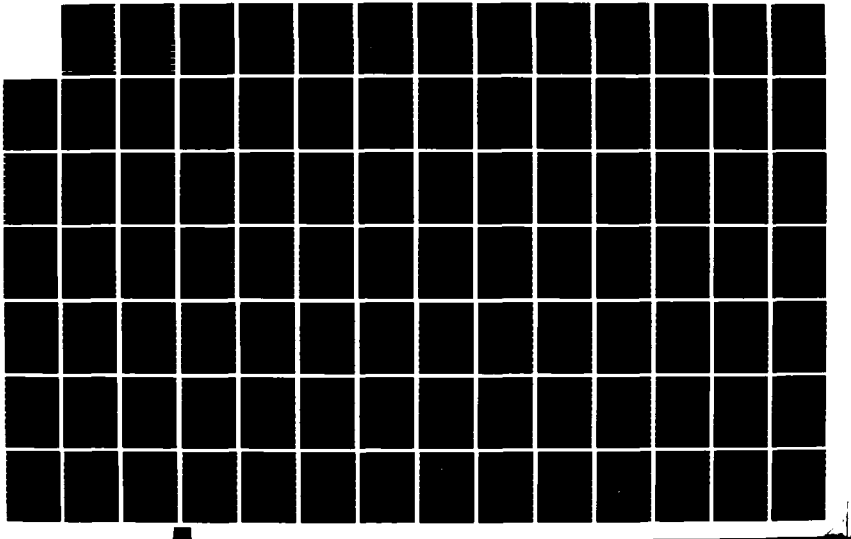
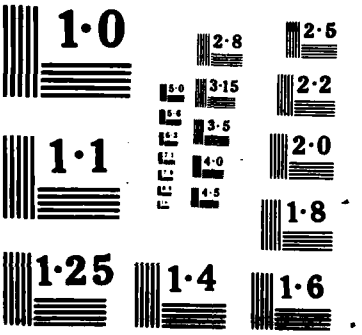
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CULTURAL RESOURCES INVESTIGATIONS OF THE UPPER MINNESOTA RIVER (639) PROJECT, DEUEL AND GRANT COUNTIES, SOUTH DAKOTA, AND LAC QUI PARLE AND YELLOW MEDICINE COUNTIES, MINNESOTA

AD-A172 332

by

Dennis Beissel
Kenneth L. Brown
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St. Paul District, Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

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During the summer of 1982, the University of South Dakota Archaeology Laboratory conducted a cultural resource survey of the upper Minnesota River project, located in northeastern South Dakota and southwestern Minnesota. The resources investigation consisted of a phase I survey, literature and records search and a phase II testing program.

Field reconnaissance resulted in recording 16 new sites. The sites contain 11 historic and 7 prehistoric components. A proposal for phase III cultural resource investigations is developed, including a cost estimate.

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CULTURAL RESOURCES INVESTIGATIONS OF THE UPPER MINNESOTA RIVER (639) PROJECT, DEUEL AND GRANT COUNTIES, SOUTH DAKOTA, AND LAC QUI PARLE AND YELLOW MEDICINE COUNTIES, MINNESOTA

by

Dennis Beissel
Kenneth L. Brown
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for

Department of the Army
St. Paul District, Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Contract No. DACW37-82-M-1508

Principal Investigator
Kenneth L. Brown



The University of South Dakota Archaeology Laboratory
Vermillion, South Dakota
September, 1984

ABSTRACT

During the summer of 1982, the University of South Dakota Archaeology Laboratory entered into contractual agreement with the St. Paul District, Corps of Engineers to conduct a cultural resources survey of the upper Minnesota River (639) project which is located in northeastern South Dakota and southwestern Minnesota. The cultural resources investigations consisted of a phase I survey, literature and records search and a phase II testing program.

Field reconnaissance resulted in recording 16 new sites. The sites contain 11 historic components and seven prehistoric components. Two sites contain more than one component. Nine sites are recommended for potential eligibility for nomination to the National Register of Historic Places. These sites consist of two prehistoric components represented at one site and eight historic components (a grist mill, a silver mine, five sites with dugouts) represented at five sites and a historic burial site. In addition, seven standing structures that were not given site numbers were recorded. A search of the South Dakota site files for Deuel and Grant counties yielded information that allowed inferences to be made concerning prehistoric and historic settlement patterns on the Coteau des Prairies. A proposal for phase III cultural resource investigations is developed, including a cost estimate.

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MANAGEMENT SUMMARY

During the summer of 1982 the University of South Dakota Archaeology Laboratory entered into contractual agreement with the St. Paul District, Corps of Engineers to conduct a phase I and phase II cultural resources investigation in the upper Minnesota River (639) project area. Field work was initiated in July and was completed in September, 1982. The project entailed a pedestrian reconnaissance of seven proposed lake structures and 10 percent survey of proposed areas of channel clearing along tributaries of the South Fork of the Yellow Bank River. The seven proposed lakes are located on the Coteau des Prairies and are: LQP-3, LQP-8, LQP-40, YB-6, YB-15, YB-18, and YB-25. The river clearing project area contains eight segments (G2001, G2201, G2202, G2212, Q2202, Q2208, Q2211, and Q2212) located on the flat Minnesota Valley.

The literature and records searches and the pedestrian reconnaissance were intensive. Records were examined at the Minnesota State and South Dakota State Historical Preservation offices. The South Dakota State site files at the University of South Dakota were also reviewed. Land ownership records were inspected at the Yellow Medicine County Courthouse in Minnesota and at the Deuel County and Grant County courthouses in South Dakota. The Lac qui Parle County courthouse records in Minnesota were not examined since no sites were recorded in the county during the pedestrian reconnaissance. Library facilities utilized include: the Minnesota State Historical Society Library, the South Dakota State Historical Resource Center, the I.D. Weeks Library on the campus of the University of South Dakota, Watson Library on the campus of the University of Kansas, the Grant County Library, the Clear Lake Public Library, the Gary Public Library, the Canby Public Library, and the Madison Public Library. Museums visited for pertinent records include the Kampeska Heritage Museum in Watertown, South Dakota, and the County Museum in Madison, Minnesota.

Four local residents in South Dakota were interviewed due to their knowledge of the prehistory and history of the project area. These people are Betty Sterner of Watertown, Maynard Cochrane and William Stone of Lake Cochrane, and Ambrose Weber of Revillo.

Field work, consisting of an intensive pedestrian reconnaissance that included shovel testing, post hole augering and excavation of 1 X 1 meter test pits, resulted in recording 16 sites on the Coteau des Prairies. In addition, seven standing structures that were not assigned site numbers were recorded. No sites were recorded within the 10 percent systematic sample survey of proposed channel clearing areas. The 16 sites contain 18 components (i.e., two of the sites contain two components). Occupations represented at the sites include the Late Archaic, the Late Woodland, the late 19th

century and the 20th century.

The seven proposed lake projects, located on the Coteau des Prairies, contain the following number of sites and/or standing structures within areas that will be periodically inundated: LQP-3 (3), LQP-8 (3), LQP-40 (0), YB-6 (1), YB-15 (11), YB-18 (0), and YB-25 (3). Several sites and standing structures occur adjacent to the proposed lake projects and will likely be adversely impacted by lake construction and/or use of the lakes for recreational purposes. The seven proposed lake projects have the following number of sites and standing structures that may be indirectly affected by lake construction: LQP-3 (2), LQP-8 (0), LQP-40 (0), YB-6 (0), YB-15 (0), YB-18 (0), and YB-25 (0). No sites were recorded within or adjacent to proposed lake projects LQP-40 and YB-18.

The prehistoric sites occur within project areas LQP-3 (three sites) and YB-15 (three sites). Project area LQP-3 has one prehistoric site, 39DE56, that is recommended for eligibility for nomination to the National Register. Site 39DE56 is multicomponent, containing buried Late Archaic and Late Woodland occupations to depths of 2.3 meters. None of the prehistoric sites within project area YB-15 are recommended for nomination to the National Register.

Six sites containing historic occupations are recommended for potential eligibility for nomination to the National Register. These sites are: 39DE55, dugouts, (LQP-3); 39GT7, a dugout, (YB-6); 39GT16, a grist mill, 39GT8 a silver mine, 39GT9, dugouts, 39GT13, a dugout, (YB-15), and 39GT17, dugouts (YB-15). All of the dugouts are attributed to late 19th century early Euro-American settlement of the region. Little systematic archaeological research has been conducted with dugouts. What work has been done indicates they may potentially yield significant information that will help elucidate early Euro-American settlement of the region. Therefore, it is recommended that these dugouts be examined for potential eligibility for nomination to the National Register. The grist mill, site 39GT16, has been previously examined by personnel from the South Dakota Historic Preservation Office and determined eligible for nomination to the National Register. The silver mine, site 39GT8, is unusual for eastern South Dakota and is recommended for further investigation.

A mass burial, site 39DE53, located adjacent to project area LQP-3 may be indirectly impacted by construction of the project. The site, consisting of an unknown number of American Indian graves, may become subject to increased vandalism and erosion. Therefore, it is recommended that this site be avoided and preserved.

Survey results and record searches indicate few prehistoric sites are located on the flat Minnesota River

Valley. Few sites can be expected to occur along the terraces of minor drainages. However, prehistoric sites can be expected to occur on well-developed older (higher) terraces along larger streams and rivers. These sites may be deeply buried like site 39DE56 within project area LQP-3.

Significant historic sites can be expected to occur on the terraces of larger streams and rivers. Most of the sites are dugouts that may potentially yield information that could help elucidate the early Euro-American settlement of the region.

A proposal for phase III cultural resource investigations within the 639 project includes two different plans: (1) test excavation, which is the systematic testing of specified sites and (2) avoidance/contiguous excavation which is preservation by the avoidance of a site or, if avoidance is not possible, then contiguous excavation which is the excavation of contiguous 1 X 1 meter excavation units for maximum data recovery. Within the 639 project, avoidance is recommended for one historic component (39GT16), the multicomponent prehistoric site (39DE56), and site 39DE53, the mass burial of an unknown number of American Indians. If avoidance is not possible, test excavations are recommended for six sites: 39DE55 (dugouts)(LQP-3), 39GT7 (dugout)(YB-6), 39GT8 (silver mine)(YB-15), 39GT9 (dugouts)(YB-15), 39GT13 (dugout)(YB-15), and 39GT17 (dugouts)(YB-15). Contiguous excavations are recommended for three sites: 39DE56 (Late Archaic, Late Woodland)(LQP-3), 39GT16 (grist mill), and 39DE53 (American Indian burials)(LQP-3).

Cost estimates for mitigation of adverse impacts upon cultural resources are estimated to be: $106,000-plus for LQP-3; $2,100 for YB-6; and $65,300 for YB-15. Since the number of burials at site 39DE53 is not known, a cost estimate of their excavation, analysis and reburial is not possible at this time. The other proposed projects (LQP-8, LQP-40, YB-18, and YB-25) and the channelization areas do not have any known sites that warrant preservation and/or excavation.

The cultural resources investigations indicate the 639 project area has been used extensively by prehistoric and historic peoples. The proposed project will have adverse impacts upon both prehistoric and historic resources. These resources may potentially yield significant information that may help elucidate the culture history of the region. Therefore, these cultural resources need to be protected for future generations.

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CHAPTER 1

Project Background

Introduction

This report presents the findings of archaeological and historic investigations within the Yellow Bank and Lac qui Parle subbasins for the upper Minnesota River subbasins (639) study, Minnesota and South Dakota. The project area includes portions of Lac qui Parle and Yellow Medicine counties, Minnesota, and Grant and Deuel counties, South Dakota (Fig. 1). This study is being performed by the St. Paul District of the Army Corps of Engineers and the Soil Conservation Service. During the summer of 1982, the University of South Dakota Archaeology Laboratory entered into contractual agreement, Number DACW37-82-M-1508, in assessing the frequency and significance of archaeological, historical and architectural resources within the project area.

The work defined herein is mandated by the National Historic Preservation Act of 1966 (Public Law 89-665) and the National Environmental Policy Act of 1969 (Public Law 91-190) and is authorized for funding by the Archaeological and Historic Preservation Act (Public Law 93-291). The work provides documentation evidencing compliance with Executive Order 11593, "Protection and Enhancement of the Cultural Environment", dated 13 May, 1971, Section 2(a).

The Upper Minnesota River Subbasins (639) Study

The total study area, which consists of all or portions of nine counties in Minnesota and four counties in South Dakota, includes the watersheds of the Yellow Bank, Lac qui Parle, Yellow Medicine, Redwood and Cottonwood rivers. These rivers provide the main drainage for the study area, flowing from the southwest to their confluences with the Minnesota River.

Several studies conducted in the 1970's defined nine significant problems and needs: (1) flooding; (2) erosion and sedimentation; (3) need to improve water quality; (4) inadequate fish and wildlife habitat; (5) excess water on agricultural land; (6) need for additional recreation opportunities; (7) water supply need; (8) conservation of water for future use; and (9) need to develop hydroelectric power (Scope of Work:2-3). Of the defined problems, flooding is identified as the major problem in the study area. Presently, all of the alternatives being examined by the Corps of Engineers are aimed at reducing flood damage. Flooding usually occurs during spring thaw and heavy rains. At these times, usually dry channels in the Coteau des Prairies overflow and pour down the slopes of the coteau onto the Minnesota River lowland which is poorly drained and incapable of handling heavy, sudden flows of water. Since this lowland is basically flat, crossover flooding (the crossing over of floodwaters from one watershed into

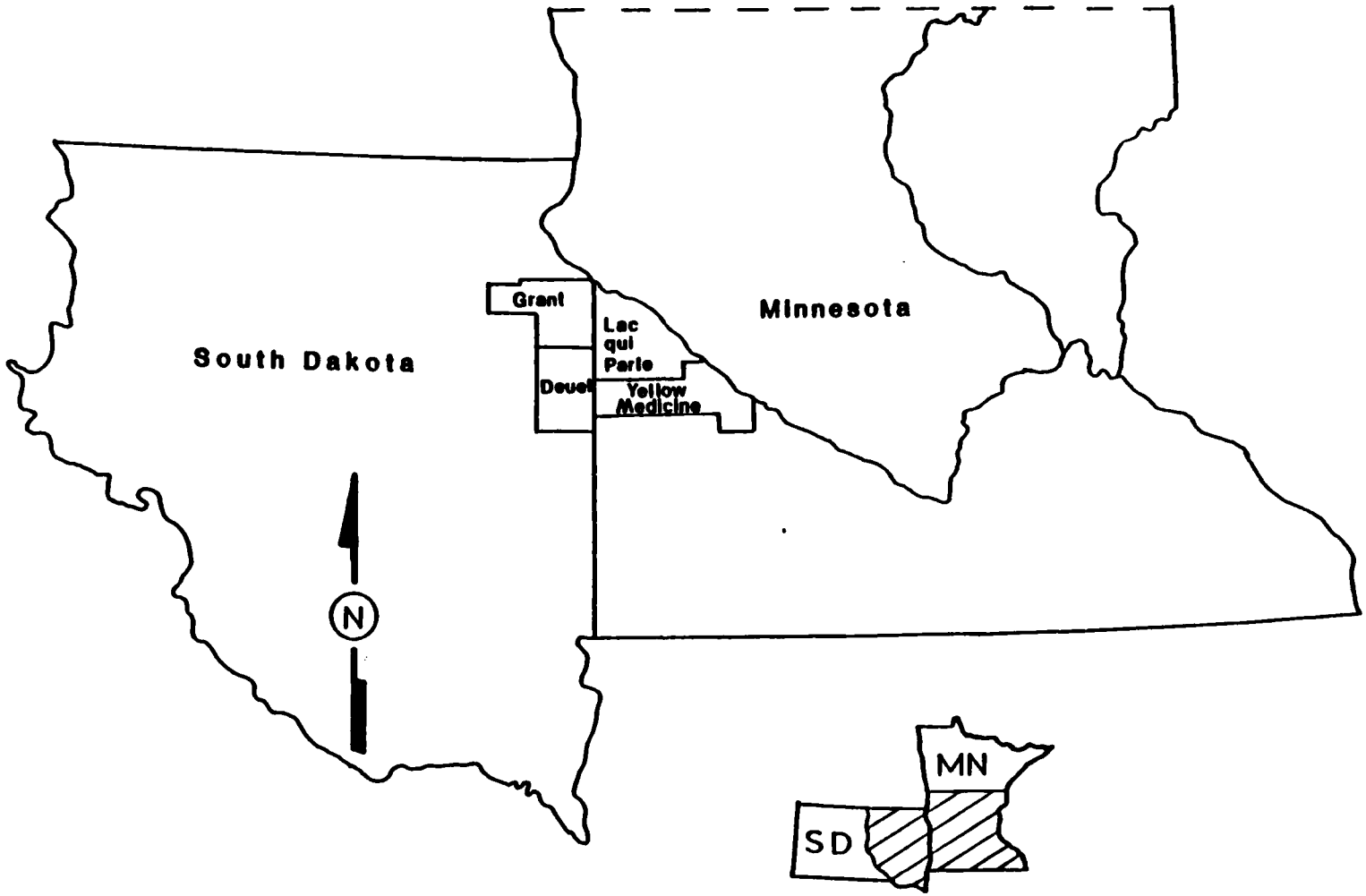


Figure 1. Map showing the location of the project areas in South Dakota and Minnesota.

neighboring watersheds) occurs at these times. "More than 200,000 acres, primarily farmland, are subject to flooding" (Scope of Work:2). Consequently, runoff from the coteau must be controlled in order to protect the adjacent lowland from resultant flooding, erosion and pollution.

