 2	<input type="checkbox"/> Slope/Exposure	<input type="checkbox"/> Ecosystem
<input type="checkbox"/> Landform 1	<input type="checkbox"/> Landform 2	<input type="checkbox"/> Slope/Exposure	<input type="checkbox"/> Ecosystem
Elevation	Drainage System	View, Degree	View, Distance
<u>_____</u> m.	<u>_____</u>	<input type="checkbox"/>	<input type="checkbox"/>
Dist Perm Water	Perm Water Type	Dist Seas Water	Seas Water Type
<u>_____</u> m.	<input type="checkbox"/>	<u>_____</u> m.	<input type="checkbox"/>

<u>3</u> Ownership	<input type="checkbox"/> Ownership
<u>9/21/87</u> Fieldwork Date	<u>10/21/87</u> Fieldwork Date
<u>3</u> Site Condition	<u>2</u> Collection
<input type="checkbox"/> Test/Probe	<u>0</u> Excavation
Additional Information _____	<u>1</u> Management Recommendation

<input type="checkbox"/> Soil Association	<input type="checkbox"/> Ecozone	<input type="checkbox"/> Area Signf	<u>_____</u> MS Number
<input type="checkbox"/> Soil Association	<input type="checkbox"/> Ecozone	<input type="checkbox"/> Area Signf	<u>_____</u> MS Number
<input type="checkbox"/> CR Type	<input type="checkbox"/> Verified Site	<input type="checkbox"/> Non-Site	<input type="checkbox"/> E C F <input type="checkbox"/> T F
<input type="checkbox"/> State Registry	<input type="checkbox"/> National Register		

Coder R.E. Persinger

Date Coded 9/4/88

I STATE ESCORTION SITE ENVIRONMENT R. S. R. USE

West Fargo Flood Control Project
T.139N., R.50W., Section 11,
NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ and E $\frac{1}{2}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$
Cass County, North Dakota



View toward the south-southwest.

NDCRS SITE FORM
HISTORICAL ARCHEOLOGICAL SITES

UPDATE Form

SITS # 32 CS 44
State County Site Number

Field Code PEB7CS3 Site Name _____
Field Code _____ Site Name _____

Map Quad WEST FARGO NORTH
Map Quad _____

LTL <input type="checkbox"/>	Twp <u>133</u>	R <u>50</u>	Sec <u>11</u>	QQQ <u>5</u>	QQ <u>5</u>	Q <u>8</u>
LTL <input type="checkbox"/>	Twp _____	R _____	Sec _____	QQQ _____	QQ _____	Q _____
LTL <input type="checkbox"/>	Twp _____	R _____	Sec _____	QQQ _____	QQ _____	Q _____
LTL <input type="checkbox"/>	Twp _____	R _____	Sec _____	QQQ _____	QQ _____	Q _____
LTL <input type="checkbox"/>	Twp _____	R _____	Sec _____	QQQ _____	QQ _____	Q _____
LTL <input type="checkbox"/>	Twp _____	R _____	Sec _____	QQQ _____	QQ _____	Q _____

1. N
2. E
3. S
4. W
5. N
6. S
7. S
8. N
9. C

I. SITE I.D.

II. SITE DESCRIPTION

FEATURE TYPE	CULTURAL MATERIAL	<input type="checkbox"/> Site Type
<input type="checkbox"/> Cm Scatter	<input type="checkbox"/> Bone	<input type="checkbox"/> Context
<input type="checkbox"/> Chimney	<input type="checkbox"/> Ceramics	<input type="checkbox"/> Site Area
<input type="checkbox"/> Depression	<input type="checkbox"/> Charcoal	<input type="checkbox"/> m. x m.
<input type="checkbox"/> Dump	<input type="checkbox"/> Cloth	<input type="checkbox"/> Cultural Depth cm.
<input type="checkbox"/> Earthworks	<input type="checkbox"/> Faunal Remains	<input type="checkbox"/> Depth Indicator
<input type="checkbox"/> Fortification	<input type="checkbox"/> Fire Cracked Rock	Occupation Date
<input type="checkbox"/> Foundation	<input type="checkbox"/> Floral Remains	Begin _____ End _____
<input type="checkbox"/> Grave	<input type="checkbox"/> Glass	<input type="checkbox"/> Basis For Dating
<input type="checkbox"/> Hearth	<input type="checkbox"/> Hide, Hair, Fur	<input type="checkbox"/> _____
<input type="checkbox"/> Machinery	<input type="checkbox"/> Human Remains	<input type="checkbox"/> Cm Density
<input type="checkbox"/> Quarry/Mine	<input type="checkbox"/> Masonry	<input type="checkbox"/> Isolated Find
<input type="checkbox"/> Rock Art	<input type="checkbox"/> Metal	
<input type="checkbox"/> Trail	<input type="checkbox"/> Plastic	
<input type="checkbox"/> Wreck	<input type="checkbox"/> Rubber	
<input type="checkbox"/> Other	<input type="checkbox"/> Shell	
	<input type="checkbox"/> Wood	
	<input type="checkbox"/> Other	

III. ENVIRONMENT

Landform 1 Landform 2 Slope/Exposure Ecosystem
 Landform 1 Landform 2 Slope/Exposure Ecosystem
 View, Degree View, Distance
 Elevation _____ Drainage System _____
 Dist Perm Water _____ m. Perm Water Type _____ Dist Seas Water _____ m. Seas Water Type _____

IV. C.R.M.

3 Ownership Ownership
9/21/87 Fieldwork Date 10/8/87 Fieldwork Date
3 Site Condition 2 Collection Test/Probe Excavation
 Additional Information Management Recommendation

SHSND USE

Soil Association Ecozone Area Signf _____ MS Number
 Soil Association Ecozone Area Signf _____ MS Number
 CR Type Verified Site Non-Site E C F T F
 State Registry National Register

Coder R E. Persinger Date Coded 9/4/88

SITS # 3.2 C.S. 44
 State County Site Number

Field Code P.E.8.7.C.S.2 Site Name _____
 Field Code _____ Site Name _____

Map Quad W.E.S.T. F.A.R.G.O. N.O.R.T.H.
 Map Quad _____

LTL Twp 3.3 R 0.50 Sec 11 QQQ QQ Q
 LTL Twp _____ R _____ Sec _____ QQQ QQ Q
 LTL Twp _____ R _____ Sec _____ QQQ QQ Q
 LTL Twp _____ R _____ Sec _____ QQQ QQ Q
 LTL Twp _____ R _____ Sec _____ QQQ QQ Q
 LTL Twp _____ R _____ Sec _____ QQQ QQ Q

1. N
2. E
3. S
4. W
5. NE
6. SE
7. SW
8. NW
9. C

FEATURE TYPE	CULTURAL MATERIAL	<u>4.8, 0.0</u> Site Area
<input type="checkbox"/> Conical Timber Lodge	<input type="checkbox"/> Bone	<input type="checkbox"/> Cultural Depth cm
<input type="checkbox"/> CM Scatter	<input type="checkbox"/> Ceramics	<input type="checkbox"/> Depth Indicator
<input type="checkbox"/> Earthlodge Village	<input type="checkbox"/> Charcoal	
<input type="checkbox"/> Earthworks	<input type="checkbox"/> Copper	CULTURAL/TEMPORAL
<input type="checkbox"/> Fortification	<input type="checkbox"/> Faunal Remains	AFFILIATION
<input type="checkbox"/> Grave	<input type="checkbox"/> Fire Cracked Rock	=====
<input type="checkbox"/> Hearth	<input type="checkbox"/> Floral Remains	<input type="checkbox"/> Paleo
<input type="checkbox"/> Jump	<input type="checkbox"/> Fossil	<input type="checkbox"/> Archaic
<input type="checkbox"/> Mound	<input type="checkbox"/> Hide, Hair, Fur	<input checked="" type="checkbox"/> Late Prehistoric
<input type="checkbox"/> Other Rock Features	<input type="checkbox"/> Human Remains	<input type="checkbox"/> Historic
<input type="checkbox"/> Pit	<input type="checkbox"/> Projectile Point	<input type="checkbox"/> Period Unknown
<input type="checkbox"/> Quarry/Mine	<input type="checkbox"/> Shell	
<input type="checkbox"/> Rock Art	<input type="checkbox"/> Stone, Chipped	
<input type="checkbox"/> Rock Shelter	<input type="checkbox"/> Stone, Ground	
<input type="checkbox"/> Stone Circle	<input type="checkbox"/> Trade Good	
<input type="checkbox"/> Trail	<input type="checkbox"/> Wood	
<input type="checkbox"/> Miscellaneous	<input type="checkbox"/> Other	
<input type="checkbox"/> Isolated Find	<input type="checkbox"/> CM Density	<input checked="" type="checkbox"/> Basis for Dating

Landform 1 1.5 Landform 2 1.0 Slope/Exposure 1.8 Ecosystem
 Landform 1 _____ Landform 2 _____ Slope/Exposure _____ Ecosystem
 Elevation _____ Drainage System _____ Degree View, Distance
2.7, 4 m. _____ S.H.E.Y.E.N.N.E. R.I.V.E.R 4 3

Dist Perm Water 3931 m. Perm Water Type 3 Dist Seas Water 3.0 m. Seas Water Type 4

Ownership _____ Ownership _____
0.5, 1.5, 8.7 Fieldwork Date _____ Fieldwork Date _____
 Site Condition Collection Test/Probe Excavation
 Additional Information _____ Management Recommendation 4

Soil Association _____ Ecozone _____ Area Signf _____ MS Number _____
 Soil Association _____ Ecozone _____ Area Signf _____ MS Number _____
 CR Type Verified Site Non-Site E C F T F
 State Registry National Register

1. Access From West Fargo, head west on Interstate 94. Proceed to the first exit one mile west of the last West Fargo exit. Turn south and cross the interstate on the overpass. Turn east on the old paved highway just past the eastbound freeway entrance. Follow this road easterly about 0.5 miles to a billboard sign. (see continuation sheet)

2. Description of Site The site is situated on a terrace above the north bank of a small intermittent stream course which is a tributary to the Sheyenne River. Cultural materials are widely scattered in the cultivated field extending some 120 m east-west by 40 m north-south. The artifacts are not particularly concentrated in any area with overall sparse density of materials. Associated with the lithic artifacts is a dense scatter of fractured, burnt and calcined bone, clam shell fragments, cracked rock and cobbles. Those materials may or may not be directly related to the site occupation. This site is immediately north and across the stream from site temporary number PE-87-CS-1, which has been identified as a Late Woodland occupation.
The two sites may be associated with each other. A ceramic sherd recovered at this location is not particularly diagnostic, but coupled with the small side-notched point also found here PE-87-CS-2 may be classified as Late Woodland. The Late Woodland period can be tentatively dated to ca. A.D. 600-1800.

3. Description of Cultural Materials (Quantify and identify) _____
One small side-notched projectile point white chert.
One thin biface tip or base fragment of white chert.
One thin biface/preform fragment of Knife River flint.
One cord marked, grit tempered pottery sherd.
Sixteen flakes and assorted lithic items.
(see continuation sheet for detailed list of materials at site)

20 # of items of cultural material observed 4 # Collected

4. Artifact Repository State Historical Society of North Dakota, Bismarck.

5. Description of Subsurface Testing No subsurface testing was conducted at the site.

- 6. Current Use of Site Cultivated fields.
- 7. Owner's Name/Address G.M. Libbrecht, Box 32A, West Fargo, ND.
- 8. Vegetation The field was covered by immature wheat crop 1.0 to 1.5 inches in height when surveyed.
- 9. Cover (% of visible ground) 85%.
- 10. Man-hours spent on site Three hours.
- 11. Project Title West Fargo Flood Control Project.
P.I. Mervin G. Floodman
- 12. Report Title Phase I Cultural Resources Investigation of a Proposed Flood Control Project along the (see continuation sheet) Author Mervin G. Floodman
- 13. Other Published References None.
- 14. Description of Collections Observed None.
- 15. Owner-Address of Collections Observed N/A.
- 16. Statement of Integrity The site area is currently under cultivation. The modern plowzone has disturbed the upper portions of the site. The extent of the cultural deposits beneath the plowzone has not been determined. The potential for intact or stratified cultural remains along the stream terrace is believed good.
- 17. Statement of Significance The significance and NRHP eligibility of the site is undetermined pending a subsurface evaluation of the nature and extent of the site's buried cultural deposits. This evaluation should precede any planned construction impacts to the site area.
- 18. Comments/References _____

TOPO:

Photocopy, in 8 1/2"x11" format, the portion of the 7.5' U.S.G.S. topographic quadrangle that shows the location of the site and surrounding area. Mark the boundaries of the site on the photocopy.

Attach the photocopy as a separate page of the Site Form following the Map & Photo Section.