Yellow Bank and Lac qui Parle Subbasins Project Area

The Corps of Engineers is currently developing and evaluating preliminary alternatives for the Yellow Bank and Lac qui Parle subbasins. An impact assessment is also being conducted. "Structural alternatives for the Yellow Bank and Lac qui Parle subbasins include small reservoirs, large reservoirs, and channel alternatives" (Scope of Work:8). The Soil Conservation Service will be responsible for the preliminary design of potential reservoirs with a drainage area of 20 square miles or less. The Corps of Engineers will be responsible for potential reservoirs with a drainage area greater than 20 square miles. "Each reservoir will have an earth-fill dam, a permanent conservation/sediment pool (50-year sediment accumulation), and a flood pool . . . . The water will be held during flooding for approximately 10 days" (Scope of Work:8). During the present project, a pedestrian reconnaissance was conducted in seven proposed reservoirs within the Yellow Bank and Lac qui Parle subbasins.

Proposed channel alternatives include channel enlargement, channel cutoffs, and snagging and clearing. Channel work conducted on the subbasin main stems will be done by the Corps of Engineers. The Soil Conservation Service will undertake the work on the non-main stem areas. A 10 percent pedestrian reconnaissance was conducted along eight channel reaches of the South Fork of the Yellow Bank River within the Yellow Bank subbasin.

Previous Cultural Resource Research

Several archaeological and historical studies have been conducted within the upper Minnesota River subbasin project area and surrounding region during the last eight years. The following is a brief summary of those studies for which data are available to the contractor.

An archaeological survey was conducted during the summer of 1973 in the Big Stone Refuge area, Minnesota, by the Department of Anthropology, University of Minnesota for the National Park Service (Caine 1974). A two-member crew was headed by Richard Lane of St. Cloud State College. The areas surveyed during the pedestrian reconnaissance consisted of bottom lands along the Minnesota and lower reaches of the Yellow Bank rivers, ravines, and selected upland areas. Low marshy areas not conducive to pedestrian reconnaissance were excluded. Although scattered artifacts were recovered, only one site, 21LP11, with a concentration of lithic artifacts was recorded. Test excavations in the fall of 1973 indicated that the site was contained totally within the plowzone and probably represented a small, seasonal camp of short

duration. No further work was recommended within the refuge. It was suggested that "nearby areas in the Dakotas and along tributaries in Minnesota were more attractive to early inhabitants" (Caine 1974:6). One major deficiency of this study is that it fails to consider historical sites that are undoubtedly present in the study area. Project background data are lacking. It is suggested that an inventory of historical sites within the refuge is necessary.

In 1974, an assessment was made of historic, architectural, and archaeological remains within the Tyler Creek watershed, which is a portion of the Redwood River drainage, in southwestern Minnesota by Russell Fridley (1974). Research consisted of a literature and records search and a three-day field survey. Two prehistoric sites were recorded. Most of the report is devoted to documenting the Danebod Historic District, an architectural site previously listed in the State Inventory of Historic Sites. Since the sites were not endangered, no further cultural resource investigations were recommended within the Tyler Creek watershed. This report has several deficiencies: (1) virtually no information is provided for the two prehistoric sites; (2) it is suspected that the three-day field survey was not much of a survey. Survey methods are not presented. Most of the report is devoted to the Danebod Historic District, suggesting that most of the survey was devoted to it; (3) project background data are lacking; and (4) the funding agency is not identified. As a result, it is suggested that a more intensive cultural resource assessment is necessary within the Tyler Creek watershed.

An intensive cultural resource survey was conducted in 1975 within the Big Stone Lake-Whetstone River project area by the Department of Anthropology, University of Minnesota for the St. Paul District of the Corps of Engineers (Johnson 1975). The field work was conducted by Elden Johnson and his son. In addition to the intensive survey which included test excavations, local collectors were contacted and a literature search was conducted. Although no historic or prehistoric sites were recorded within the project area, it was suggested that deeply buried sites may be present on the higher uplands, as evidenced by the Browns Valley Man site (21TR5), located north of the project area between Lake Traverse and Big Stone Lake. The lack of sites in the project area was attributed to the fact that it is a low area that has been subject to flooding in the past. North of the project area, numerous prehistoric and historic sites have been recorded around Big Stone and Traverse lakes. "One can speculate that the lakes themselves with their flat lakeshore beaches, vegetation cover on the steep upland slopes, and the ample water supply and protection offered habitation and burial areas much more attractive than the low floodplain of the Minnesota River bottoms" (Johnson 1975:6). The project appears to have been conducted well.

Another cultural resource reconnaissance was conducted within selected areas of the Tyler Creek watershed, southeastern Lincoln County, Minnesota in the fall of 1977 (Watson and Oothoudt 1977). This project was sponsored by the Soil Conservation Service and was performed by Terra Archaeological Services. A literature search was conducted and landowners and local collectors were interviewed. An intensive pedestrian reconnaissance was carried out in areas suggested by informants and in areas "where the terrain was deemed suitable for human use under past conditions, . . ." (Watson and Oothoudt 1977:9). Fifteen sites were recorded: 11 prehistoric, one historic, and three multi-component (containing both prehistoric and historic occupations). Although the cultural affiliations are not known for the prehistoric sites, most are listed as probably dating between 1000 B.C. and A.D. 1800. Since none of the sites were endangered by the proposed project no further work was recommended at that time, but it was suggested if watershed development plans were expanded, some sites on the periphery of the project area should be examined closer. This project appears to have been well conducted.

An intensive cultural resource survey was carried out during the summer of 1976 within four proposed development areas of the Canby Creek watershed, Yellow Medicine County, Minnesota (Watson 1976). This project was sponsored by the Soil Conservation Service and was performed by the Department of Archaeology, Minnesota Historical Society. The three-member field crew was headed by Clifford Watson. A literature search was conducted. In addition, landowners and local collectors were contacted. The intensive pedestrian reconnaissance recorded a total of 25 sites: 14 prehistoric, seven historic, and four multi-component (containing both prehistoric and historic occupations). The prehistoric sites, almost exclusively lithic scatters, probably represent small, short-term hunting camps, with the exception of four larger prehistoric sites that may represent "larger, more intensive and/or long-term occupations--possibly even villages" (Watson 1976:39). Diagnostic artifacts were recovered from seven prehistoric sites. Based on these artifacts, six sites were dated between 1000 B.C. and A.D. 1700 and the remaining site was assigned to the Archaic (ca. 5000 B.C. to 1000 B.C.). Two sites (one historic) were recommended for further investigation. None of the sites were considered eligible for nomination to the National Register of Historic Places. This project appears to have been conducted well.

Further investigations were conducted within the Canby Creek watershed in the fall of 1979 and spring of 1980 (Woolworth and Woolworth 1980b). This project was sponsored by the Soil Conservation Service and was performed by Woolworth Research Associates. At this time, two sites recorded during the 1976 cultural resource survey were tested and a literature search was conducted. Excavations at a historic dugout site (F/5), consisting of three dugout

depressions, indicated that the site belonged to the pioneer era. Test excavations and a pedestrian reconnaissance of a site recorded as a small, prehistoric lithic scatter (F/14) did not yield any cultural materials. A vague local tradition indicated the possible presence of one or more prehistoric burial mounds in the site vicinity. No burial mounds were observed. As a result, it was determined that the site did not contain any significant cultural resources. On the other hand, the dugout site contained "considerable potential for use in on site interpretation of the Immigration and Settlement theme of the National Register of Historic Places" (Woolworth and Woolworth 1980b:3). As a result, it was recommended to nominate the site to the National Register. The study points out the need to more closely examine historic dugout sites which are common in the region but which are poorly understood.

In the spring of 1980, an intensive cultural resource reconnaissance was conducted within the proposed channel realignment area of the Big Stone-Whetstone flood control project area, Big Stone and Lac qui Parle counties, Minnesota, for the St. Paul District of the Corps of Engineers (Roetzel 1980). The survey was performed by Impact Services Incorporated. Kathleen Roetzel headed the four-member field crew. A literature search was conducted and local historical societies and collectors were contacted. The intensive pedestrian reconnaissance, performed along a section of the Minnesota River, did not recover any cultural material. No sites were recorded. As a result, no additional work was recommended for the proposed corridor. As suggested previously by Johnson (1975:6), the lack of sites was attributed to the probable frequent past flooding of the project area and the appeal of lakes Big Stone and Traverse for prehistoric and historic peoples. The assessment of the cultural resource survey results are probably accurate.

In the fall of 1979, Archaeological Field Services, Inc. entered into a contractual agreement with the St. Paul District of the Corps of Engineers for the purpose of conducting a literature search and records review of cultural resources located within each of the five subbasins of the upper Minnesota River subbasin project (Archaeological Field Services, Inc. 1980). The final report included an overview of the environmental setting of the area, prehistory and history of the region, and descriptions of all sites recorded within the subbasins. The data presented are only for known sites. The paucity of large numbers of known prehistoric sites (123) in the region is attributed "to a lack of extensive and intensive archaeological investigations" (Archaeological Field Services, Inc. 1980:495). Many investigated prehistoric sites in the region exhibit multi-component occupations useful in determining the cultural sequence of the region. The report includes general recommendations for consideration by the Corps of Engineers during the planning phase of the project. As of the spring of

1980, this report appears to be a comprehensive compilation of all known cultural resources within the five subbasins.

In the summer of 1979, Barbara Lass, under the auspices of the Archaeology Laboratory of the University of South Dakota, conducted a cultural resource survey in the Coteau des Prairies area of Hamlin and Deuel counties, South Dakota (Lass 1980a, 1980b). This project was funded by grants from the South Dakota Historical Preservation Center. The initial phase involved contacting local collectors. The next phase concentrated on a limited pedestrian reconnaissance of portions of the survey region selected by using intuitive and random techniques. As a result, information on 17 previously recorded sites was updated. In addition, 20 new sites and 19 find spots were recorded. Some of these sites are located within subbasins of the upper Minnesota River subbasin project area (Archaeological Field Services, Inc. 1980). Data suggest that the area may have been continuously occupied since the Paleo-Indian period (10,000 B.C. to 5,000 B.C.). Several cultural/behavioral inferences were derived from the project:

> In short, it has been proposed that (1) a stable and continuous hunting and gathering subsistence pattern was characteristic of the Coteau des Prairies from at least Archaic times throughout the Woodland period, and that this pattern involved use of neighboring riverine environments as well as use of prairie lake locations, (2) a gradual transition from Woodland to Plains Village in the region involved increasing practice of agriculture at riverine sites but with year to year return to prairie lake sites, and (3) this period of transition "culminated" in an annual round of subsistence activities that continued to take Plains agriculturalists to prairie lake sites seasonally and to some extent throughout the year (Lass 1980b:73).

The Winter site (39DE5), a large multi-component site situated on a high hill overlooking Coteau Lake near Altamont, South Dakota, was recorded in 1977 by Betty Sterner of Watertown, South Dakota. Sterner (a social studies teacher at Watertown Senior High School) and groups of her students have conducted several investigations at the site (Sterner 1977, 1978, 1979). A probable cache pit was discerned. Large quantities of ceramics, lithics, and faunal remains were recovered. Based on ceramics, Sterner assigned it to the Woodland period. The reports, summarizing test results, are records of excavations and artifact inventories.

Excavations were conducted at the Winter site (39DE5) in the fall of 1980 and the early summer of 1981 and excavations were also conducted in the summer of 1981 at the Hartford Beach Village site (39RO5) by the South Dakota Archaeological Research Center (Haug 1981, 1982). Funding was provided by a

matching grant from the South Dakota Office of Cultural Preservation's Historical Preservation Center. The field work was directed by James Haug. Excavations at the Winter site discerned four features (a cache pit, two concentrations of fire-cracked rock, and a concentration of pottery sherds) and a large quantity of artifacts was recovered. "The components noted to date range from Paleo-Indian to Late Prehistoric, spanning nearly every cultural entity known from the general region" (Haug 1982:23). The data suggest that the Winter site has the potential for supplying the basic cultural sequence for the area. The site was recommended for nomination to the National Register of Historic Places.

Hartford Beach Village (39RO5), a fortified site, is situated on the edge of steep bluffs overlooking Hartford Beach and the western shore of Big Stone Lake. Excavations discerned 11 features (one hearth, three cache pits, and seven palisade post holes) and a large quantity of artifacts was recovered. The artifacts and features suggest that the site is related to the Initial Middle Missouri Tradition, although differences exist between them (Haug 1981:3, 1982:50). Evidence for house structures, in the form of depressions, is absent, although the location of two post holes near the hearth are suggestive of the presence of a structure. The site may be associated with Great Oasis occupations in the area (Haug 1982:56). This site was also recommended for nomination to the National Register of Historic Places. "It is in effect a storehouse of data concerning a little known expression of Plains Village cultural variability which is both vital and irreplaceable in our understanding of the prehistory of the region" (Haug 1982:56).

Level of Effort

Investigations during the present project were conducted over a period of six months. Field work was conducted from July thru September, 1982, by crews consisting of four and two persons. Kenneth Brown was the Principal Investigator for the project. The archaeology crew that conducted field investigations in July and August was supervised by David Stanley. Crew members were Derrick Marcucci and Ron Kunkle. The historian was Karen Zimmerman. Dennis Beissel was the geomorphologist. Additional areas were surveyed in September by Kenneth Brown and Marie Brown. Bill Ranney assisted in examination of cultivated fields at project area LQP-40. Laboratory analyses of cultural material recovered during the field investigations were performed from September to November, 1982. A modification to the contract was made in August, 1982, to extend the draft report due date from September to December 1, 1982. A draft report of the findings was submitted to the Corps of Engineers the last week of November, 1982.

The total human effort directed toward completion of this project amounts to greater than 213 person-days (1704

person-hours). This level of effort can be divided into the field work, laboratory analysis, and report writing stages. The figures in Table 1 do not include all of the volunteer hours that went toward the completion of this report.

Table 1

Level of Effort Toward the Completion of the Project

Field Work	Person-Days	
Archaeological Reconnaissance	80	
Geomorphological Reconnaissance	6	
Historical Literature and Records Searches	13	
Sub-Total	99	99
Laboratory Work		
Archaeological Analysis	29	
Sub-Total	29	29
Report Preparation		
Archaeological Writing	20	
Geomorphological Writing	10	
Historical Writing	25	
Illustrations and Maps	5	
Typing and Editing	5	
Report Revisions	20	
Sub-Total	85	85
GRAND TOTAL		213

CHAPTER 2

Environmental Background

Introduction

The project area includes portions of land along the Lac qui Parle and South Fork of the Yellow Bank rivers and their tributaries, within the Minnesota River drainage, in four counties, two in southwestern Minnesota (Lac qui Parle and Yellow Medicine) and two in northeastern South Dakota (Grant and Deuel). Physiographically, this area consists of the Coteau des Prairies and the Minnesota River lowland (Fig. 2).