SITE
PHOTO

B.W. Color

Photo I.D. Code _____

Storage Location _____

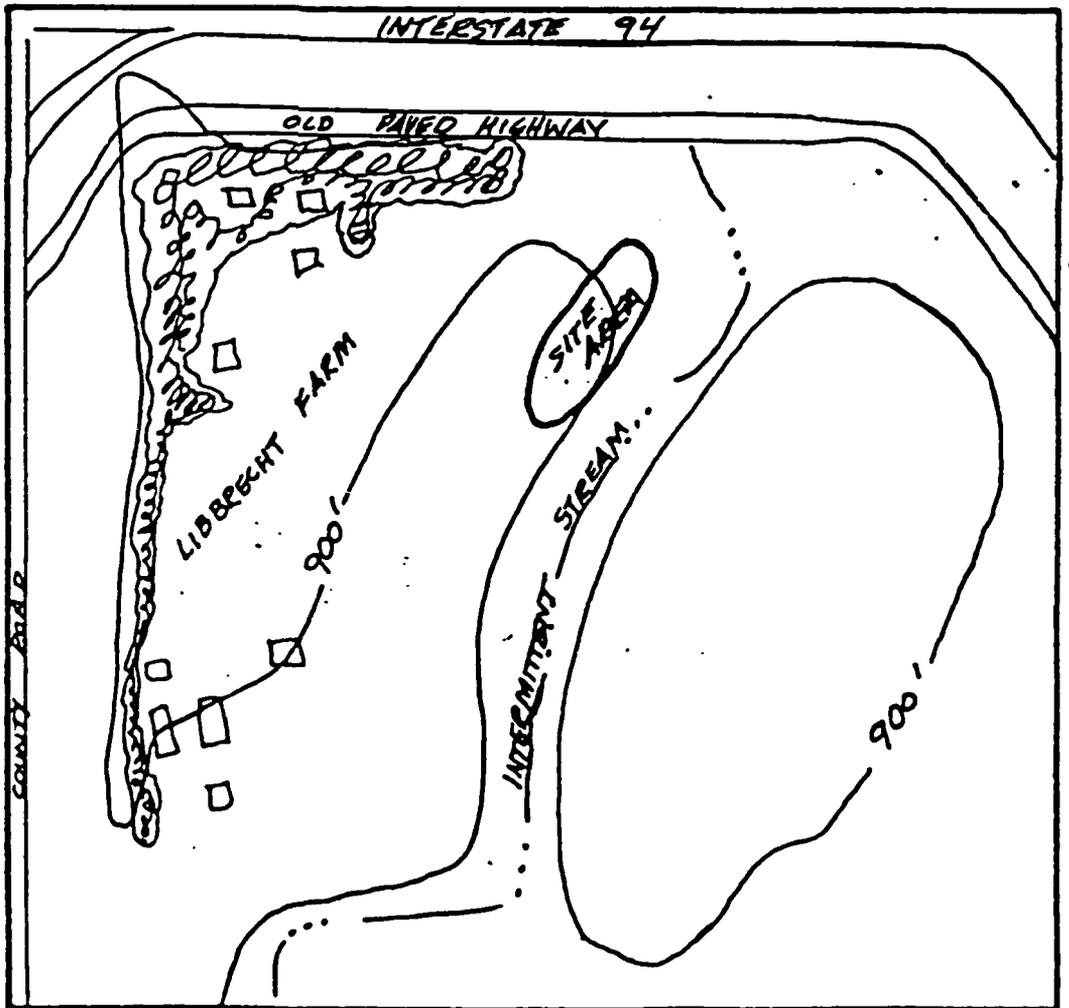
SKETCH MAP

Sketch Map:

Include north arrow, individual numbered features, artifact loci, and road or street names.

Architectural sites: include roof ridge(s) and dimensions of site.

Map Key:



Map Scale:

Recorded by _____

Date 11/21/87

Descriptive Section, Page 2

1. Access: The site lies in the cultivated field adjacent to a stream course southwest of the sign.

3. Description of Cultural Materials (Quantify and identify):

Artifact Description	Azimuth	Meters Distance	Collected
1 biface fragment white chert	108°	3.65	yes
2 tertiary flake white chert	176°	8.20	no
3 primary flake white chert	255°	15.60	no
4 tertiary flake white chert	262°	19.00	no
5 utilized secondary flake quartzite	266°	29.50	no
6 tertiary flake grey quartzite	272°	25.70	no
7 tertiary flake white chert	240°	51.00	no
8 utilized flake rose chert	250°	59.00	no
9 flake white chert	252°	49.00	no
10 flake white chert	252°	52.00	no
11 side-notched point white chert	347°	17.40	no
12 primary flake variegated chert	56°	50.80	no
13 tertiary flake tan quartzite	72°	19.00	no
14 white chert shatter	88°	21.10	no
15 biface/preform fragment Knife River flint	79°	33.80	yes
16 utilized flake grey chert	85°	42.00	no
17 shatter white chert	66°	41.20	no
18 secondary flake variegated chert	61°	49.50	no
19 pottery sherd cord marked	7°	44.00	yes
20 utilized secondary flake Knife River flint.	77°	54.00	no

Descriptive Section, Page 3

12. Report Title: ...Sheyenne River at West Fargo, Cass County, North Dakota.



POWERS ELEVATION

INTERSTATE 94

OLD PAVED HIGHWAY

SIGN



123 METERS
114°

CULTIVATED
FIELD

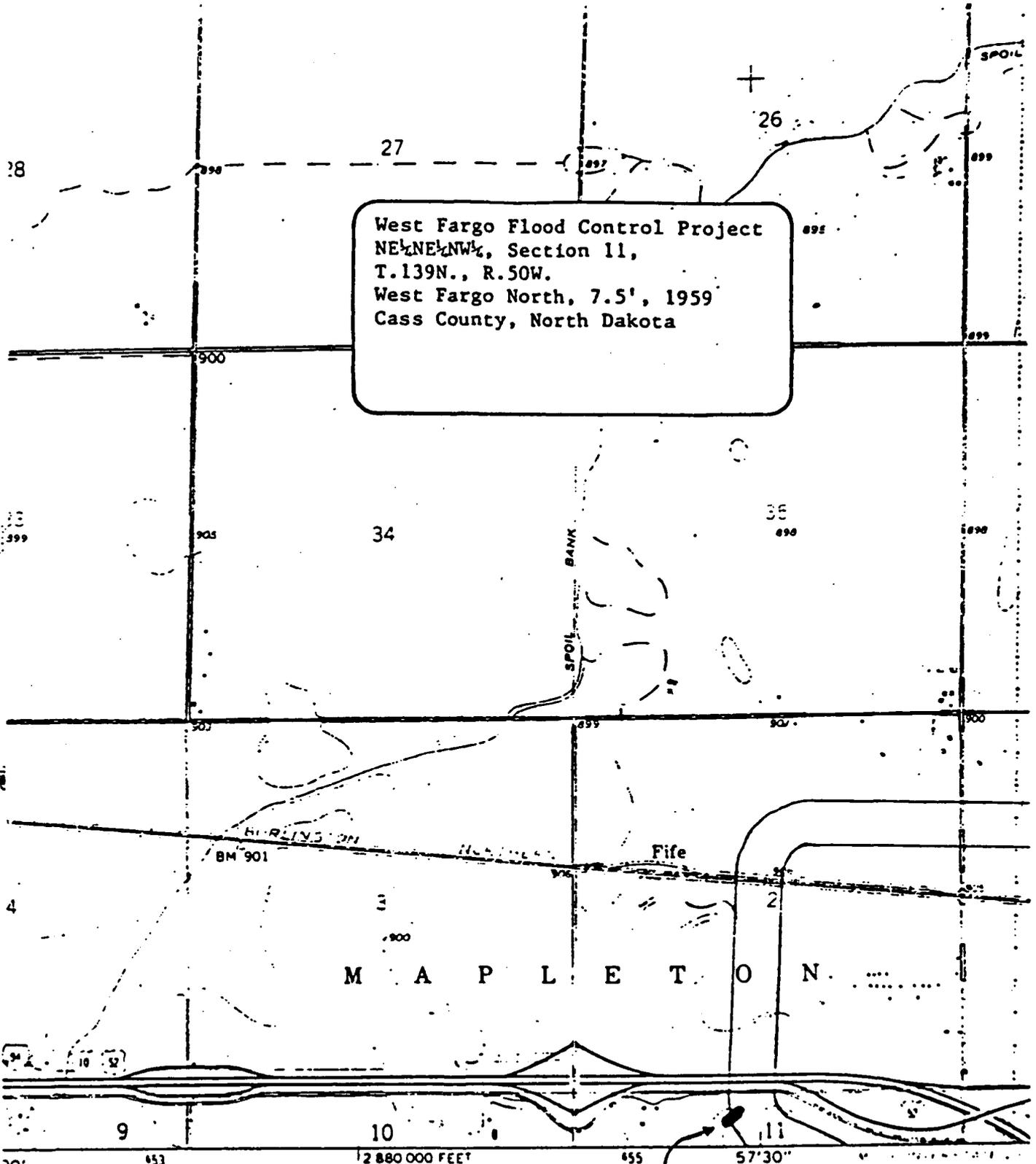
SITE BOUNDARY

STREAM

INTERMITTENT

- UNCOLLECTED LITHIC ARTIFACT
- x COLLECTED LITHIC ARTIFACT
- + COLLECTED POTTERY SHERD
- △ TEMPORARY DATUM
- FIELD EDGE
- SIGN - PETERBILT OF FARGO, INC.





West Fargo Flood Control Project
 NE 1/4 NW 1/4, Section 11,
 T.139N., R.50W.
 West Fargo North, 7.5', 1959
 Cass County, North Dakota

Site, Field Code
 PE-87-CS-2

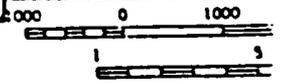
Mapped, edited, and published by the Geological Survey
 Control by USGS and USC&GS

Culture and drainage in part compiled from aerial photographs
 taken 1954 Topography by planetable surveys 1959

Polyconic projection 1927 North American datum
 10,000 foot grid based on North Dakota coordinate system,
 south zone
 1000-meter Universal Transverse Mercator grid ticks,
 zone 14, shown in blue

Revisions shown in purple compiled from aerial photographs

UTM GRID AND 1976 MAGNETIC NORTH
 DECLINATION AT CENTER OF SHEET

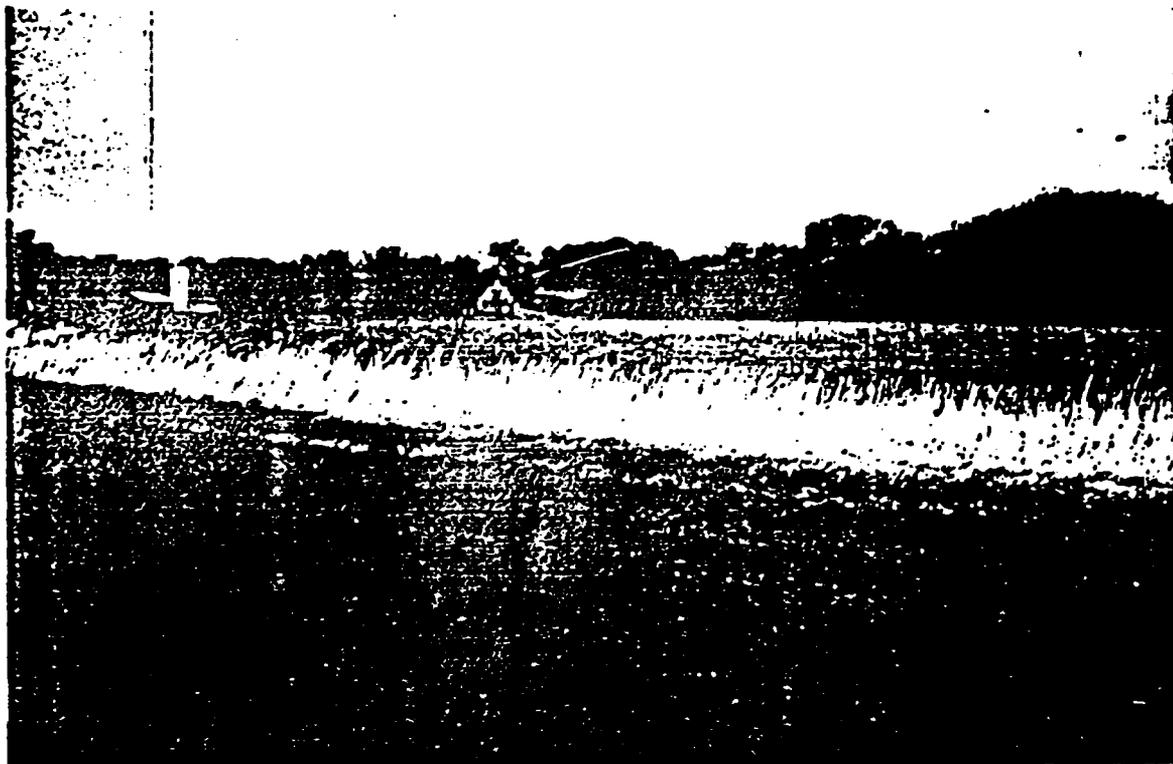


1°30' 8"
 27" MILLS 142 MILLS

NATIONAL

THIS MAP COMPLETE

West Fargo Flood Control Project
NE 1/4 NE 1/4 NW 1/4, Section 11, T.139N., R.50W.
Cass County, North Dakota



View toward the southwest.

APPENDIX C: VITAE OF KEY PERSONNEL

V I T A

Name: Kurt P. Schweigert

Present Position: Vice President
Cultural Research & Management, Inc.

Board of Advisors, National Trust for Historic
Preservation.

Architectural Historian, North Dakota State
Historic Preservation Review Board

Office Address: 1212-1/2 Airport Road
P. O. Box 2154
Bismarck, ND 58502

Office Phone: (701) 258-1215

Home Phone: (701) 222-0939

Education: University of North Dakota, 1969-1974
B.A. in History, 1974

State Historical Society of North Dakota
University of North Dakota Joint Field School
in Archaeology, 1971. Excavation of the
Amahami Site (32ME8)

University of North Dakota, 1974-1977
Graduate Student, Teaching Assistant and
Research Associate, Department of History.
M.A. in American History, 1981
Thesis: "Historical Settlement Patterns in
the Vicinity of Devils Lake, North
Dakota."

Professional Experience: 1980- , President, Vice President and Principal
Investigator, Cultural Research & Management,
Inc., Bismarck, North Dakota.

1978-1980, Architectural Historian, State Historic
Preservation Office of North Dakota. Duties
included coordination of historical and
architectural survey, preparation of over 40
nominations to the National Register of Historic
Places, and architectural review of projects with
federal funding or other federal involvement.
Duties also included production of guidelines for
architectural and historic sites survey, review of
grant proposals and survey results, public

Professional Experience, Cont.:

presentation of the preservation programs of the State Historical Society, and publication of several feature articles in North Dakota History.