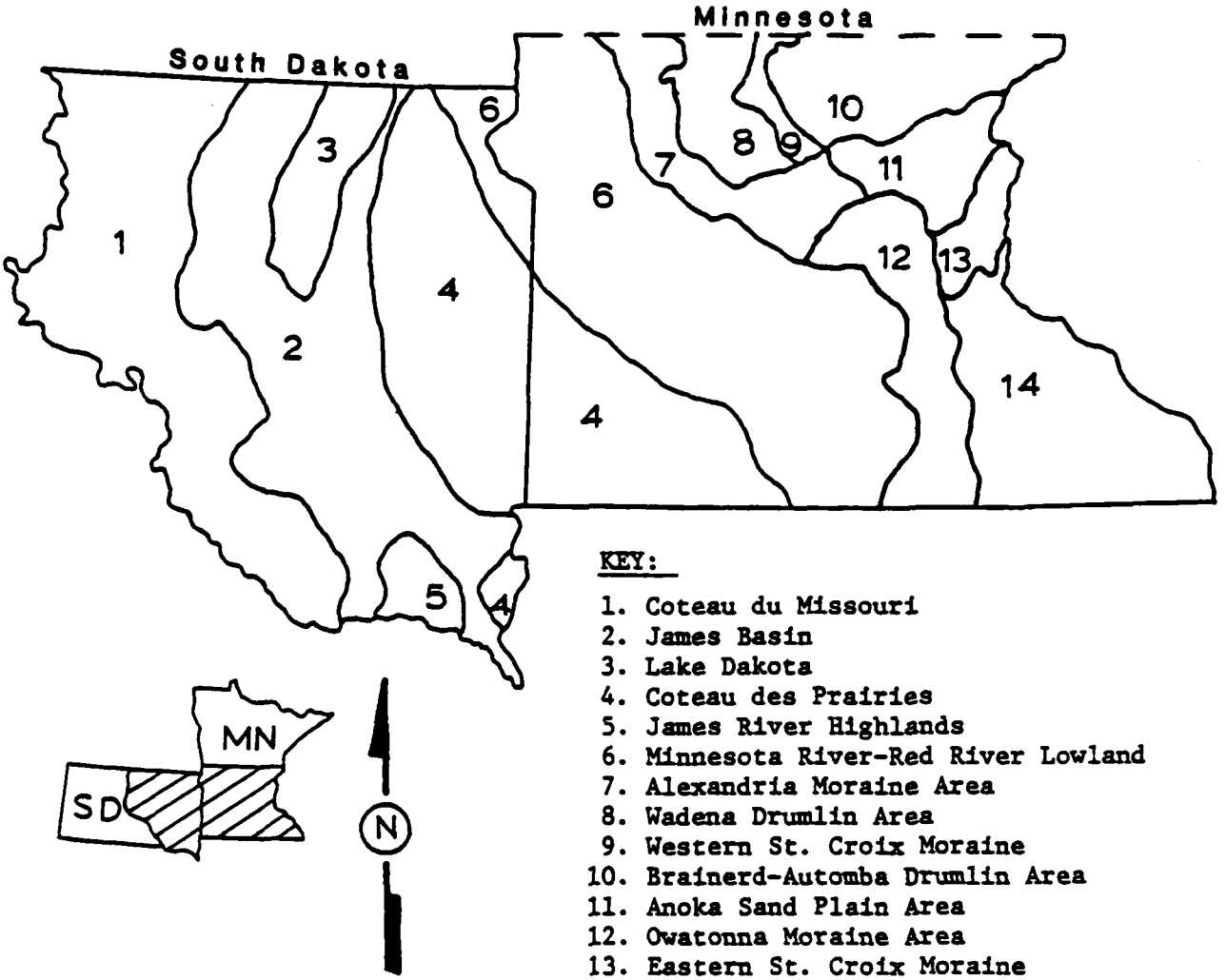
Rivers and Physiographic Features

Minnesota River

The Minnesota River, the largest tributary of the Mississippi River in Minnesota, originates from Big Stone Lake, on the border between South Dakota and Minnesota. It flows in a wide, deep valley cut by Glacial River Warren which carried the overflow from Glacial Lake Agassiz southeastward until a new outlet for Lake Agassiz was found northward. The Minnesota River is 571.3 kilometers (355 miles) long. It follows a southeastern course to Mankato, where it turns and flows northeast, to its confluence with the Mississippi River at Fort Snelling. The valley, which is bounded by high, steep bluffs, is as much as 76.2 meters (250 feet) deep and varies in width from 0.8 to 8.0 kilometers (0.5 to 5 miles). The upper region of the Minnesota River Valley to New Ulm has been cut through glacial drift and sedimentary rock exposing older igneous and metamorphic rock. In the rest of the valley only sedimentary rock has been exposed because the granite bedrock dips sharply to the east. The Minnesota is a muddy river, carrying great quantities of silt and clay. Numerous oxbow lakes occur on the valley floor. The river only falls 83.5 meters (274 feet) from Big Stone Lake to the river's mouth. It drains an area of about 44,030 square kilometers (17,000 square miles), of which 5,180 square kilometers (2,000 square miles) are in South Dakota and Iowa (Waters 1977:308-314).

Lac qui Parle River

The Lac qui Parle River, a tributary of the Minnesota River, has its ultimate source on the Coteau des Prairies in Lake Hendricks, situated on the South Dakota-Minnesota border. The river drains an area of 2874.9 square kilometers (1,110 square miles), of which 1986.53 square kilometers (767 square miles) are in Minnesota and 888.37 square kilometers (343 square miles) are in South Dakota. Its watershed includes most of Lac qui Parle County and parts of Yellow Medicine and Lincoln counties in Minnesota and parts of Deuel and Brookings counties, South Dakota. The general course of the river is north and northeast. It drops more than 244



KEY:

1. Coteau du Missouri
2. James Basin
3. Lake Dakota
4. Coteau des Prairies
5. James River Highlands
6. Minnesota River-Red River Lowland
7. Alexandria Moraine Area
8. Wadena Drumlin Area
9. Western St. Croix Moraine
10. Brainerd-Automba Drumlin Area
11. Anoka Sand Plain Area
12. Owatonna Moraine Area
13. Eastern St. Croix Moraine
14. Rochester Till Plain

Figure 2. Map showing major physiographic areas in the project region.

meters (800 feet) from its source to its mouth. Prior to the construction of a man-made dam that now controls the lake level of Lac qui Parle Lake, the Lac qui Parle River formed a delta in the Minnesota River Valley and impounded the lake waters. The river now joins the Minnesota River about 1.6 kilometers (1 mile) below the lake. Except for the southwesternmost area of its drainage system, which is part of the Coteau des Prairies, the river occupies the lowland plain where an occasional willow or cottonwood grows along its banks. The river is intermittant on the coteau and only flows through the coteau's wooded valleys during the wettest periods. Many lowland tributaries of the Lac qui Parle have been largely channelized or ditched (Waters 1977:291-294). The river's channel has been cut to depths of 7.6 to 15.2 meters (25 to 50 feet).

Yellow Bank River

The Yellow Bank River, named from the color of its glacial till banks, enters the Minnesota River about 16 kilometers (10 miles) below Big Stone Lake. Most of its watershed is in Grant County, South Dakota, but it also includes portions of Codington and Deuel counties, South Dakota, and Lac qui Parle County, Minnesota. Its drainage system occupies the Coteau des Prairies and lowland plain. The river flows in a general east and northeast course. The confluence of the north and south forks of the river is about eight kilometers (5 miles) east of the South Dakota-Minnesota state line. It has very steep banks and its channel has been cut to depths of 7.6 to 15.2 meters (25 to 50 feet) (Winchell and Upham 1884:615).

Coteau des Prairies

The proposed lake sites are all located near or on the eastern escarpment of the Coteau des Prairies, a massive flatiron shaped highland approximately 320 kilometers (200 miles) in length extending from southeastern South Dakota to extreme southern North Dakota and 120 kilometers (75 miles) in width across southwestern Minnesota and eastern South Dakota (Fig. 2). The surface of the coteau is characterized by glacial moraine topography which has a general hummocky appearance formed by the action and subsequent melting of Late Wisconsin age glaciers. Major ice constructional features on the coteau trend northwest-southeast paralleling the coteau escarpment (Matsch 1972).

The coteau is more than 610 meters above mean sea level along its northeastern margin in Grant and Roberts counties, South Dakota, where it is more than 244 meters higher than the adjacent Minnesota River lowland plain. The surface of the coteau slopes toward the southwest. The eastern margin is generally 30 to 61 meters higher than the western margin which becomes progressively lower and less distinct southward (Flint 1955:6).

The topography of the Coteau des Prairies varies from gently undulating to hilly (rough), with the greater portion being undulating to rolling. "Whereas the main mass of the coteau consists of bedrock, it is considerably dissected, and has been both heightened and smoothed in outline by the accumulation of a large volume of drift" (Flint 1955:29). In other words, the glacial drift has less relief than the surface of the bedrock which it overlies. As a result, the thickness of the drift on the coteau is extremely variable. It can be as much as 122 meters thick or as little as 12 meters thick. The majority of the drift consists of glacial till (a mixture of rock fragments ranging in size from clay particles to boulders).

The valleys to be flooded cut through moraine related to glacial stagnation and ice disintegration. Remnants of glacial crevasse fillings, composed of sand and gravel and deposited during recession of the Des Moines Lobe ice sheet, separate stagnation moraine from the colluvial slope on the coteau's eastern escarpment. The colluvial slope is composed mostly of glacial till which is weakly stratified and exhibits slump or collapse features in outcrop (Matsch 1972).

The till exposed at the surface in the region has been named the New Ulm Till which is a calcareous clay loam that contains abundant siliceous shale fragments (Matsch 1972). In Deuel County, South Dakota, the till is yellowish brown (10YR 5/2) when oxidized and dusky yellowish brown (10YR 2/2) to dark gray when unoxidized (Beissel 1974). In the Minnesota River Valley, the till color ranges from pale yellow (2.5Y 7/4) to light olive brown (2.5Y 5/4) when oxidized and dark gray (5Y 4/1) when unoxidized (Matsch 1972).

The Big Sioux River is the only major drainage in the Coteau des Prairies. Its course basically parallels the axis of the coteau. Perennial and intermittent lakes dot the surface of the Coteau des Prairies.

Age Relationships

The base of the New Ulm Till equivalent in Iowa has been dated at 14,000 radiocarbon years before present (B.P.) and organic material from basal bog sediment on top of the till ranges from 12,650 to 10,850 B.P. (Matsch 1972). Stagnant glacial ice existed in north-central South Dakota at 9,220 B.P. and was most likely present on the Coteau des Prairies at the same time (Steece 1972).

The vegetational history of the Coteau des Prairies indicates the existence of a spruce forest from the time of active ice retreat to about 10,700 years ago when an abrupt change in hardwood forest has been postulated (Wright 1972). The hardwood forest gave way to prairie vegetation about 9,000 years ago and lasted until 3,500 years ago when expansion of woodland on lake basin slopes and stream valleys

took place (Wright 1972). Since that time, prairie vegetation has dominated the uplands and coteau slope with the exception of changes introduced by agriculture.

Minnesota River-Red River Lowland

The proposed channelization phase of the project is along portions of the South Fork of the Yellow Bank River and its tributaries within the Minnesota River-Red River lowland. The lowland is characterized by low relief and is underlain by glacio-fluvial and lacustrine deposits separated by areas of ground moraine composed primarily of silty clay loam glacial till (Matsch 1972).

The lowland is thoroughly covered with glacial drift. Bedrock is infrequently exposed in the sides of steep-walled valleys. The topography varies from nearly flat to undulating or slightly rolling. The average local relief is less than six meters. The surface consists of ground moraine merging into barely perceptible end moraine ridges. The most conspicuous end moraine is a southeastward trending ridge that narrows to less than 0.8 kilometers wide and is 30 meters high. It is known as Mount Tom in Grant County, South Dakota and as Antelope Hills in Lac qui Parle County, Minnesota (Flint 1955:6).

Geomorphology of the Project Lakes

Proposed lake LQP-3 is located along Florida Creek in Yellow Medicine County, Minnesota, and Cobb Creek in Deuel County, South Dakota (Fig. 3). The stream valley cuts through stagnation moraine left by melting Late Wisconsin Des Moines Lobe ice. During deglaciation, approximately 9,000 years ago, the valley carried meltwater from stagnant ice. The upper part of the valley sides exhibit straight and smooth slopes typical of glacial meltwater channels. The valley side lopes are composed primarily of glacial till containing numerous large boulders. Colluvial processes and headward erosion by small tributaries to Florida Creek have modified the valley sides since deglaciation and have caused the valley floor to be littered with large boulders.

The valley floor contains many abandoned creek meander channels separated from the present creek bed by alluvial terraces composed of silty and sandy loam. Very few bedding structures have been retained, but outcrops do contain evidence of periodic colluviation. Soils on the valley floor are of the Calco-Du Page series which is typically developed on silty clay loam alluvium (Hokanson 1981). These soils are subject to frequent flooding and have a solum 61 to 107 cm (24 to 42 inches) thick.

During the present project, a 1 X 1 meter test pit was dug at site 39DE54 which is located on a terrace remnant whose surface, at an elevation of 478 meters (1567 feet msl), is about 4.5 meters (15 feet) above the present creek bed.

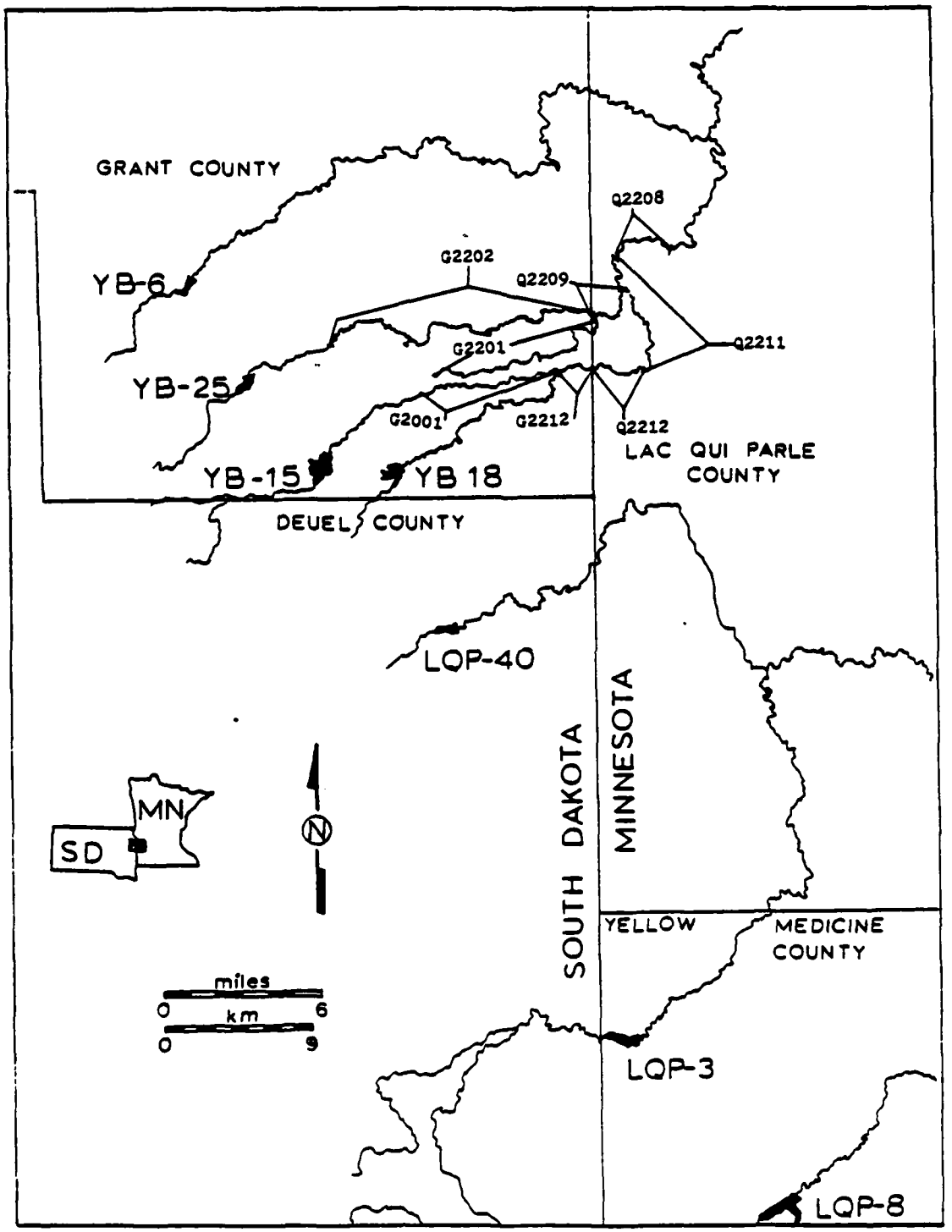


Figure 3. Map showing the locations of the seven lake areas and the eight channel reaches within Grant and Deuel counties, South Dakota and Yellow Medicine and Lac Qui Parle counties, Minnesota.

This terrace is 1.8 to 2.4 meters (six to eight feet) above a lower terrace marked by abandoned meanders. Lithologic description of the test pit is as follows:

in cm below surface

*0-21 - humic layer, silty loam with fine sand and some pebbles (10YR 3/1)
21-31 - silty loam, mottled color, weathered pebbles (10YR 4/3)
31-40 - gravel and coarse sand, oxidized, weakly stratified (10YR 4/3)
40-66 - sand, fine, slightly silty, scattered pebbles (10YR 3/3)
66-92 - sand, fine, silty, some pebbles (10YR 4/3)
92-102 - sandy loam, pebbly, calcareous cement, friable (10YR 5/2.5)

* Cultural material was obtained from the top 15 cm.

A second site, 39DE56, was found approximately 0.54 kilometers (1/3 mile) upstream from site 39DE54. A buried hearth and other material were discovered on a west-facing cutbank eroded from a colluvial terrace with a surface elevation of 482 meters (1580 feet) above mean sea level (msl). The terrace surface is about 5.8 meters (19 feet) above the creek bed. Lithologic description of this cut-bank is as follows.

in cm below surface

0-20 - silty clay loam, some pebbles
20-34 - silty clay loam, blocky texture, dark gray
34-42 - silty clay loam, light gray
42-52 - silty loam, very hard
52-102 - silty loam, friable, scattered pebbles
102-117 - sand lens, pebbly, clay loam matrix
117-135 - silty clay loam, scattered pebbles
135-143 - banded silt and sand in clay loam matrix
143-171 - clay loam
171-177 - sand, poorly sorted, some pebbles
177-232 - clay loam, pebbly, weathered till
232- - till, clayey, silty, pebbly, olive gray

The bottom of the measured section to the creek bed was covered with dumped material. Seepage was noted near the base of the slumped material. Sand and silt lenses apparently represent episodes of slope wash separating deposition of the intervening material. Weathering has obscured most bedding structures, but the weak stratification indicates the material is colluvial, most likely derived from the adjacent steep valley side. The floodplain and terraces contain many large boulders eroded from the till.