1975-1979, Research Associate, Departments of Anthropology/Archaeology and History, University of North Dakota. Efforts included development of research designs, writing of technical and cost proposals, field survey and archival research, and report preparation for major studies of historical and architectural cultural resources in North Dakota.

Selected Research and Reports:

1988 National Register of Historic Places nomination of the Birdhead Ranch, McKenzie County, North Dakota. Prepared for the U.S. Army Corps of Engineers, Omaha District.

1986-88, Historian/Architectural Historian, Class II cultural resources survey of federal coal lands in western North Dakota. A Class II Cultural Resource Survey of Five Coal Study Areas, Western North Dakota (Metcalf, McKibbin, Medsker, Schweigert, and McFaul 1988). Report prepared for the U.S. Bureau of Land Management, Dickinson District.

1986-87, Principal Investigator, Feasibility Study for Developing the Superior Mining District for Historical and Recreational Uses (Schweigert 1987). Accomplished for the Wyoming Department of Environmental Quality as part of cultural resources investigations for Abandoned Mine Land Reclamation Project 6-B.

1985-87, Historian/Architectural Historian, Architectural evaluation and preparation of a cultural resources management plan for the U.S. Army Armor Testing and Training Range, Fort Carson, Colorado. Historic Preservation Plan for Fort Carson Military Reservation, Colorado (Zier, Altschul, Kelly, Rose, Schweigert, and Weber 1987). Report prepared for the National Park Service and the U.S. Army.

1985-86, Project Historian, Cultural Resource Inventory On 25.8 Miles of Wyoming Forest Highway 11 (Battle Lake Road) Corridor in Medicine Bow

Research and Reports, Cont.:

National Forest, Carbon County, Wyoming (Zier, Schweigert and Rosenberg, 1987). Prepared for the National Park Service and the Federal Highway Administration.

1985-86, Principal Investigator, Historic sites investigations for a 640-mile CO2 pipeline in Wyoming, Montana, and North Dakota. Conducted for Exxon U.S.A. through Western Wyoming College. Historical Studies for the Exxon Wyoming-North Dakota CO2 Pipeline in Montana (Schweigert 1986) and Historical Studies for the Exxon Wyoming-North Dakota CO2 Pipeline in North Dakota (Schweigert 1986).

1985, Principal Investigator, A Cultural Resources Survey of Wyoming DEQ Abandoned Mine Lands Project 9-A, Fremont County, Wyoming (Schweigert 1985). Prepared for the Wyoming Department of Environmental Quality and ARIX Engineering, Riverton, Wyoming.

1985, Principal Investigator/Architectural Historian, An Architectural Survey of Jamestown, North Dakota (Schweigert 1985). Conducted for the State Historic Preservation Office of North Dakota.

1984-85, Historian/Architectural Historian, Preparation of a Cultural Resources Management Plan for the Coteau Properties Freedom Mine, Mercer County, North Dakota. Prepared under contract with North American Coal Corporation. Management strategies for 102 known historic period sites.

1984-85, Project Supervisor, Preparation of four sets of travelling educational exhibits about the history of North Dakota. Project contracted by the State Historical Society of North Dakota.

1984-85, Project Historian, Cultural Resources Survey of the Right Bank of Oahe Reservoir, North Dakota. Conducted under subcontract with Larson-Tibesar Associates for the U.S. Army Corps of Engineers, Omaha District.

1984, Architectural Historian, Survey and National Register Nomination of a Downtown Historic District, Rawlins, Wyoming. Conducted for the Wyoming State Historic Preservation Office and the City of Rawlins.

1984, Project Historian, Cultural Resources Survey in the Lonetree Reservoir and Lincoln Valley Irrigation Areas, Garrison Diversion Project, North Dakota. Conducted under subcontract with Ethnoscience, Billings, MT, for the U.S. Bureau of Reclamation. Deaver and Schweigert, A Class II Inventory of the Lincoln Valley Irrigation Area and the Recordation of Historic Farmsteads in the Lonetree Reservoir Project, Garrison Diversion Unit, Sheridan and Wells Counties, North Dakota (1985).

1984, Principal Investigator, Historic Sites Evaluation in Falkirk Mine Area E, McLean County, North Dakota (Schweigert, 1984). Conducted under contract with North American Coal Corporation.

1984, Project Historian/Architectural Historian, Testing and Evaluation of Cultural Resources in Coteau Freedom Mine Permit Areas D and J, Mercer County, North Dakota. Conducted under subcontract with the University of North Dakota for North American Coal Corporation.

1984, Project Historian, A Class I Cultural Resources Inventory of the Proposed Amerada-Hess CO2 Pipeline in Western North Dakota and Eastern Montana (Zier, Schweigert and Jessen, 1984). Prepared for Environmental Research and Technology and the Amerada-Hess Corporation under subcontract with Centennial Archaeology, Inc.

1984, Principal Investigator, A Class I Cultural Resources Inventory of the Fort Berthold Indian Reservation, North Dakota (Schweigert, 1984). Prepared for the Bureau of Indian Affairs, Aberdeen Area Office.

1983-84, Project Historian, Cultural Resources Survey of the left bank of Oahe Reservoir, North Dakota. Conducted under subcontract with Larson-Tibesar Associates for the U.S. Army Corps of Engineers, Omaha District. Larson, et al (1984) A Cultural Resource Inventory of the Left Bank of Lake Oahe, North Dakota.

1983, Project Historian, Cultural Resources Survey of Lake Sakakawea, McKenzie and Williams Counties, North Dakota. Undertaken for the U.S. Army Corps of Engineers, Omaha District, under subcontract

with Overland Associates, Inc. Moore, Campbell and Schweigert (1985) A Preliminary Assessment of the Cultural Resources of Lake Sakakawea in Williams and McKenzie Counties, North Dakota: A Study in Culture and Taxonomy.

1983. Principal Investigator, Architectural and historical survey of 15 architectural sites in LaMoure-Oakes project areas of Garrison Diversion Unit, North Dakota. Schweigert (1983), Architectural Recordation and Supplementary Recordation, LaMoure-Oakes Project Areas, Garrison Diversion Unit, North Dakota. Prepared for U.S. Bureau of Reclamation, Bismarck, ND.

1983. Principal Investigator, preparation of a management plan for 215 historic period sites and other possible historic cultural resources in the Garrison Diversion Project. Schweigert (1983), Addendum For Historic Sites To Cultural Resource Management Plan, Garrison Diversion Unit, North Dakota. Prepared for U.S. Bureau of Reclamation, Billings, MT.

1982-83, Project Historian/Architectural Historian, cultural resources inventory of flood control project areas on the Souris River, North Dakota. Subcontract from Powers Elevation for the U.S. Army Corps of Engineers, St. Paul District. Floodman, Friedman and Schweigert (1983), Cultural Resources Investigations for the Lake Darling-Souris River Project, North Dakota.

1982-83, Principal Investigator, historical and architectural inventories of Mayville, Hebron and Dickinson, North Dakota. These surveys included recording and evaluation of 2,300 buildings and preparation of historical and architectural overviews for each city. Contract with the State Historic Preservation Office of North Dakota.

1982, Project Historian, preparation of a mitigation plan for historic period sites in the area of the Kootenai Falls Hydroelectric Project, Lincoln County, Montana. Subcontract from Anthro Research, Inc., for James A. Sewell Associates.

Research and Reports, Cont.:

1982, Project Historian, cultural resource investigation of recreation areas on Oahe Reservoir in Emmons, Morton, Sioux and Burleigh Counties, North Dakota. Subcontract from Larson-Tibesar Associates for the U.S. Army Corps of Engineers. Larson, Schweigert, Chomko and Wood (1983), A Cultural Resource Inventory of Proposed Recreation Areas, Lake Oahe: Emmons, Morton and Sioux Counties, North Dakota,

1982, Project Historian, Class I cultural resource assessment of the wellfield, pipeline corridors and other facility sitings of the Riley Ridge natural gas development in Sweetwater, Sublette and Lincoln Counties, Wyoming. This project included preparation of an historical overview, extensive search for known or possible historic period resources, and a preliminary evaluation of 26 miles of the Lander Cutoff of the Oregon Trail. Subcontract from Metcalf-Zier Archeologists for Environmental Research and Technology (ERT) and the U.S. Bureau of Land Management. Final Cultural Resources Technical Report for the Riley Ridge Environmental Impact Statement (1983).

1982, Architectural Historian, preparation of nomination of Remington Block located in Bismarck, North Dakota, to National Register of Historic Places. A certification of the building as an historic structure was also prepared in order to make the owners eligible for favorable tax treatment.

1981-1982, Architectural Historian, preparation of an overview of historic architecture in western North Dakota. Subcontract from the University of North Dakota Archeological Research for the U.S. Department of the Interior, Bureau of Land Management.

1981-1982, Project Historian, historical cultural overview investigation of a 3,200 square mile oil and gas field in Blaine, Philips and Valley Counties, Montana. Subcontract from Anthro Research, Inc., for Park-Ohio Industries.

Research and Reports, Cont.:

1981, Project Director, Class II inventory of historic period cultural resources in the Dickinson-Beach-Wibaux areas of North Dakota and Montana. Subcontract with MESA Corporation for the U.S. Bureau of Land Management. Schweigert, A Class II Inventory of Historic Period Cultural Resources in the Dickinson-Beach-Wibaux Areas of North Dakota and Montana (1981).

1981, Project Manager, cultural resources survey of seismograph testing transects adjacent to and across Lake Sakakawea in North Dakota. This project included establishment of research procedures, procurement of necessary federal Antiquities Act permits, and procurement of archaeological expertise for Seispros, Inc., and Columbia Gas Corporation.

1981, Project Historian, cultural resources investigation of three large coal mine areas in southwestern Wyoming. Subcontract from Larson-Tibesar Associates for Kemmerer Coal Company.

1981, Project Historian, historical investigation of the Stillwater PGM platinum and paladium mining and millsite areas, Sweetwater County, Montana. Subcontract with Anthro Research for the Stillwater PGM Consortium.

1981, Project Historian, Class III historical investigations of the WyCoalGas coal gasification plant site, reservoir, railroad spur, mine, and pipelines in eastern Wyoming and northern Colorado. Subcontract with Larson-Tibesar Associates for the WyCoalGas Consortium.

1981, Project Historian, historical and architectural investigation of the Kootenai Falls Hydroelectric Project, Lincoln County, Montana. Subcontract with Anthro Research for James Sewell Associates Engineering. Project included archival research, field survey, report preparation and preparation of a multiple resource district nomination of 54 sites to the National Register of Historic Places. Schweigert, Historical Cultural Resource Investigations Near Kootenai Falls, Montana (1981); Lahren, Lahren and Schweigert, Kootenai Falls Cultural Resource District, Lincoln County, Montana (1981).

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ARCHEOLOGICAL TESTING OF SITES 32CS42 AND 32CS44 CASS
COUNTY NORTH DAKOTA(U) CULTURAL RESEARCH AND MANAGEMENT
INC BISMARCK ND R PERSINGER SEP 88 DACW37-87-M-1491

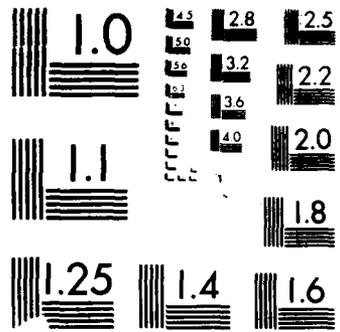
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Research and Reports, Cont.:

1980, Architectural Consultant, survey of cabin areas adjacent to Lake Tschida, North Dakota. Subcontract from Historical Research Associates for U.S. Water and Power Resources Service.

1980, Project Historian, survey of a proposed electrical generating plant site near Jamestown, North Dakota. Subcontract from Historical and Archaeological Surveys, Inc., for Stearns-Roger Engineering. Good, Dahlberg and Logan, A Cultural Resources Inventory of a Proposed Otter Tail Power Plant Site Near Spiritwood, North Dakota (1981).

1978, Historical Consultant, survey of the Otter Tail transmission line in central North Dakota. O'Brien, Loendorf and Schweigert, A Cultural Resource Survey of the Proposed Otter Tail Transmission Line (1978).

1978, Historical Consultant, Class I investigation of the Goose River Basin, eastern North Dakota. Nicolai, Sylvester, Schweigert and Schneider, Cultural Resource Investigation of the Goose River Basin, North Dakota. (1978).

1978, Historical Consultant, cultural resource investigation of Lake Brekken and Lake Holmes recreation area, McLean County, North Dakota. Good, Schweigert and Clayton, Cultural Resource Investigation of the Proposed Lake Brekken and Lake Holmes Recreation Area, North Dakota (1978).

1977-1978, Historic cultural resource inventory of the Upper Souris River Basin, North Dakota, under contract with the U.S. Army Corps of Engineers. Project included archival research and comprehensive field survey for historic period cultural resources in an area of more than 98,000 acres. Schneider, Preliminary Cultural Resource Investigation of the Upper Souris River Basin, North Dakota (1977); Schweigert, Historical Cultural Resource Survey of the Upper Souris River, North Dakota (1978).

1977-1978, Chief Researcher, Historic Sites Search, North Dakota Legislative Council Regional Environmental Assessment Program (REAP). Duties included supervision of research staff, review and

Research and Reports, Cont.:

editing of research data, and mapping of over 2,100 sites of possible historic or architectural significance in central and eastern North Dakota. Tweton, Known Historic Sites in Central and Eastern North Dakota (1978).

1976-1977, Mapping Consultant, Historic Sites Search, North Dakota Legislative Council, Regional Environmental Assessment Program (REAP). Duties included critical review of results of literature search and mapping of 1,705 sites of possible architectural or historic significance in 21 counties of western North Dakota. Tweton, Known Historic Sites in 21 Counties of Western North Dakota (1977).