Due to the limited investigations it is particularly difficult to determine the age of the terrace deposits based on geologic evidence. Charcoal recovered from the buried

hearth and from a 1 X 1 meter test pit yielded two radiocarbon dates. Charcoal from the hearth yielded a date of 2605±140 B.P. (UGa-4601), or 655±140 B.C., and charcoal recovered from the test pit at a depth of 40 to 50 cm yielded a date of 3095±570 B.P. (UGa-4602), or 1145±570 B.C. The stream, due to its steep gradient on the coteau slope, is primarily erosional with flood events periodically removing topsoil from the floodplain. The upper terraces are seldom if ever flooded and could contain cultural material, if present, through the entire thickness of deposits above the basal till. This is the case at site 39DE56.

Proposed lake LQP-8 is along the Lac qui Parle River in Yellow Medicine County, Minnesota, approximately 6.4 kilometers (four miles) south of the town of Canby (Fig. 3). The valley bottom is up to 27.5 meters (90 feet) below the surrounding upland. The valley cuts through the colluvial slope of the Coteau des Prairie and likely carried meltwater from melting stagnant ice. The present day stream meanders through the valley with many sloping terraces three to six meters (10 to 20 feet) above the floodplain. The terraces are primarily composed of alluvial and colluvial deposits overlying glacial till. The first terraces above the present-day floodplain are subject to flooding while the upper terraces are covered in places by colluvial material derived from the steep side slopes of the valley. These terraces may have buried cultural remains.

A cutbank just west of the Lac qui Parle River and tributary confluence reveals the existence of an older, higher stream channel probably related to the last phase of deglaciation. The channel contains deposits of coarse gravel and boulders overlying and adjacent to glacial till. The base of the channel is approximately 3.35 meters (11 feet) above the current flood plain which indicates that the stream has been primarily downcutting in this area since deglaciation.

Soils developed on the alluvial and colluvial deposits in the valley are about 0.90 to 1.05 meters (3 to 3.5 feet) thick (Hokanson 1981). In situ cultural material could be at least as deep as the soil on the terraces above the present creek bed.

Proposed lake LQP-40 is located on a small drainageway in T117N, R48W, section 3 in Deuel County, South Dakota (Fig. 3). The headwaters of the creek are on the colluvial slope of the Coteau des Prairie below an elevation of 488 meters (1600 feet). The small valley was created by runoff from post-glacial precipitation events and likely never carried glacial meltwater. The side slopes of the valley are composed of glacial till while minor amounts of alluvium are found on the valley floor.

Cultural evidence may be present within the solum which can be up to 92 cm (36 inches) thick. The small terraces

between the meanders are relatively recent and contain silty deposits of slope wash and boulders washed out of the till.

Proposed lake YB-6 is located in T119N, R50W, section 24 in Grant County, South Dakota about 2.4 kilometers (1.5 miles) east of the town of Stockholm (Fig. 3). The entire drainage is underlain by soils in the Buse-Forman series which contains a solum only 18 to 61 cm (7 to 24 inches) thick (Miller 1979). The valley contains very little alluvial material and consists almost entirely of glacial till with some colluvial material at the base of the side slopes. The drainage is very narrow and may have carried some glacial meltwater, but it is more likely Holocene in age. Cultural remains, if present, would only occur in the upper 18 to 61 cm (7 to 24 inches).

Proposed lake YB-15 is located in T118N, R49W, sections 25, 26 and 35 in Grant County, South Dakota, along the South Fork of the Yellow Bank River (Fig. 3). The channel carried meltwater from the stagnant Des Moines Lobe ice. The present floodplain is characterized by meanders cut into stagnation moraine composed primarily of New Ulm Till. The floodplain is underlain by channeled LaDelle silt loam soils that form in silty alluvial sediment and are frequently flooded. The first terraces above the floodplain consist of LaDelle silt loam that is rarely flooded. In these terraces the surface layer is usually about 46 cm (18 inches) thick, but in some areas buried A horizons have been discovered below a depth of 51 cm (20 inches) (Miller 1979). These terraces may potentially contain deeply buried cultural remains.

All the terraces above the LaDelle silt loam are formed in glacial till and are characterized by many surface boulders. These upper terraces are mantled by Forman series soils that have a solum typically 36 to 67 cm (14 to 26 inches) thick and are almost never flooded (Miller 1979).

Proposed lake YB-18 is located near the confluences of several small drainages on the colluvial slope of the coteau in T118N, R48W, sections 29 and 32, Grant County, South Dakota (Fig. 3). The drainages have headwaters on the coteau slope that indicates they are likely post-glacial and did not carry meltwater from stagnant ice.

The present-day creek bed meanders through a narrow floodplain underlain by LaDelle silt loam soil that is frequently flooded. The side slopes are composed primarily of New Ulm Till with many surface rocks and boulders exposed at the surface. Soils are very thin with an average depth of approximately 46 cm (18 inches)(Miller 1979). Cultural remains, if present, would only occur in the upper 46 cm (18 inches).

Proposed lake YB-25 is located in T118N, R49W, sections 8 and 9 in Grant County, South Dakota, about 3.2 kilometers

(two miles) west of the town of LaBolt (Fig. 3). The channel cuts through stagnation moraine deposited by Late Wisconsin age Des Moines Lobe ice and probably carried meltwater during deglaciation. At least one cut-off meander is present about three meters (10 feet) above the creek bed that indicates the stream has been down-cutting since deglaciation.

LaDelle silt loam is present along the creek, but the terraces are all formed in glacial till. Soil thickness is approximately 46 cm (18 inches) or less (Miller 1979). The land surface above the floodplain is very rocky and the valley sides contribute slope wash to the bottom land sediment. Cultural remains, if present, would only occur in the upper 46 cm (18 inches).

The present-day streams to be channelized (Fig. 3) are all relatively recent and probably did not carry any glacial meltwater. The streams have headwaters on the Coteau des Prairies and cross Late Wisconsin age ground moraine and outwash plains. Recent alluvium is found only on the present floodplains that have apparently been disturbed by past channelization and clearing projects. Drilling by the Soil Conservation Service has shown a maximum alluvial thickness of only three meters (10 feet) (Finkleson 1982, personal communication). Cultural remains may be present within the alluvium, but the area is subject to frequent flooding and would not have been a good area for any long term encampments. The lands have been drastically altered by channelization, drainage, and tiling of fields. Much of this area formerly consisted of marsh lands and seasonal lakes. Examination of the General Land Office (GLO) maps (ca. 1858, 1872, see Chapter 4) indicates several of the drainages within the survey boundaries have drastically altered courses due to cross-over flooding and channelization. Therefore, the locations of the present-day drainages to be channelized are not in channels that were occupied in the mid 19th century and during earlier periods. The existence of prehistoric sites along these drainages is very unlikely, since the present terraces and channels are of recent (post-Euro-American) origin.

Soils

The soils in Yellow Medicine County, Minnesota, and Grant County, South Dakota, have been completely classified and mapped (Hokanson 1981; Miller 1979). In addition, the soils of Lac qui Parle County, Minnesota, have been partially mapped and classified. The soils of Deuel County, South Dakota, have not yet been classified. The general soil types within the project areas, for which data are available and on which known archaeological sites occur, are shown in Table 2.

Climate

The climate of the project area is classified as a subhumid continental climate characterized by long, cold winters and hot summers. The mean annual temperature is about

Table 2

Sites and Soil Associations

Soil Symbol	Soil Type
94B	Terril loam, 2 to 6 percent slopes
878	*Calco-Du Page complex*
904C	Arvilla-Buse-Barnes complex, 6 to 12 percent slopes
969C2	Zell-Rothsay silt loams, 6 to 12 percent slopes, eroded
BeF	Buse-Forman loams, 20 to 40 percent slopes
BfD	Buse-Forman-Aastad loams, 0 to 2 percent slopes
FbA	Forman-Aastad loams, 1 to 6 percent slopes
FdB	Forman-Aastad loams, 3 to 9 percent slopes
FdC	Forman-Aastad loams, 4 to 15 percent slopes
FgC	Forman-Buse loams, 6 to 9 percent slopes
La	LaDelle silt loam
Lb	LaDelle silt loam, channeled

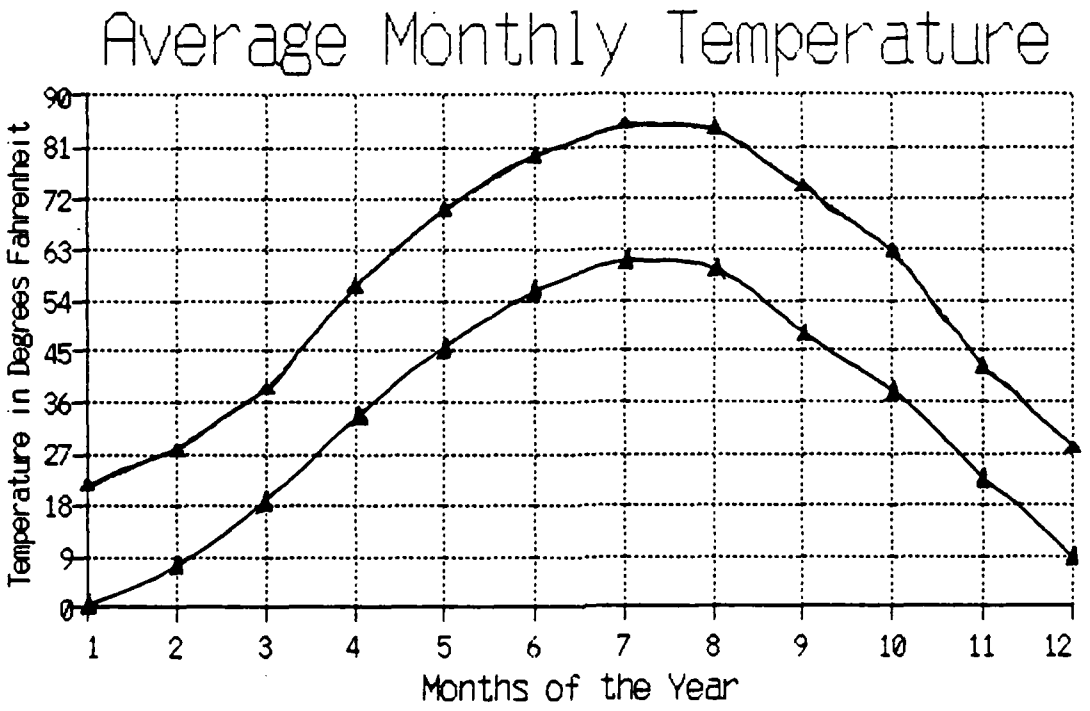
* * * *

45 degrees (F) (Fig. 4). South-southeasterly winds predominate in winter. April is the windiest month, with wind speeds averaging 22.5 kilometers per hour. The warmest months are April through October. The average length of the frost-free period, or growing season, is about 126 days. The average annual precipitation is about 56 to 64 cm, with most precipitation occurring from April through September (Fig. 5)(Hokanson 1981; Miller 1979), making human occupation of the lowlands and floodplains of major streams unlikely due to the likelihood of flooding during the summer months.

Past Climates

The reconstruction of past environments in a region is complex. One source used by archaeologists is the paleo-environmental record preserved at sites. This is a reliable method since floral and faunal remains are usually directly related to the prehistoric environment, but environmental reconstructions based on macro-faunal and macro-floral remains provide only general characteristics of the past environment. This method is more reliable when it is based upon the recovery of sensitive environmental indicators, such as pollen or gastropods. Fortunately, an environmental reconstruction based on an analysis of pollen, seeds and mollusks recovered from a sediment core is available for Pickerel Lake, Day County, South Dakota (Watts and Bright 1968) and pollen and plant macrofossils recovered from a sediment core from Little Millers Bay of Lake West Okoboji, Dickinson County, Iowa (Van Zant 1979; Baker and Van Zant 1980). Although Pickerel Lake is located northwest of the present study area and Lake West Okoboji is located to the southeast of the present study area, the environmental sequences obtained for these two lake areas may have some applicability to the present study area due to the close proximity of the areas.

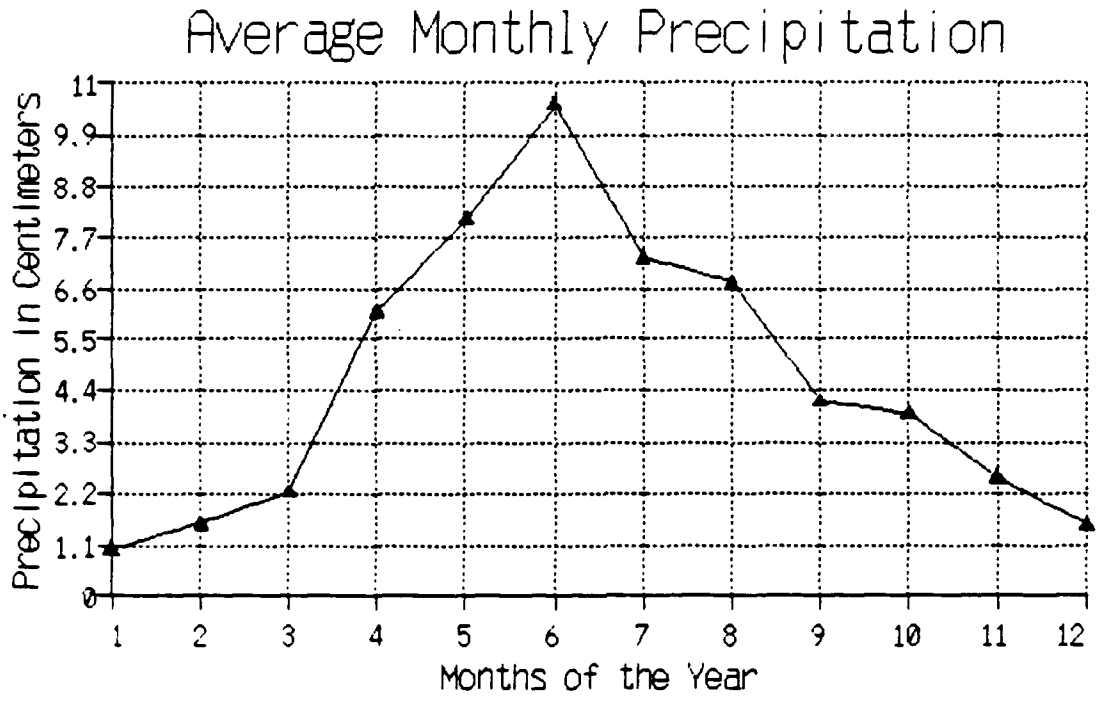
Pickerel Lake formed on the Coteau des Prairies prior to 10,670±140 B.P. Fossil pollen, spores, seeds and mollusks recovered from a core from the lake were used to reconstruct the vegetational history of the nearby upland and the limnological history of the lake (Watts and Bright 1968). The following environmental sequence was obtained from the analyses: (1) Prior to 10,670 B.P., the climate was cool and moist. A boreal forest existed around the lake and on the nearby upland. A few marshes occurred around the lake margin. (2) Between 10,670 and about 8000 B.P., the climate was warmer. A mixed deciduous forest occurred around the lake, in gullies and on the upland, but the tree cover on the upland was less dense and had numerous prairie-like openings. (3) Between approximately 8000 and 4000 B.P., the climate was warm, with recurring summer drought. The upland was dominated by blue-stem prairie. The deciduous forest was nearly absent, except for a few groves around the lake and/or in gullies. "Reed marshes were common around the lake margin, and during low water levels a rich herbaceous vegetation invaded the exposed lake sediments" (Watts and Bright 1968:855). (4)



1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
10 = October
11 = November
12 = December

This data is from Miller (1979), Soil Survey of Grant County, South Dakota.

Figure 4. Average monthly maximum and minimum temperatures.



1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
10 = October
11 = November
12 = December

This data is from Miller (1979), Soil Survey of Grant County, South Dakota.

Figure 5. Average monthly precipitation.

Since approximately 4000 B.P., the climate has been warm, but with more summer precipitation than during the preceding period. The upland and lake vegetation has been about the same as now. Prairie dominates the upland and an oak and ash deciduous forest is common around lakes and gullies. Reed marshes occur around the lake margin (Watts and Bright 1968).

The following environmental sequence for northwest Iowa was obtained from analysis of the pollen and plant macrofossils recovered from Lake West Okoboji (Van Zant 1979; Baker and Van Zant 1980): (1) Dating from prior to 10,000 B.P. to 9,000 B.P., the climate was cooler and moister than at present. A regional deciduous forest, dominated by oak, elm and ironwood, was widespread on the uplands. Small, dry forest openings were inhabited by prairie vegetation. A rich gallery forest was present in the river valleys. (2) Between 9,000 and 7,700 B.P., the climate was warmer and drier, similar to the present climate. The forest receded, while the forest openings expanded and became increasingly dominated by open prairie vegetation. Moderately diverse gallery forests occurred along river valleys. (3) Between 7,700 and 3,200 B.P., the climate was warmer and drier than the preceding period and the present. The upland deciduous forest disappeared. Prairie vegetation covered the uplands. Gallery forests survived in river valleys. (4) Since 3,200 B.P., the climate has been warm, but with more precipitation than during the preceding period. Gallery forests have probably become denser and richer in species.

Climatologists well know that the earth's atmosphere acts as a unit, and a major change in Europe cannot occur without a concurrent change in North America. The results of the changes are usually different. Analysis of radiocarbon dates and bog stratigraphy from Europe correlates with climatic changes in North America, even though the effects of the climatic changes were different. It is assumed that the atmosphere operated in a similar synchronous manner in the past (Bryson and Wendland 1967).

The current climate in the Plains is determined by three major air masses: (1) the Maritime Tropical which originates in the American tropics and the Gulf of Mexico; (2) the Mild Pacific which originates in the Pacific Ocean; and (3) the cold Arctic which originates at the Arctic Circle. It is the interaction of these three air masses that determines temperatures and precipitation of regions within the Plains (Bryson and Wendland 1967:274).

The warm Maritime Tropical air carries with it a large quantity of moisture. The cold Arctic air carries little moisture, but when it comes into contact with the warm, moist, Tropical air, precipitation occurs at the juncture of these two opposing air masses. The Mild Pacific air mass can be explained in terms of western topographic features. The western mountains are generally too high to allow the moist,

warm Pacific air to cross them. Instead, there are three dominant routes by which the Pacific air crosses the mountains. These three passages are the least difficult routes to cross through the mountains. The southern route is through what is approximately the border of the United States and Mexico. This route carries the greatest flow of Pacific air during the winter when the westerlies are far south. This air crosses southern California and Arizona into the southern Plains, known as the Llano Estacado. It is seasonally warm and very dry as it descends the east slope of the mountains.

The central air route follows the Columbia River Valley along the border between Oregon and Washington, the Snake River in southern Idaho, and through the basins in Wyoming. This air is mild and dry and drives a wedge between the Arctic and Tropical air masses as it enters the northern and central Plains. This dry air coincides with the most easterly extension of the grasslands into Ohio and Pennsylvania.

The northern Pacific air route has no broad passes through the Canadian mountains through which to flow. Rather, a vertical movement of the air occurs over the mountains. This air is mild and dry (Bryson 1980). The broad Mississippi Valley system allows unimpeded flow for the Arctic and Tropical air masses. The Pacific air drives a wedge, composed of the three varieties of westerlies, between the Arctic and Tropical air masses. The seasonal dominance and interaction of these five airflows determines the distribution of plants and animals within the Plains and is the determinant of climatic change (Bryson 1980).

Fauna

Mammals

The project area is situated within the tall grass prairie. Data on the early historic fauna of the project area furnished by early traveler reports and fur traders indicate that the tall grass prairie sustained a wide variety of animals. Table 3 lists the most prominent mammals found in the project region. Several animal species, particularly bison (*Bison bison*), pronghorn (*Antilocapra americana*), wolverine (*Gulo luscus*), badger (*Taxidea taxus*), black bear (*Ursus americanus*), and caribou (*Rangifer tarandus*), were once fairly common in the region but have subsequently been exterminated within the project area (Hall and Kelson 1959; Ernst and French 1976).

Amphibians and Reptiles

Several species of toads, frogs, turtles and snakes occur within the project area (Table 4)(Over 1923). There presently is no archaeological evidence that any of these species were utilized by the area's prehistoric peoples. Ethnographic accounts from neighboring areas, however, report the use of amphibians and reptiles by Plains peoples.

Table 3

Mammals Indigenous to the Region
Prior to Euro-American Settlement

Name	Common Name
Sorex cinereus	Masked shrew
Sorex palustris	Water shrew
Sorex arcticus	Arctic shrew
Microsorex hoyi	Pygmy shrew
Blarina brevicauda	Short-tailed shrew
Myotis lucifugus	Little brown myotis
Myotis keenii	Keen's myotis
Lasionycteris noctivagans	Silver-haired bat
Eptesicus fuscus	Big brown bat
Lasiurus borealis	Red bat
Lasiurus cinereus	Hoary bat
Sylvilagus floridanus	Eastern cottontail
Lepus townsendii	White-tailed jackrabbit
Tamias striatus	Eastern chipmunk
Spermophilus richardsonii	Richardson's ground squirrel
Spermophilus tridecemlineatus	13-lined ground squirrel
Spermophilus franklinii	Franklin's ground squirrel
Sciurus niger	Fox squirrel
Tamiasciurus hudsonicus	Red squirrel
Geomys bursarius	Plains pocket gopher
Perognathus flavescens	Plains pocket mouse
Castor canadensis	Beaver
Reithrodontomys megalotis	Western harvest mouse
Peromyscus maniculatus	Deer mouse
Peromyscus leucopus	White-footed mouse
Onychomys leucogaster	Northern grasshopper mouse
Clethrionomys gapperi	Gapper's red-backed mouse
Microtus pennsylvanicus	Meadow vole
Microtus ochrogaster	Prairie vole
Ondatra zibethicus	Muskrat
Synaptomys cooperi	Southern bog lemming
Zapus hudsonius	Meadow jumping mouse
Zapus princeps	Western jumping mouse
Erethizon dorsatum	Porcupine
Canis latrans	Coyote
Canis lupus	Gray wolf
Vulpes fulva	Red fox
Vulpes velox	Swift fox
Urocyon cinereoargenteus	Gray fox
Ursus americanus	Black bear
Procyon lotor	Raccoon
Mustela erminea	Ermine
Mustela rixosa	Least weasel
Mustela frenata	Long-tailed weasel
Mustela vison	Mink
Taxidea taxus	Badger
Spilogale putorius	Eastern spotted skunk

Name	Common Name
Mephitis mephitis	Striped skunk
Lutra canadensis	River otter
Felis concolor	Mountain lion
Lynx canadensis	Lynx
Lynx rufus	Bobcat
Cervus canadensis	Wapiti
Odocoileus hemionus	Mule deer
Odocoileus virginianus	White-tailed deer
Antilocapra americana	Pronghorn
Bison bison	Bison
Rangifer tarandus	Caribou

Table 4

Amphibians and Reptiles in the Project Area

Name	Common Name
Amphibians:	
Ambystoma tigrinum	Tiger salamander
Necturus maculosus	Waterdog
Bufo americanus	American toad
Acris gryllus	Cricket frog
Bufo cognatus	Great Plains toad
Bufo hemiophrys	Dakota toad
Bufo woodhousei	Rocky Mountain toad
Pseudacris nigrita	Chorus frog
Rana pipiens	Leopard frog
Reptiles:	
Chelydra serpentina	Snapping turtle
Chrysemys picta	Painted turtle
Eumeces septentrionalis	Prairie skink
Storeria dekayi	Brown snake
Storeria occipitomaculata	Red-bellied snake
Thamnophis radix	Plains garter snake
Thamnophis sirtalis	Red-sided garter snake
Coluber constrictor flaviventris	Eastern yellow-bellied racer
Heterodon nasicus	Western hog-nosed snake
Opheodrys vernalis	Smooth green snake
Pituophis melanoleucus	Bull snake

Fish

Table 5 lists the most important fish found in the region (Berra 1981). Fish may have provided a reliable food source for prehistoric inhabitants of the area.

Birds

A large variety of avifauna inhabits the project region. A large number of these are migratory waterfowl that are seasonal inhabitants. The project area is within the Mississippi River Corridor (Bellrose 1968) which starts on the Manitoba border in central North Dakota and stretches southeastward to southeast Iowa and northeast Missouri, bordering on the Mississippi River. From there it extends eastward to the Illinois River Valley where it turns south, terminating on the gulf coast of Louisiana (Bellrose 1968:8). The Mississippi River Corridor is used by approximately 2,500,000 dabbling ducks, of which 2,000,000 are mallards, 200,000 are pintails, 125,000 are baldpates, 70,000 are green-winged teals, 50,000 are gadwalls and 20,000 are shovelers.

The project area is within the Central Flyway (Missouri River Corridor) used by diving ducks. This flyway is different from the Central Flyway used by dabbling ducks. The Central Flyway for diving ducks enters North Dakota farther east than its dabbling duck counterpart. The flyway extends south to Kansas City, Missouri, and then divides three ways. Above Kansas City, this corridor is used by about 175,000 lesser scaups, 50,000 ring-necked ducks, 2,000 redheads, and lesser numbers of canvasbacks. Large numbers of Canada geese use the Red River of the North as a corridor to the Big Sioux River or to the Minnesota River at Big Stone Lake and then proceed to areas further south (Bellrose 1968). Table 6 lists birds indigenous to the project region. Some are only seasonal inhabitants (Bull and Farrand 1977).

Flora

Few early explorer and settler accounts mention the flora of the region in detail. Table 7 (Stephens 1973; Miller 1979) lists the woody plants found within the project region. Many of the plants and trees provide substantial quantities of foodstuff that could have been used by the indigenous human populations.

The project region is within the mixed grass prairie biota community that is the ecotone (Odum 1971:157) between the more easterly tall grass prairie and northern deciduous forest and the more westerly short grass plains. The Lac qui Parle and Yellow Bank River drainages have a deciduous hardwood forest community. Prior to cultivation, the Coteau des Prairies and Minnesota River lowland were covered almost entirely by grassland vegetation. This is confirmed by

Table 5

Fish Families in the Project Area

Family	Common Name
Petromyzonidae	Lampreys
Acipenseridae	Sturgeons
Lepisosteidae	Gars
Amiidae	Bowfins
Hiodontidae	Mooneyes
Salmonidae	Trouts, salmons
Esocidae	Pikes
Cyprinidae	Minnows, carp
Catostomidae	Suckers
Ictaluridae	North American Catfishes
Percopsidae	Troutperch
Gadidae	Cods
Cyprinodontidae	Killifishes, topminnows
Gasterosteidae	Sticklebacks
Cottidae	Sculpins
Percichthyidae	Percichthyids
Centrarchidae	Sunfishes, basses
Percidae	Perch, darters
Sciaenidae	Drums, croakers

Table 6

Birds Indigenous to the Project Area

Name	Common Name
Podiceps nigricollis	Eared Grebe
Charadrius melodus	Piping Plover
Sterna forsteri	Forster's Tern
Catoptrophorus semipalmatus	Willet
Limosa fedoa	Marbled Godwit
Numenius americanus	Long-billed Curlew
Ixobrychus exilis	Least Bittern
Nycticorax nycticorax	Black-crowned Night Heron
Botaurus lentiginosus	American Bittern
Larus pipixcan	Franklin's Gull
Chlidonias nigra	Black Tern
Anas crecca	Green-winged Teal
Anas americana	American Wigeon
Anas clypeata	Northern Shoveler
Oxyura jamaicensis	Ruddy Duck
Anas acuta	Pintail
Fulica americana	American Coot
Anas discors	Blue-winged Teal
Pelecanus erythrorhynchos	White Pelican
Podilymbus podiceps	Pied-billed Grebe
Phalaropus tricolor	Wilson's Phalarope
Recurvirostra americana	American Avocet
Porzana carolina	Sora
Rallus limicola	Virginia Rail
Capella gallinago	Common Snipe
Asio flammeus	Short-eared Owl
Circus cyaneus	Marsh Hawk
Cistothorus platensis	Short-billed Marsh Wren
Cistothorus palustris	Long-billed Marsh Wren
Xanthocephalus xanthocephalus	Yellow-headed Blackbird
Melospiza georgiana	Swamp Sparrow
Agelaius phoeniceus	Red-winged Blackbird
Ardea herodias	Great Blue Heron
Phalacrocorax auritus	Double-crested Cormorant
Anas platyrhynchos	Mallard
Aythya americana	Redhead
Aythya valisineria	Canvasback
Aythya collaris	Ring-necked Duck
Aythya affinis	Lesser Scaup
Lophodytes cucullatus	Hooded Merganser
Branta canadensis	Canada Goose
Actitis macularia	Spotted Sandpiper
Iridoprocne bicolor	Tree Swallow
Stelgidopteryx ruficollis	Rough-winged Swallow
Riparia riparia	Bank Swallow
Megaceryle alcyon	Belted Kingfisher
Bartramia longicauda	Upland Sandpiper

Name	Common Name
Charadrius vociferus	Killdeer
Tympanuchus cupido	Greater Prairie Chicken
Perdix perdix	Gray Partridge
Phasianus colchicus	Ring-necked Pheasant
Chordeiles minor	Common Nighthawk
Athene cunicularia	Burrowing Owl
Buteo lagopus	Rough-legged Hawk (winter)
Buteo swainsoni	Swainson's Hawk
Falco sparverius	Sparrow Hawk
Hirundo rustica	Barn Swallow
Petrochelidon pyrrhonota	Cliff Swallow
Melanerpes erythrocephalus	Red-headed Woodpecker
Carduelis tristis	American Goldfinch
Sturnella neglecta	Western Meadowlark
Lanius excubitor	Northern Shrike (winter only)
Lanius ludovicianus	Loggerhead Shrike
Tyrannus tyrannus	Eastern Kingbird
Sialia sialis	Eastern Bluebird
Tyrannus verticalis	Western Kingbird
Euphagus cyanocephalus	Brewer's Blackbird
Chondestes grammacus	Lark Sparrow
Spizella pusilla	Field Sparrow
Spizella pallida	Clay-colored Sparrow
Ammodramus savannarum	Grasshopper Sparrow
Spiza americana	Dickcissel
Plectrophenax nivalis	Snow Bunting
Passerculus sandwichensis	Savannah Sparrow
Calamospiza melanocorys	Lark Bunting
Pooecetes gramineus	Vesper Sparrow
Calcarius ornatus	Chestnut-collared Longspur
Dolichonyx oryzivorus	Bobolink
Eremophila alpestris	Horned Lark
Zenaida macroura	Mourning Dove
Columba livia	Rock Dove
Progne subis	Purple Martin
Chaetura pelagica	Chimney Swift
Colaptes auratus	Common Flicker
Icterus galbula	Northern Oriole
Turdus migratorius	American Robin
Dumetella carolinensis	Gray Catbird
Junco hyemalis	Dark-eyed Junco
Cyanocitta cristata	Blue Jay
Sayornis phoebe	Eastern Phoebe
Archilochus colubris	Ruby-throated Hummingbird
Troglodytes aedon	House Wren
Toxostoma rufum	Brown Thrasher
Bombycilla cedrorum	Cedar Waxwing
Molothrus ater	Brown-headed Cowbird
Passer domesticus	House Sparrow
Spizella passerina	Chipping Sparrow
Melospiza melodia	Song Sparrow
Sturnus vulgaris	Starling
Quiscalus quiscula	Common Grackle

	Common Name
hynchos	Common Crow
chia	Yellow Warbler
chas	Common Yellowthroat
cilla	American Redstart
phthalmus	Rufous-sided Towhee
nea	Common Redpoll (winter only)
na	Lazuli Bunting
ea	Indigo Bunting
llii	Willow Flycatcher
ropthalmus	Black-billed Cuckoo
	Screech Owl
cus	Saw-whet Owl
erii	Cooper's Hawk
rus	Broad-winged Hawk
sis	Red-tailed Hawk
	Turkey Vulture
cens	Downy Woodpecker
sus	Hairy Woodpecker
rius	Yellow-bellied Sapsucker
nsis	White-breasted Nuthatch
aris	Brown Creeper
llus	Black-capped Chickadee
s	Red-eyed Vireo
	Warbling Vireo
mus	Least Flycatcher
s	Eastern Wood Pewee
itus	Great Crested Flycatcher
scens	Veery
pillus	Ovenbird
a	Black-and-white Warbler
	Long-eared Owl
us	Great Horned Owl
atus	Sharp-shinned Hawk
ilis	Goshawk
is	Red-breasted Nuthatch
espertina	Evening Grosbeak
pureus	Purple Finch
tra	Red Crossbill
ra	White-winged Crossbill
eator	Pine Grosbeak
a	Golden-crowned Kinglet
rulus	Bohemian Waxwing
s	Pine Siskin
	Black-billed Magpie
us	Horned Grebe
	Gadwall
rdii	Baird's Sparrow
s	Sandhill Crane
canus	Yellow-billed Cuckoo
hs	Yellow-throated Vireo
s	Orchard Oriole

Table 7

Woody Plants in the Project Area
from Stephens 1973 and Miller 1979)

Name	Common Name
Salix amygdaloides	Peach-leaved willow
Salix exigua	Sandbar willow
Populus alba	Silver poplar
Populus deltoides	Cottonwood
Quercus macrocarpa	Bur oak
Ulmus americana	American elm
Celtis occidentalis	Hackberry
Ribes americanum	Black currant
Ribes missouriense	Wild gooseberry
Rosa suffulta	Prairie rose
Prunus americana	Wild plum
Prunus virginiana	Choke cherry
Amorpha fruticosa	False indigo
Rhus glabra	Smooth sumac
Toxicodendron radicans	Poison ivy
Acer negundo	Box elder
Parthenocissus vitacea	Woodbine
Vitis riparia	Riverbank grape
Tilia americana	Basswood, linden
Oenothera serrulata	Evening primrose
Fraxinus pennsylvanica	Green ash
Lonicera tatarica	Tartarian honeysuckle
Symphoricarpos occidentalis	Wolfberry
Viburnum lentago	Sheepberry, wild raisin
Ulmus rubra	Red elm
Crataegus chrysocarpa	Hawthorn
Psedera quinquefolia	Virginia creeper
Ostrya virginiana	Ironwood
Symphoricarpos albus	Snow berry

examination of the General Land Office (GLO) maps (see Chapter 4). The grasslands are dominated by herbaceous plants. Herbaceous plants are composed of two main groups, grasses and forbs, with grasses being dominant.