1975-1977, Historical cultural resources inventory in the Devils Lake region, North Dakota, under contract with the U.S. Bureau of Reclamation. Project included in-depth archival research and field survey for historic and architectural sites in an area of over 145,000 acres. Schneider, Good and Schweigert, Preliminary Report of Cultural Resource Inventory of the Central North Dakota Section, Garrison Diversion Unit, North Dakota (1976); Schweigert, Historic Sites Cultural Inventory in the Devils Lake Region, Central Project Area, Garrison Diversion Unit, North Dakota (1977).

Research Interests:

History of human adaptation on the Northern Great Plains, including geographic and ethnic settlement patterns, folk architecture, ethno-historic economic and trade relationships, and historic sites, structures and trails.

Professional Memberships:

Organization of American Historians
Society for Historical Archaeology
National Trust for Historic Preservation
Vernacular Architecture Forum
Society of Architectural Historians
Professional Council for North Dakota Heritage
Society for Industrial Archaeology

VITA

James Lee Hixon

Address 2222 Cicero Road
Noblesville, Indiana 46060
(317)-773-1436

PROFESSIONAL OBJECTIVE

-Application of archaeological studies to field, laboratory or museum work.

EDUCATION

- September 1983 to May 1986.
M.S. Archaeological Resource Management, Ball State University,
Muncie, Indiana 47306. Thesis in progress.
- September 1980 to August 1983.
B.A. Department of Anthropology, B.A. Department of Geography,
Indiana University, Bloomington, Indiana 47405
- September 1976 to May 1980.
High School, Noblesville High School, Noblesville, Indiana 46060

HONORARIES

- Lambda Alpha, Department of Anthropology, Ball State University,
Muncie, Indiana 1986
- Gamma Theta Upsilon, Department of Geography, Ball State University,
Muncie, Indiana 1986
- Pi Gamma Mu, Social Sciences, Ball State University, Muncie,
Indiana 1985

ASSOCIATIONS

- Association of American Geographers

ARCHAEOLOGICAL EXPERIENCE

- May 1986 to September 1986
Fort Union Trading Post National Historic Site
Buford Route
Williston, North Dakota 58801

Duties: Crew Member; Excavation of areas immediately threatened by reconstruction of Fort Union, illustration of trench profiles, use of field computers, assisted in training of volunteers.

- September 1985 to May 1986.
Archaeological Resource Management Service
220 North College
Ball State University
Muncie, Indiana 47306

ARCHAEOLOGICAL
EXPERIENCE

-September 1985 to May 1986 continued.

Duties: Crew Chief; Locate and document prehistoric and historic sites to determine eligibility for nomination to the National Register of Historic Places by means of reconnaissance using either systematic survey or shovel probes, Crew Member; reconnaissance using systematic survey and shovel probes, Illustrator; prehistoric artifacts and maps, Laboratory Assistant; cataloguing, washing artifacts and performing record checks.

-September 1984 to September 1985.
Archaeological Resource Management Service
220 North College
Ball State University
Muncie, Indiana 47306

Duties: Crew Member; Reconnaissance using systematic survey or shovel probes, Illustrator; prehistoric artifacts and maps, Laboratory Assistant; cataloguing and washing artifacts, Blue River Valley Archaeological Survey; systematic survey, artifact and map illustration.

-June 1984 to August 1984
Tennessee Department of Conservation
Division of Archaeology
5103 Edmondson Pike
Nashville, Tennessee 37211

Duties: Crew Member; Excavation of sites threatened by construction of the Briley Parkway.

-September 1983 to May 1984.
Archaeological Resource Management Service
220 North College
Ball State University
Muncie, Indiana 47306

Duties: Crew Member; Reconnaissance using systematic survey or shovel probes, Laboratory Assistant; cataloguing and washing artifacts.

-April 1982
Indiana Department of Reclamation
Division of Archaeology
Jasonville, Indiana 47438

Duties: Volunteer Crew Member; Excavation.

ARCHAEOLOGICAL
EXPERIENCE

-September 1980 to May 1981.
Glenn Black Laboratory of Archaeology
Indiana University
Bloomington, Indiana 47405

Duties: Volunteer; Reconnaissance using systematic survey,
Laboratory Assistant; washing and cataloguing artifacts,
sorting pottery sherds and partial reconstruction.

-June 1980 to July 1980.
Department of Archaeology
Jamison Hall
Indiana State University
Terre Haute, Indiana 47809

Duties: Crew Member of Field School; Excavation at Secondino Mound,
Terre Haute, Indiana, reconnaissance using systematic
survey or shovel probes at Shakamac State Park, Jasonville,
Indiana.

-June 1979.
Department of Archaeology
Jamison Hall
Indiana State University
Terre Haute, Indiana 47809

Duties: Crew Member of High School Honors Field School;
Archaeological methods and excavation.

RELATED
EXPERIENCE

-September 1985 to May 1986.
Department of Anthropology
Department of Geography
Ball State University
Muncie, Indiana 47306

Duties: Student; Preparation and completion of maps for the
Strawtown Archaeological District, M.S. Thesis topic.

-January 1983 to May 1983.
Department of Geography
Indiana University
Bloomington, Indiana 47405

Duties: Student; Research and illustration for Archaeological
Geographic Distribution Series, Senior Seminar.

RELATED
EXPERIENCE

-February 1983.
Department of Anthropology
Indiana University
Bloomington, Indiana 47405

Duties: Student; Preparation and completion of maps presented
at the Symposium of the Society of American Archaeology
by Dr. Wesley Hurt.

-September 1982 to May 1983.
William Mathers Museum
Indiana University
Bloomington, Indiana 47405

Duties: Student Practicum; Cleaning and setting up displays
for museum opening.

-September 1982 to May 1983.
Geography and Map Library
Kirkwood Hall
Indiana University
Bloomington, Indiana 47405

Duties: Map Processor; Filing, sorting, updating map collection,
library duties.

-May 1981, October 1979 to December 1979.
Connor Prairie Pioneer Settlement
Education Department
Allisonville Road
Noblesville, Indiana 46060

Duties: Tour Support; Historical maintainence for the 1836 village.

INTERESTS

-Archaeology, museum studies, history, travel, antiques and sports.

REFERENCES

-Dr. Wesley Hurt
Department of Anthropology
Rawles Hall
Indiana University
Bloomington, Indiana 47405

-Ronald Hicks
Department of Anthropology
Burkhardt Building
Ball State University
Muncie, Indiana 47306

REFERENCES

-Don Cochran
Archaeological Resource Management Service
Burkhardt Building
Ball State University
Muncie, Indiana 47306

-Robert Pace
Department of Archaeology
Jamison Hall
Indiana State University
Terre Haute, Indiana 47809

-John Richardson
Indiana Department of Reclamation
Division of Archaeology
Jasonville, Indiana 47438

V I T A

RICHARD E. (PAT) PERSINGER

Present Position: Archeologist, Cultural Research & Management, Inc.