The grasses are of two or more heights, with tall grasses attaining heights of 50 to 150 cm (20 to 59 inches), and short grasses attaining heights of 5 to 40 cm (2 to 16 inches). The mixed grass prairie contains a mixture of both major grasses. The dominant plants are porcupine grass, prairie dropseed, little bluestem, side-oats grama, Junegrass, western wheatgrass, plains muhly, panic grass, sedge, green needlegrass, needle-and-thread grass, sand dropseed, slender wheatgrass, galleta, and purple three-awn. Forbs include broomweed, scruf-pea, sunflowers, goldenrods, and ragweed.

Prolonged drought causes the mixed grasses to be overcome or dominated by short grasses. Excessive precipitation causes the mixed grasses or short grasses to become dominated by the tall grasses. These flora changes, due to changing climatic patterns, are also reflected in the fauna associations (Shelford 1978:334-340). A large number of plant species producing a diverse range of food types are available for exploitation in varying densities during different seasons throughout the region.

The Environment During Field Work

The field work portion of this project was conducted during July, August, and September. Sites were recorded in cultivated fields, pastures, and wooded areas. Grass cover reduced the visibility of small prehistoric campsites. These small sites, of low visibility, are most visible in barren ground, such as cultivated fields, cattle paths, and rodent backdirt piles.

Summary

The project region provided the indigenous human inhabitants with a variety of plant and animal foods. Many of the food resources were available seasonally, and should be reflected in the utilization of the region by prehistoric peoples. The region, located in the mixed grass prairie, has undergone several major post-glacial climatic episodes that altered the local flora and fauna resources. These past climatic events undoubtedly influenced the peoples utilizing these resources.

It is postulated that during 6,500 to 3,100 B.C. the central and northern Plains were subjected to drought conditions that had a direct impact upon the indigenous human and animal populations. The grasslands probably became dominated by short grasses. Wedel (1964) postulates a virtual abandonment of the short grass Plains by human populations, while Reeves (1973) and Frison (1975) suggest the Plains did support viable human populations. Reeves believes that a

focal bison hunting economy prevailed, while Frison postulates a reduction in the human population and adaptation to a more diffuse economy.

Lehmer (1970:118) postulates a correlation between the climatic change that occurred from A.D. 270 to 1190, which provided a favorable climate for maize agriculture in the Plains, and the first appearance of horticultural villages in South Dakota at about A.D. 900. Lehmer (1970:121) also postulates a correlation between the more severe (drier) climate from A.D. 1250 to 1450, which was unfavorable for maize agriculture, and the retraction of village territories and abandonment of many Middle Missouri villages. He also postulates a correlation between the more favorable climate from A.D. 1450 to 1550 and the extensive occupation of the Missouri River Valley in South Dakota by village societies. A correlation is postulated between the deteriorating climate (cooler) from A.D. 1550 to 1850 and the concentration of large fortified villages along the Missouri River in southern North Dakota (Lehmer 1970:125). During the past 130 years, the climate in the Plains has been characterized by the return of strong westerlies. There has been less precipitation, with the 51 cm (20 inch) annual precipitation cline shifting from eastern Wyoming and Montana in 1915 to central North Dakota by 1936 (Wedel 1961:84).

CHAPTER 3

Prehistoric and Historic Overviews

Introduction

The Yellow Bank and Lac qui Parle River watersheds are located within the Plains Indian cultural region defined by Wedel (1961) as the Northeastern Periphery, but this designation is misleading, suggesting that this subarea of the Great Plains was peripheral to important developments occurring on the rest of the Great Plains. Recently, investigations within this subarea have indicated that, in addition to having cultural affiliations with surrounding regions, it was a locus of its own cultural developments as well. As a result, it has been suggested that this subarea should now be referred to as the Northeastern Plains (Anfinson 1982b:67; Fox 1982) and this designation has been adopted in the present study. Prehistoric and historic cultural data from this region will be presented to provide an overview of the cultural manifestations of northeastern South Dakota and southwestern Minnesota (Table 8).

Culturally, the early inhabitants of the Northeastern Plains (i.e., Paleo-Indian and Archaic peoples) were probably band-level hunters and gatherers who shifted residence in response to available food resources and whose sites are characterized by tools indicating specialized activities of short duration and low visibility. Woodland and later prehistoric groups probably tended to be somewhat more sedentary. Areas of greater topographic relief would have been the most favorable for human occupation. Tool assemblages often lack temporally diagnostic tools. Projectile points and pottery (pottery occurs very late, temporally) provide the most information for assigning temporal placement of site occupation.

Paleo-Indian Period (10,000 B.C. to 6,000 B.C.)

The Paleo-Indian period, which is poorly represented in the Northeastern Plains, consists of three complexes. The earliest is the Llano complex (10,000 B.C. to at least 9,000 B.C.) which is characterized by the fluted Clovis projectile point which has been found in association with now-extinct Pleistocene megafauna, such as mammoth. No Clovis sites have been recorded in the project area, although surface finds of Clovis points have occurred in eastern South Dakota (Lass 1977:2) and in southern and central Minnesota (Johnson 1978:5).

The methods employed by the nomadic mammoth hunters in killing mammoth can only be conjectured. Once a young, old, or sick animal was separated from the herd, it could have been dispatched by a group of experienced hunters armed with Clovis-tipped spears. Animals may also have been trapped at water holes, in marshes, in broken terrain, or at slippery stream crossings and successfully attacked. There is no

Table 8

Cultural Historical Sequence for the Project Area

B.C./A.D.		
1800	Euro-American settlement	
1700	Dakota	
	Oneota Tradition (A.D. 1200-1700)	Mississippian
	Cambria phase (A.D. 1000-1300)	
	Initial Middle Missouri variant (A.D. 900-1400)	
	Great Oasis (A.D. 900-1250)	Plains Village
1000		
	Lake Benton phase (A.D. 800-1300[?])	
	St. Croix phase (A.D. 300-800)	Plains Woodland
A.D. 1	Fox Lake phase (200 B.C.-A.D. 900)	
500		
		Plains Archaic
5000		
	Plano	
		Paleo-Indian
	Folsom	
10,000	Llano	

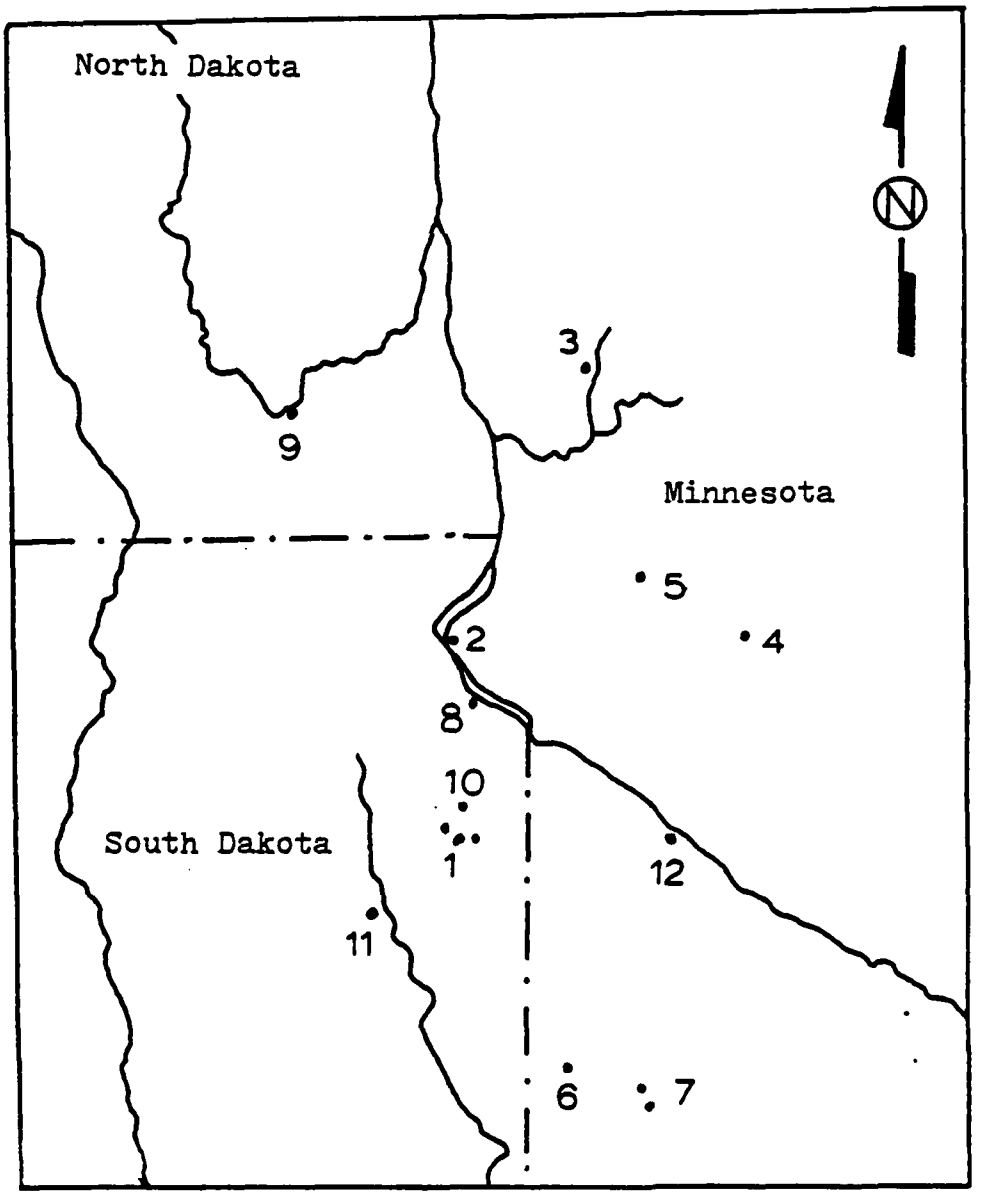
indication of the use of poison, pits, fire, or communal drives in the procurement of mammoth (Wedel 1961:59). The meat diet of the mammoth hunters was probably supplemented with nuts, berries and tubers. Due to climatic change and/or overkill, mammoth became extinct and were replaced by bison as the main meat source for prehistoric Plains peoples.

The second Paleo-Indian complex is the Folsom complex (9,000 B.C. to 8,000 B.C.). Definitions of this complex are based on the temporally diagnostic Folsom and, possibly, Midland projectile point styles and their association with now-extinct forms of bison. Surface finds of Folsom points have occurred in eastern South Dakota (Lass 1977:2; Haug 1981) and in southern and central Minnesota (Johnson 1978:5), but no Folsom sites have been recorded in the project area.

The third Paleo-Indian complex is the Plano complex (8,000 B.C. to 6,000 B.C.). This complex is defined by the presence of temporally diagnostic Eden, Plainview, Alberta, Hell Gap, Agate Basin, Scottsbluff, Browns Valley, and Angostura projectile point styles and their association with modern bison (Bison bison). Surface finds of Plano projectile points are fairly common in the area (Lass 1980b:22). An Alberta point was recovered from the Ries site (39DE7)(Fig. 6) in northwestern Deuel County, South Dakota (Haug and Sterner 1978). Plano points were recovered from the Winter site (39DE5)(Haug 1981:2) and the Milton site (39DE9)(Fig. 6) in extreme eastern Deuel County, South Dakota (Lass 1980a:32).

The Browns Valley Man site (21TR5)(Jenks 1934, 1935, 1937)(Fig. 6), located at Browns Valley, Minnesota, has been assigned to the Plano complex. It has been dated to about 6,000 B.C. The site yielded Browns Valley points, found in association with a male skeleton buried in a pit dug into a gravel bar that formed during the Tintah beach stage of Lake Agassiz. The pit fill contained little humus and the earth covering the pit appeared to be undisturbed, suggesting the burial occurred after the outlet channel that drained Lake Agassiz to the south during the Tintah stage ceased to be active but before much soil accumulated on the gravel bar (Johnson 1962b:160).

A second very old human skeleton (21OT3)(Fig. 6) has been recovered near Pelican Rapids in Otter Tail County, Minnesota. The remains are those of a teenaged girl named "Minnesota Man" (Jenks 1932, 1933, 1935, 1937). The skeleton was found almost three meters (10 feet) below ground surface, within the horizontal laminated layers of silt deposited in now-extinct Glacial Lake Pelican. An elk antler tool and a marine shell pendant were also recovered with the skeleton. Controversy surrounds the age of Minnesota Man. Geology and the extreme depth at which the remains were recovered suggest an early age. Attempts at radiocarbon dating the remains have been inconclusive (Wilford 1955:130). An Archaic period date



1. Ries (39DE7)
   Milton (39DE9)
   Megard (39DE11)
2. Browns Valley
   Man Site (21TR5)
3. Minnesota Man (21OT3)
4. Pelican Lake (21PO2)
5. Peterson Lake (21GR4)
6. Pederson (21LN2)
7. Big Slough (21MU1)
   Great Oasis (21MU2)
8. Hartford Beach
   Village (39RO5)
9. Biesterfeldt (32RM1)
10. Winter (39DE5)
11. 39BK8
12. 21YM35

Figure 6. Map showing the locations of sites discussed in text.

was obtained from a carbon sample that was smaller than the minimum amount required for accuracy and which was originally contaminated by shellac (Johnson 1962b:160). Based on geology and the extreme depth of the remains, a Paleo-Indian age is accepted for Minnesota Man in the present study.

Bison was the main source of meat for Folsom and Plano peoples, although other species, such as deer, elk, and prong-horn antelope, may also have been important. In a recent examination of Paleo-Indian bison procurement practices Nicholson (1982) concludes that the strategies employed consisted of the stalking, ambushing, or small-scale surrounding of bison by small hunting groups. Communal mass-killing of bison, accomplished by stampeding a bison herd over a cliff or into a natural entrapment, such as a deep-sided ravine, where the bison were then killed, probably did not develop until the Archaic period. Fire may have been employed in the drives, although its importance is the subject of much controversy. The meat diet of the Paleo-Indian bison hunters was supplemented with wild plant foods, such as nuts, berries and tubers.

Plains Archaic Period (6,000 B.C. to 500 B.C.)

During the end of the late Paleo-Indian period a great variety of projectile point styles appear. The Archaic period is broadly characterized by stemmed and side-notched points and by the appearance of ground and pecked stone tools. Archaic peoples continued to follow a nomadic way of life, traveling seasonally to utilize different food resources in various localities (Johnson 1978:9). The subsistence pattern became more diffuse, reflecting a greater exploitation of local environments.

It is generally accepted that the major emphasis was still on the procurement of bison, although smaller game animals, fish, and wild plant foods increased in dietary importance from the Paleo-Indian period, but this view has recently been challenged. Analysis of cultural material from site 21YM35 (Fig. 6), located south of Granite Falls, Minnesota, suggests that no broad or sweeping generalizations concerning subsistence patterns are appropriate for the Prairie-Lakes region, which includes the present project area, during the Plains Archaic (Dobbs 1979:65). Dobbs (1979: 67) cautions against interpreting prehistoric diet simply in terms of meat consumption. The nutritional needs and economic decisions of the population need to be considered. Since sites within the Prairie-Lakes region are generally located in close proximity to a variety of environmental zones (e.g., upland prairie, slope forest, floodplain forest, marsh, slough, streams, small upland lakes, lake margins), a focal bison hunting economy is not evidenced. Rather, a diffuse economic system involving use of a broad variety of resources probably occurred within the Prairie-Lakes region during the Plains Archaic (Dobbs 1979:71-74).

Scattered surface finds of Archaic period projectile points have been reported from sites, such as the aforementioned Ries site (39DE7)(Haug and Sterner 1978), throughout southwestern Minnesota and northeastern South Dakota. The Pelican Lake site (21PO2)(Fig. 6) is an Archaic burial site situated on a glacially formed gravel knoll adjacent to the northeast corner of Pelican Lake. The remains of six skeletons and a few associated artifacts were recovered from four shallow burial pits dug into the gravel subsoil. Each pit was lined with red ochre. The artifacts are suggestive of an Eastern Archaic site association (Johnson 1962a). The Peterson Lake site (21GR4)(Fig. 6), situated near the west edge of Peterson Lake, contained a single primary burial in a pit dug into gravel and covered with boulders. Based on the burial mode and associated artifacts, this site has been assigned to the Archaic with a possible Red Ochre cultural affiliation (Goetzinger and Johnson 1967). Within the upper Minnesota River subbasin project area, Archaic manifestations are often found on sites that also have a Woodland component (e.g, the Singsass Slough site [39DE13], the Megard site [39DE11]).

Stone circles are common archaeological phenomena on the northern Great Plains. "Their range extends from just west of the Rocky Mountains to western Minnesota and northwest Iowa, south into Nebraska and north into Saskatchewan and Alberta" (Hovde 1982:33). A number of these stone circles have been assigned to the Archaic period on the basis of projectile point styles and radiocarbon dates (Quigg 1979, 1981:54-60; Mulloy 1954:63; Brasser 1982:314-318; Frison 1978:51; Larson 1981). These stone circles have been interpreted as having been constructed in conjunction with circular lodges or tipis (Frison 1978:51; Kehoe 1958; Mulloy 1960), although some may be the remains of corral structures and other forms of animal traps (Malouf 1960; Moomaw 1960). Several stone circle sites recorded in the region (Lass 1980a) may have Archaic affiliations.

Woodland Period (500 B.C. to A.D. 1000)

The Woodland period in southwestern Minnesota and northeastern South Dakota is characterized by the appearance of pottery, burial mounds, and possibly limited horticulture. It is during this time that the atlatl was being replaced by the bow-and-arrow (Reeves 1970). The basic subsistence-settlement pattern of the Woodland groups of southwestern Minnesota probably developed in the Late Archaic and persisted apparently unchanged throughout the Woodland period (Anfinson 1982a:54, 67-68, 1982b:75). Warm season habitation sites of this period are located on islands or peninsulas in shallow lakes, while winter sites are probably located in wooded river valleys (Anfinson 1982a:53, 67; Shane 1982:48). Bison was probably the primary food resource, although recent analyses (e.g., Anfinson 1982a; Shane 1982) indicate fish, small mammals and plants may have been more important subsistence resources than previously believed.

The earliest Woodland complex within the project region is the Fox Lake phase (200 B.C. to A.D. 900). Projectile point styles are generally stemmed and side-notched varieties. Fox Lake ceramics consist of incised, trailed, and vertical or horizontal cordmarked, bossed or punctated conoidal-shaped pottery vessels having thick walls (Wilford 1955:133; Hudak 1978; Anfinson 1979:73-79). The ceramics may have been influenced by developments in Illinois (Hudak 1974: 24, 1978). The burial pattern is not known. The Pedersen site (21LN2)(Fig. 6), located within the upper Minnesota River region, has a Fox Lake component (Hudak 1974). The Winter site (39DE5)(Fig. 6) also contains a Fox Lake component (Haug 1981).

The Fox Lake phase is partially contemporaneous with the Lake Benton phase (A.D. 800 to A.D. 1300 [?])(Anfinson 1982b: 75). Although ceramic changes are, at present, the only recognized distinguishing criteria between the Fox Lake and Lake Benton phases, the introduction of burial mounds may also be a possible distinguishing characteristic (Anfinson 1982b:75). Lake Benton phase ceramics are characterized by thinner-walled vessels exhibiting cordwrapped stick impressed exterior decoration. Trailed decorations disappear and the use of bosses and punctates decreases. Vessel shape is more globular with rounded shoulders and conoidal bases (Anfinson 1979:109-110, 1982b:75). Burial mounds may have initially occurred during this phase or shortly before. As a result, many of the mound groups in southwestern Minnesota and northeastern South Dakota may be associated with the Lake Benton phase. Projectile points are generally side-notched and corner-notched triangular varieties. No data concerning habitation structures are available. It is not known when the Lake Benton phase ended. At the Big Slough site (21MU1)(Fig. 6), Lake Benton, Great Oasis and Oneota ceramics are intermixed in the upper levels of the site (Anfinson 1982a, 1982b:75). This suggests several possibilities: (1) Lake Benton phase peoples may have coexisted with the horticultural groups or (2) they may have been transformed into the horticultural groups (e.g., Great Oasis, Oneota) that are recognized in the region. The Winter site (39DE5)(Haug 1981) and the Megard site (39DE11)(Fig. 6), located within the upper Minnesota River region, contain Lake Benton phase components.

The Onamia ceramic type is a late Middle Woodland or early Late Woodland manifestation from central Minnesota that occasionally appears in southwestern Minnesota where it is associated with the Lake Benton phase (Anfinson 1979:149). In addition, it is closely related to St. Croix ceramics. Onamia ware consists of cordwrapped stick impressed and dentate stamped vessels with rounded shoulders and conoidal bases. Projectile points are primarily side-notched varieties but some unnotched triangular forms occur also. Onamia-like ceramics have been recovered from the aforementioned Pedersen

site (21LN2).

Plains Village Period (A.D. 1000 to A.D. 1350)

One of the earliest Plains Village complexes is the Great Oasis phase (A.D. 900 to A.D. 1250). It was originally defined by Wilford (1945, 1955) on the basis of investigations conducted at the Great Oasis site (21MU2)(Fig. 6), Murray County, southwestern Minnesota, but it is more common in South Dakota, Iowa, and Nebraska than in Minnesota (Anfinson 1982b:76). It is centered in northwestern Iowa. Although Great Oasis developed out of a Woodland base (Anderson 1975:34; Anfinson 1979:88), it has been suggested that this complex is related to the Initial Middle Missouri (Johnson 1969; Henning and Henning 1978).

Great Oasis house structures are rectangular in outline. Projectile points are unnotched or side-notched triangular varieties. Great Oasis pottery in Minnesota is characterized by high rim, globular vessels with trailed or plain, smoothed rims (Wilford 1945:35-36). In Minnesota, subsistence-settlement patterns are similar to those of the preceding and contemporaneous Woodland phases (Anfinson 1979:87, 1982b:76). Although there is no direct evidence for Great Oasis agriculture in Minnesota, bison scapula hoes recovered from non-Minnesota sites are suggestive of a mixed agricultural/hunting-gathering subsistence economy. Site 39BK8 (Fig. 6), located in Oakwood Lakes State Park, contains a Great Oasis component (Alex 1980). Great Oasis ceramics have been recovered from the Pedersen site (21LN2) and the Winter site (39DE5).

The Cambria phase (A.D. 1000 to A.D. 1300) is contemporaneous with Great Oasis. Generally, Cambria sites are found on high terraces of the upper Minnesota River (Johnson 1961:54). They are characterized by bell-shaped storage pits, unnotched and side-notched triangular points, snub-nosed thumbnail scrapers, sandstone abraders, ceramic gaming pieces, scapula hoes, clay elbow pipes, and quantities of bone, shell and corn refuse (Wilford 1945:32-34; Anfinson 1979:51). Cambria pottery vessels are predominantly grit tempered jars with rounded bodies and well-defined shoulders that have been decorated with incised or trailed designs. Decoration is restricted to upper portions of the vessels (Wilford 1945:36-38; Knudson 1967; Shay 1966). Cambria burial mounds, which are characteristically flat-topped, have yielded multiple primary burials with associated grave goods. Woodland, Mississippian, and Initial Middle Missouri influences are suggested (Wilford 1945, 1955; Knudson 1967; Johnson 1961). Cambria ceramics are scattered throughout southwestern Minnesota.

Subsistence was based on maize agriculture, hunting, and gathering. Watrall (1974) has suggested that Cambria peoples initially possessed an intermediate subsistence pattern having segments (e.g., maize horticulture and bison hunting)

on which increased dependence could be placed, if necessary. Later, due to ecological and cultural factors, the Cambria intermediate type subsistence pattern shifted to a focal subsistence type dependent on bison hunting.

The Initial Middle Missouri variant (A.D. 900 to A.D. 1400) was one of the first village cultures to appear in South Dakota. Initial Middle Missouri village sites occur most frequently in the southeastern two-thirds of South Dakota along the Big Sioux River, James River, and Missouri River valleys. Villages consist of rectangular houses with lengths typically more than one and one-half times their widths. House sizes vary, with the most common being approximately 12 by 6 meters (35 by 25 feet). House floors are found one meter or greater below present ground surfaces and raised benches are sometimes found at one or both ends of the floor. Interior firepits are shallow basins located near the entrance. Cache pits occur frequently in the house floors. Entrances are located at the south end of the houses and consist of narrow, roofed chambers extending two to three meters or more beyond the end of the houses (Lehmer 1971).

Village sizes vary with 20 to 30 houses being most common. Most houses are arranged side by side in more or less regular rows. Some villages have a central open space, and fortifications may or may not be present. Fortified Initial Middle Missouri villages utilized natural topographic features, such as bluffs, for protection on two or three sides and a simple ditch across the other sides. Additional protection was provided by a palisade erected along the inner edge of the fortification ditches (Lehmer 1971).

Burial customs are not known for the Initial Middle Missouri variant. It is possible that inhumations were made some distance from the villages. The mass burial of about 500 individuals within the fortification ditch at the Crow Creek site (39BF11)(Zimmerman et al. 1981) appears to be a unique case. It is possible, however, that other Middle Missouri variant sites with fortification ditches may also contain mass burials as a result of attack.

The pottery from sites assigned to the Middle Missouri Tradition have coarse, granular, rather porous paste heavily tempered with crushed granite. Nearly all of the vessels are jars. Cord-roughened bodies occur in the Initial Middle Missouri sites. The majority of vessels of the Middle Missouri Tradition have either flared or S-rims. Handles are extremely rare. Projectile points are small, light, triangular in outline and are either unnotched or side-notched forms. A wide variety of chipped and ground stone tools occur. Bone tools and ornaments are common (Lehmer 1971).

Hartford Beach Village (39RO5)(Fig. 6) is a fortified village situated on the bluffs overlooking Big Stone Lake.

Although no earthlodge depressions have been discerned and very little cultural material has been recovered from the site, it has been assigned to the Initial Middle Missouri (Sigstad and Sigstad 1973:226-229; Haug 1981). This designation is confirmed by two radiocarbon dates, A.D. 1120 (WIS-1368) and A.D. 1300 (WIS-1370)(Haug 1983).

Mississippian Period (A.D. 1000 to A.D. 1700)

By about A.D. 1350, early Plains Village groups disappeared from Minnesota and eastern South Dakota. They may have been displaced by Oneota peoples of the Mississippian period. The Oneota Tradition is represented in the project area by the Blue Earth phase (A.D. 1000 to A.D. 1600). Most of the sites assigned to this phase are semi-sedentary villages situated on the floodplains of small tributary rivers (Anfinson 1979:39). Although no house structures have been defined, numerous cache pits have been discerned. Subsistence was based on maize agriculture and a broad-based hunting-gathering economy. The phase is characterized by shell tempered ceramic vessels and unnotched triangular points (Wilford 1941:235, 1945:33,35). Primary and secondary burials have been found in cemeteries near major Blue Earth villages (Anfinson 1979:39). Blue Earth ceramics have been recovered from the Pedersen site (21LN2).

Proto-Historic Period (A.D. 1600 to A.D. 1750)

The ancestral Cheyenne probably dwelt in or near the project area during the Proto-Historic period. According to oral tradition (Weist 1977:9-17; Grinnell 1972, vol. 1:4; Wood 1971:51), these people, an Algonquian-speaking group, originally lived along the shores of large lakes within the woodlands between the Great Lakes and Hudson Bay. They eventually migrated to present-day Minnesota where, by about 1650, they were already living in the upper Mississippi region. By 1675, they moved to the upper Minnesota River area, near the Yellow Medicine River, where they built a fortified earthlodge village, practiced horticulture, and hunted bison. A 1688 map made by Jean-Baptiste Louis Franquelin, based on information supplied by the Dakota, indicates the Cheyenne were still living near the Yellow Medicine River but, shortly afterward, they built another fortified earthlodge village between Big Stone Lake and Lake Traverse.

Franquelin made another map about 1700 indicating that the Cheyenne had left the Minnesota River Valley and were living on the Sheyenne River in present-day North Dakota. They occupied this village until about 1770 or 1790. Although this village is commonly believed to be the Biesterfeldt site (32RM1)(Fig. 6), a fortified earthlodge village, its cultural identification has been questioned (Wood 1955, 1971). Based on artifact analyses, Wood (1971:59-60, 69-70) has suggested that the Biesterfeldt site is part of the Post-Contact Coalescent of the Plains Village pattern, closely related to villages on the Missouri River. During their stay on the

Sheyenne River horticulture continued to be important, but the Cheyenne also became heavily dependent on bison. They eventually abandoned the Sheyenne River area, possibly forced out by the Chippewa and/or Dakota.

The Cheyenne moved to the Missouri River and eventually onto the High Plains. It has been pointed out that the movements of the Cheyenne to the Missouri and beyond probably did not occur as a tribal body. Rather, the movements were those of individual camps or villages (Wood 1971:70; Grinnell 1972, vol. 1:14-15, 21-22). "Settlements on the Minnesota River and on the Missouri may thus have been contemporaneous with the village or villages on the Sheyenne River" (Wood 1971:70).

The following historical overview briefly summarizes historical events in the Minnesota Valley that had a general effect on the present study area. The individual site reports (Chapter 5) relate the historical information known about each specific historic site, with reference to the site's relationship to the overview.

The Dakota

The Dakota or Sioux Tribe is divided into three cultural and dialectic subdivisions: (1) the Eastern or Santee division with the Dakota dialect, (2) the Middle or Wichiyela division with the Nakota dialect, and (3) the Western or Teton division with the Lakota dialect. Prior to white contact, the Dakota were Woodland Indians occupying the southern two-thirds of present-day Minnesota and adjacent areas of the surrounding states. At that time they were divided into seven bands or "council fires": (1) Mdewakanton, (2) Wahpekute, (3) Wahpeton, (4) Sisseton, (Eastern or Santee division, (5) Yankton, (6) Yanktonai, (Middle or Wichiyela division), and (7) Teton, (Western division).

The Dakota were first mentioned by French explorers and missionaries in about 1640. The first documented, direct white contact with the Dakota occurred in the spring of 1660 when two French explorers, Pierre Esprit Radisson and Medard Chouart, Sieur des Groseilliers, met a group of Santee Dakota and 17 additional Indian nations at a rendezvous in northwestern Wisconsin or eastern Minnesota. At this time, some Dakota groups had already left the woodlands and were living on the prairie (Radisson 1943:217-220). Father Louis Hennepin journeyed to the upper Mississippi area in 1680 where he was captured by Santee Dakota and taken to their village on Mille Lacs Lake. During his stay with the Santee he learned of the Tinthonha (Teton) Dakota, people of the prairie (Hennepin 1938:91-92).

These incidents suggest that prior to 1660 some of the Dakota, probably the Teton band, had made or were in the process of making the transition from a woodlands to a Plains group. On Franquelin's 1697 map, Dakota villages are located

on eastern and western tributaries of the Mississippi River between the mouth of the Minnesota River and the Crow Wing River, on Mille Lacs Lake, and along the Minnesota River as far west as Big Stone Lake (Wedel 1974:163-164). In addition, as the result of contact with the Dakota in the 1680's and 1690's, Le Sueur was aware of Dakota groups roaming the plains and prairies between the Missouri and upper Mississippi rivers (Wedel 1974:165).

The Teton band moved south and westward, briefly occupying the Lake Traverse area before moving into the Missouri River Valley. This band was followed by the Yankton and Yanktonai bands. Eventually, the Santee bands moved southward, abandoning the northern lake area. The Sisseton and Wahpeton moved to the Minnesota River Valley and adjoining plains. The Wahpekute moved onto the prairies south of the Minnesota River. The Mdewakanton settled around the mouth of the Minnesota River, eventually occupying the lower Minnesota River and the area along the Mississippi River from its junction with the Minnesota to the mouth of the Upper Iowa River.

It has been suggested that the Santee Dakota were forced out of their old homelands by the Chippewa (Robinson 1904; Hickerson 1962, 1965, 1970, 1974). As interpreted by Hickerson (1962, 1965, 1970, 1974), Chippewa-Dakota relations prior to 1736 were basically peaceful. The Chippewa, acting as middlemen, controlled the fur trade in central Minnesota and western Wisconsin and supplied the Santee Dakota with French merchandise in exchange for furs and hunting privileges in Dakota territory. Supposedly, when the French trade frontier expanded to the Santee Dakota territory, the Chippewa no longer had access to game areas and trade furs. As a result, warfare erupted in 1736 as the Chippewa attempted to expand into new areas and eventually forced the Dakota to abandon the woodlands of central Minnesota. Holzkamm (1983), in countering Hickerson's interpretations, has pointed out that Chippewa-Dakota relations from 1679 to the early nineteenth century were generally hostile. Thus, Chippewa middleman relations with the Dakota would have been severely restricted. In fact, the Santee Dakota were able to maintain access to European trade goods throughout this period without exclusive reliance on Chippewa middlemen. Sources used by the Dakota to furnish them with trade goods included European trading posts, unlicensed traders without established trading posts, and non-Chippewa Indian middlemen (Holzkamm 1983:228).