Office Address: 1212-1/2 Airport Road
P. O. Box 2154
Bismarck, North Dakota 58502
(701) 258-1215

Home Address: 701 Dover Drive
Bismarck, North Dakota 58501
(701) 222-3746

Education: B.A. in Anthropology, University of North Dakota,
1975
M.A. in Anthropology, Northern Arizona University,
1981

Professional Experience:

- 1988 Staff Archeologist, Cultural Research & Management, Inc. Bismarck, ND.

- 1987 Staff Archeologist, Cultural Research & Management, Inc., Bismarck, ND. Responsibilities included directing field survey of four Abandoned Mine Land projects for the North Dakota Public Service Commission, testing of a stone circle site for the North Dakota State Highway Department, testing of a lithic scatter site for the St. Paul District Corps of Engineers, survey of a road improvement in the Badlands for the Billings County Commission, and survey of a road and site testing for the Dunn County Commission. He also participated in recording of historic sites in a Class II cultural resource survey of over 18,000 acres in western North Dakota for the U.S. Bureau of Land Management.

- 1986. Project Archeologist, Cultural Research & Management, Inc., Bismarck, ND. Responsibilities included directing field survey of three Abandoned Mine Land projects for the North Dakota Public Service Commission, survey of a proposed coal mine for Husky Industries, survey of a county road improvement project, and

survey of a proposed electric transmission line, all in North Dakota.

Field Assistant, Cultural Research & Management, Inc. Recording historic sites in proposed timber sales in the Black Hills National Forest, South Dakota and Wyoming, and recording and evaluating historic sites on the Southwest Pipeline Project in southwestern North Dakota.

Archeological Crew Member, National Park Service, Midwest Regional Center. Excavation of portions of Fort Union National Historic Site, North Dakota.

Senior Archeological Crew Member, Metcalf Archeological Consultants, Eagle, CO. Class II cultural resources survey of Bureau of Land Management potential coal leasing areas, western North Dakota.

Senior Archeological Crew Member, Larson-Tibesar Associates, Laramie, WY. Cultural resources survey of U.S. Army Corps of Engineers lands on Lake Oahe, South Dakota.

1985. Project Archeologist, Cultural Research & Management, Inc. Surveys of county road improvement projects in northern North Dakota.

Archeologist, G.C.M. Services, Inc., Butte, MT. Survey of several abandoned Mine Land projects in Montana.

1985. Archeologist, G.C.M. Services, Inc. Evaluative testing of several large stone circle sites along the Ft. Peck to Havre transmission line.

Field Supervisor, Larson-Tibesar Associates, Laramie, WY. Survey of State land tracts near Worland WY.

1984. Archeologist, Archeological Energy Consulting, Casper, WY. Survey and evaluation of several access roads and well pad locations on U.S.F.S. tracts in western North Dakota.

Archeologist, Archeological Energy Consulting. Testing and evaluation program along a petroleum pipeline near Baggs, WY.

1984. Archeologist, G.C.M. Services, Inc.
High altitude survey of proposed seismic line route on the Crow Reservation in Montana.
1984. Field Supervisor, G. C. M. Services, Inc.
Survey and evaluative testing at Tosten and Hyalite Reservoirs in Montana. U.S.F.S.
1983. Archeologist, G.C.M. Services, Inc.
Excavation and interpretation of site 32OL270 in North Dakota and sites RB1007 and Ellison's Rock in Montana.
1982. Archeologist, University of North Dakota.
Excavation of the Mini-Padi Butte Site in North Dakota. Excavation directed by David Kuehn for the U.S. Army Corps of Engineers.
- Legal land survey crew member, Webster, Foster & Weston, Williston, ND.
Responsibilities included use of transit and electronic distance measuring equipment, blueprint interpretation, and basic drafting.
1981. Field Archeologist, Museum of Northern Arizona at Flagstaff. Mapping, testing, and partial excavation of a Hohokam village complex along the New River north of Phoenix for the U.S. Army Corps of Engineers.
1981. Participated in numerous well pad and access road survey, testing and evaluation projects for several petroleum companies. Powers Elevation.
1980. Field Archeologist and Field Supervisor, Archeological Services, Laramie, WY.
Coordinator and Field Supervisor for a variety of oil development-related projects, including well pads, access routes, and large block areas. Prepared clearance reports for the U.S. Forest Service, U.S. Bureau of Land Management, and several state agencies.
1978. Northern Arizona University
Excavations at several Pueblo sites near Window Rock and Flagstaff, Arizona. Post field-work included lithic and ceramic analysis, artifact illustration and site map production.

1977. Survey Crew Member, Museum of Northern Arizona at Flagstaff. Participated in survey of federal uranium leases near Moab, Utah.
1974. Survey Crew Member, University of North Dakota. Cultural resources survey of a proposed channelization project on the Roseau River in northern Minnesota. Survey conducted for the U.S. Army Corps of Engineers.

Selected Project Experience:

Class III cultural resource survey in the upper Souris River Valley, 1988. Principal Investigator and field chief responsible for field survey of about 2400 acres, auger probing and shovel testing, and report preparation. Report in preparation June, 1988.

Class III cultural resource survey of the Langdon Rural Water System in northeastern North Dakota, 1988. Principal Investigator and field chief responsible for field survey of 200 linear miles of proposed water pipeline.

Cultural resource survey of a 640 acre block in Billings County, North Dakota, 1988, for Axem Resources, Belfield, ND.

Flagstaff Historic Structures Survey.

As a graduate student, I participated in a project contracted by the Flagstaff Historic Sites Commission to inventory the historic structures of Flagstaff. Special emphasis was given to buildings eligible for nomination to the National Register of Historic Places. Extensive historical research included use of local tax records, Sanborn fire insurance maps, newspaper archives, library and Historical Society collections, and interviews. I was particularly responsible for fieldwork, including mapping, photo documentation, and architectural interpretation of several related structures.

McMillan Mesa Land Development Project

As a graduate student, I also participated in a comprehensive land use and development study of the 1100-acre McMillan area of Flagstaff, Arizona. The study included research concerning geology, history, archeology, zoning, vegetation, pedology, movement systems, land ownership, and the socio-cultural composition of the area.

Utah International Trapper Mine Survey

This project consisted of a comprehensive pedestrian survey and inventory of archeological and historical resources within a 5700 acre area near Craig, Colorado. My responsibilities included total artifact collection and mapping in several localities which were to be impacted by mine expansion.

Texas Energy Systems Coyote Mine Survey

I served as Field Supervisor on this 1900 acre project near Gillette, Wyoming. My responsibilities included preparation of inventory reports, rangeland studies, and assessments of likely impact of the project on local wildlife.

American Colloid Bentonite Mine Survey

As Field Supervisor, I coordinated this survey of 1175 acres near Colony, Wyoming. I was responsible for preparation of cultural resource inventory reports and management planning for the resources.

Professional References:

Dr. William B. Griffen
Chairman, Department of Anthropology
Northern Arizona University
Flagstaff, Arizona 86001

Dr. Fred Schneider
Chairman, Department of Anthropology
University of North Dakota
Grand Forks, North Dakota 58201

Mr. David Kuehn
University of North Dakota Archeological Research
Belfield, North Dakota 58622

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