Anderson (1980), in addition to accepting Hickerson's interpretations, has suggested that Dakota population movements were also affected by the European fur trade. Plains bison hunting was emphasized during periods of fur trade decline, while woodland resources were exploited during periods of fur trade prosperity resulting in conflict with the Chippewa (Anderson 1980:18-19, 28-30). These views are disputed by Holzkamm (1983) who sees Santee Dakota population

movements "as a means of utilizing involvement in the European fur trade to participate in the Plains equestrian bison hunting economy" (Holzkamm 1983:225). Involvement in the fur trade allowed the Santee Dakota to exchange trade goods for horses, an important element of the bison hunting economy, with the more western Dakota groups. As a result, increased orientation toward the Plains, especially among the Sisseton and Wahpeton, was due to increased participation in the fur trade. "In short, a supply of horses made Plains bison hunting a desirable subsistence pursuit for the Eastern Dakota; however, horses could best be obtained through participation in the Dakota trade fairs with a supply of trade goods. Thus, the Eastern Dakota found that an equestrian bison hunting economy on the Plains necessitated participation in the European fur trade as well" (Holzkamm 1983:231).

Interaction in the fur trade had markedly altered the material culture of the Santee Dakota by the beginning of the nineteenth century. Bone and stone tools and weapons had been largely replaced by those of steel. Although many household utensils were still made of wood and bark, brass kettles had replaced the use of pottery. In addition, European cloth and trade blankets had begun to replace the use of skins. Despite an increasing dependence on materials of European manufacture, the religion and social organization of the Santee Dakota were largely unchanged at the beginning of the nineteenth century (Meyer 1967:20).

In the 1830's, the fur trade underwent a drastic change in the Plains that directly affected the Santee Dakota. Emphasis shifted from a reliance on beaver and small mammal furs to a reliance on bison robes. This change destroyed the Santee monopoly over European trade goods and undermined the economic basis for the Dakota trade fairs because it was easier and more economical to transport bison robes by steamboat on the Missouri River than to haul them overland and ship them through the Great Lakes. In addition, greater emphasis on bison robes probably resulted in a decline of the bison population in the prairie fringe of the Plains (White 1978:330-331). In 1800, bison ranged as far as southeastern Minnesota and eastern Iowa, but by the mid-1830's they were gone from most of Minnesota (Hickerson 1962:16; Woolworth and Woolworth 1980a:80). These factors probably eventually induced some Santee Dakota groups to take an interest in horticulture (Holzkamm 1983:231).

Close relationships existed between the Sisseton and Wahpeton bands of Santee Dakota. As mentioned previously, the Sisseton and Wahpeton occupied the Minnesota River Valley above Shakopee, having major villages at Two Woods Lake in present-day South Dakota, Lac qui Parle, Big Stone Lake, and Lake Traverse by the early 1800's (Pond 1908). The Sisseton and Wahpeton, along with the other Santee bands, followed a seasonal cycle of subsistence activities. Although they were

nomadic hunters much of the year, some Sisseton and Wahpeton groups had permanent villages consisting of bark houses. These villages were occupied during part of the spring and summer when corn was planted or harvested. Subsistence activities during the rest of the year consisted of hunting mammals and waterfowl, fishing, and gathering a variety of berries, roots, and tubers. In the course of these activities, a variety of habitats were exploited: lakes, streams, prairies, and deciduous forests.

Although the bison had moved westward, abandoning most of Minnesota by the mid-1830's, the Sisseton and Wahpeton from the upper Minnesota River area, due to their possession of horses, were able to pursue the bison onto the Plains. The majority of the Santee, though, were forced to shift their emphasis from bison to deer meat and hides. The hunting of deer within the prairie-forest border of Minnesota brought the Santee into conflict with the Chippewa.

By the late eighteenth century, the Chippewa occupied the coniferous forest of northern Minnesota and northwestern Wisconsin, and the Santee occupied prairie regions on the Minnesota and upper Mississippi rivers. Due to continuing Dakota-Chippewa hostilities, Hickerson (1962, 1965, 1970) has suggested that the prairie-forest ecotone functioned as a buffer zone between the two groups from about 1780 to 1850. "The buffer zone comprised territory on the frontiers between tribes which, except for communal drives, was normally unoccupied. Such lands could not be entered in safety except by war parties or large hunting parties prepared at a moment's notice for war" (Hickerson 1965:43).

In addition, the character and shape of the buffer zone, extending diagonally (southeast to northwest) from the Chippewa River in west-central Wisconsin to the Red River Valley in western Minnesota, was influenced by the distribution of deer within the prairie-forest border (Hickerson 1965). In general, deer prefer open forests with a great variety of browse, shunning mature coniferous or broad-leaf forests, boggy areas, and grassy areas without tree cover. "In Minnesota the buffer zone coincides generally with the transition zone between biotic provinces and the areas of highest deer populations" (Watrall 1968:83).

Deer were an important element of the subsistence strategies of the Dakota and Chippewa. Maintenance of the buffer zone (i.e., warfare) acted as a deterrent to heavy hunting within the zone by Dakota and Chippewa. As a result, the supply of deer within it remained high, suggesting that the buffer zone was purposefully maintained as a reservoir for deer. "The effect of warfare, then, was the regulation and preservation of a supply of deer in and near the buffer zone for the use of Indians hunting in bands, often at great risk of their lives" (Hickerson 1965:62).

During the French and Indian War (1756-1763), the Santee Dakota sided with the French. Having lost the war, France ceded her possessions east of the Mississippi to England and those to the west, including the upper Minnesota River region, to Spain. As a result, the Santee Dakota had extensive contact with a different European power, England. During the American Revolution, the Santee were allied with the British and participated in the conflict along the central Mississippi Valley. In 1783, the United States acquired all territory east of the Mississippi. In 1800, Spain ceded the territory of Louisiana to France. Although the United States acquired this territory from France as a result of the Louisiana Purchase of 1803, the Santee continued to be influenced by the British and French traders who carried on their operations much as they had prior to that time. It was several years before the United States began to establish its sovereignty over the territory encompassing the upper Minnesota River area. During the War of 1812, the Santee Dakota were once again allied with the British and helped the British capture Mackinac. "The outcome of the War of 1812 had not induced the Indians automatically to shift their allegiance from England to the United States. Many of the fur traders, especially those in the employ of the American Fur Company, were British in sympathies,..." (Meyer 1967:36).

From colonial times there was a steady and increasing pressure by whites on Indian-claimed lands. The cession of some Santee Dakota lands as the result of the treaties of 1830 and 1837 did not directly affect the Dakota of the upper Minnesota region, but the Treaty of Traverse des Sioux in 1851 had a profound effect on Sisseton and Wahpeton Dakota. This treaty provided for the cession of all Upper Dakota (Sisseton and Wahpeton) lands in present-day Minnesota and a small portion in present-day South Dakota and authorized the payment of annuities to them. An important article, establishing a reservation extending 16 kilometers (10 miles) on each side of the upper Minnesota River from Lake Traverse to the Yellow Medicine River, was later stricken out by the U.S. Senate, but the Upper Dakota were temporarily assigned to this reservation. The Sisseton and Wahpeton considered the land assigned to them acceptable as a reservation since it included their old village sites (Carley 1976:3). A similar treaty, the Treaty of Mendota, was signed by the Lower Dakota (Mdewakanton and Wahpekute). Their reservation extended along both banks of the Minnesota from the Yellow Medicine River to the Little Rock River near New Ulm, Minnesota (Meyer 1967:78-89). In effect, these treaties reduced the Santee Dakota to eventual, complete dependence on the government.

Believing that individual ownership of land was absolutely essential for "civilizing" the Santee Dakota, a proposal was advanced to allot an 80 acre tract to each family head or other adult. It was assumed that they would

eventually qualify for fee patents to the allotments and become citizens. Since only the portion of the reservation south of the Minnesota River was required in this scheme, the Santee were forced to sign a treaty in 1858 ceding that portion of the reservation north of the Minnesota River and east of Lake Traverse, nearly a million acres, for a price to be set by the U.S. Senate. Finally, in 1860, after a two year delay, the Santee were authorized a payment of 30 cents an acre for the relinquished land, but due to the usual traders' claims, they actually received little money (Meyer 1967:103-104).

The various treaties engendered in the Santee disillusionment, declining respect, and bitterness toward the government. Several factors combined to culminate in the Dakota Uprising of 1862, resulting in much bloodshed along the Minnesota River Valley (Carley 1976:5; Meyer 1967:111-115). The failure of the military to capture and punish Inkpaduta and his small band of Wahpekute for the murders of over 30 people in 1857 in the Lake Okoboji area of Iowa and the government's subsequent attempt to hold the Santee responsible for Inkpaduta's capture lessened the Dakotas' esteem for the whites. In addition, the Santee were aware that many young men had left Minnesota, weakening the state's defenses, to fight in the Civil War. A crop failure in 1861 resulted in near-starvation during the 1861-62 winter. The Santee were feeling increased pressure from white settlements near and even on the reservation. The most important immediate cause of the uprising was probably the delay in the arrival of the annuity goods and cash (Carley 1976:5).

Although most of the Sisseton and Wahpeton did not participate in the uprising, they fled from the advancing military force commanded by General Henry H. Sibley and spread out over the plains of Dakota Territory. After following a nomadic life for several years, the majority gradually gathered on the Coteau des Prairies, just west of the Lake Traverse-Big Stone Lake area, near Fort Wadsworth which was established in 1864. Since the Sisseton and Wahpeton had generally remained loyal to the United States during the uprising, a treaty signed in 1867 established a triangular-shaped reservation between Lake Traverse and Fort Wadsworth for these Dakota bands. The Sisseton Reservation, also known as the Lake Traverse Reservation, encompassing 918,770.58 acres, had its apex at Lake Kampeska, near present-day Watertown, South Dakota, and its base along, but not parallel to, the present North Dakota-South Dakota border. The west shore of Lake Traverse formed a portion of the reservation's eastern boundary (Meyer 1967:198-199, 216).

By the 1880's, white settlers were pressuring the government to open the reservation to settlement. The Sisseton Reservation had been intact for 20 years when the Dawes Act became law in 1887. This act authorized the allotment of any reservation when the Indians were deemed

ready to take on the responsibilities of citizenship. "Since the Sissetons were by this time largely self-supporting and were living under a fairly complex system of reservation government, it was natural for their reservation to be chosen as one of the first to undergo the experiment" (Meyer 1967: 216).

Terms were reached whereby each member of the Sisseton and Wahpeton bands was to receive an allotment of 160 acres and the balance of the reservation was to be purchased by the United States Government at $2.50 per acre and opened for settlement. After the allotment was completed in 1889, the remaining 573,872.26 acres were opened for settlement at 12 P.M., April 15, 1892. Allotment and the opening of the reservation resulted in an immediate decline in farming by the Indians and a corresponding rise in the leasing of land to whites. Cash payments for ceded lands were usually ill-advisedly used. Eventually, the majority of the Indian population was once again reduced to a state of poverty (Meyer 1967:216-219).

Euro-American Period (Post-1700): Fur Trade

The earliest Euro-Americans to contact the Indians of the upper Minnesota River area were the fur traders. Initially, these were the French. One aim of the fur trade was the occupation of "the newly discovered continent in order to exploit its human and natural resources at a new level of technological development in such fashion as to increase the wealth of Europe" (Holder 1955:3). Although it was not an equal partnership, each group held the upper hand at one time or another. Success required the cooperation of both parties. The Indians provided labor for the production and transportation of furs, principally beaver and muskrat. In return, the traders mainly supplied products of the metal and textile industries (i.e., axes, guns, kettles, beads, cotton and woolen cloth, etc.). During initial penetration of a region, the traders depended on the cultural contributions of the resident Indian populations. Indian modes of transportation, housing, clothing, and subsistence were adapted to the traders' needs. Generally peaceful relations prevailed since aggression would have deprived the Indians of trade goods and the traders of furs and provisions (Holder 1955:3; Ray 1974:xi).

Initially, the Dakota bands did not have direct access to European goods. They depended on Indian middlemen, such as the Ottawa, Huron, Fox, and Chippewa (Innis 1956:54). At this time, the 1660's, the fur trade of the upper Mississippi Valley was firmly controlled by the Indians. "Tribes as middlemen resented attempts to destroy their monopoloy position" (Innis 1956:16). These middlemen controlled the price of beaver and the flow of European goods to the Indians of the interior. "Indian middlemen were able to exercise greater bargaining power over more remote tribes with the use of European weapons. Consequently, they were extremely

jealous of any attempt of the French or the Dutch to trade guns with these remote tribes" (Innis 1956:21). The monopolies were broken as the traders were able to supply guns to the more remote tribes, such as the Dakota.

With the establishment of fur trading posts, beginning in the 1680's, by the French in the upper Mississippi Valley and the advent of the coureurs de bois (traveling traders), the Dakota had direct access to European goods. As mentioned previously, the involvement of the Sisseton and Wahpeton in the fur trade allowed them to participate in the Plains equestrian bison hunting economy. They took part in the Dakota trade fairs on the James River, supplying trade goods to the more western Dakota bands in exchange for horses (Holzkamm 1983).

As mentioned previously, interaction in the fur trade markedly altered the material culture of the Santee Dakota. They adopted articles of European manufacture that were improvements on native-made ones or that were more efficient for doing things they had always done (Gilman 1974:4; Innis 1956:17-20). In addition, since increasing emphasis was placed on the beaver, European articles were in demand which made it possible to spend more time in obtaining beaver pelts (Innis 1956:20). Native-made stone, bone, and wooden tools and weapons were replaced with items such as fire steels, metal tools, steel traps, and guns. Pottery and basketware were replaced by brass and iron utensils. Cotton and woolen cloth, glass beads, and vermillion paint, as well as other decorative materials, were also in demand. The changes that occurred were adaptations, by the Santee Dakota and other American Indian groups, of elements of Euro-American culture rather than a destruction or abandonment of their own cultures (Gilman 1974:4).

France officially controlled the fur trade in southern Canada and present-day Minnesota until the end of the French and Indian War in 1763 when her holdings were divided between Spain and England. Although Louisiana legally became a Spanish colony the French kept effective control of it until 1769 (Gilman 1974:8).

Gradually, the trade of the upper Minnesota River area came under the control of the British. In 1783, the Treaty of Paris ended the American Revolution and the North West Company was also formed. The North West Company controlled the country beyond Lake Superior by the late 1780's. In the 1790's, independent traders, such as Robert Dickson, working out of Prairie du Chien and finding themselves shut out from the trade of this region, began to turn their attention toward unexplored areas, such as the headwaters of the Minnesota, Des Moines, and Big Sioux rivers within Spanish territory. These traders had access to a steady supply of cheap, duty-free English goods (Gilman 1974:10-11).

Sensing that profits would be threatened by Americans pushing up the Missouri River, the firm known as Robert Dickson and Company was organized in 1805. In addition to Dickson, this organization included Allen Wilmot, Murdoch Cameron, James Aird, Jacob Franks, and possibly, Joseph Rolette. Trading posts were established with the purpose of securing control of the trade of the best hunting grounds in the Northwest (Tohill 1928:23-25; Gilman 1974:11). "Their trading posts occupied a belt of territory extending from the eastern shore of Lake Michigan westward to the Missouri, with the Fox, Wisconsin, Mississippi, Minnesota, and James rivers running through its midst, a thread of communication and a bond of union" (Tohill 1928:25). The enterprise failed due, primarily, to the heavy burden of old debts and was absorbed by the Michilimackinac Company in 1807 (Tohill 1928:26; Gilman 1974:12).

The Michilimackinac Company was formed in December, 1806. At that time, a document was signed that was designed to reduce competition between the new firm and the North West Company. Boundary lines were established separating the trade territories of the companies. As part of this boundary, the North West Company was not to extend its territory farther south than the confluence of the Sheyenne and Red rivers. In addition, it was not to attempt trade with the Dakota. The Michilimackinac Company was not allowed to establish posts on the Red River. Each company also agreed not to interfere with the trade of the other (Tohill 1928:32; Gilman 1974:12).

The future of the Michilimackinac Company was decided by forces beyond its control. Although the provisions of Jay's Treaty of 1796 granted Americans and Canadians the right to trade within each other's territory, relations between the United States and Britain worsened after the purchase of the Louisiana Territory in 1803 by the United States. In 1805, General James Wilkinson, governor of upper Louisiana, "proclaimed the territory west of the Mississippi closed to foreign traders" (Gilman 1974:13). In addition, only merchandise manufactured in the United States could be carried into the territory and all agents and interpreters had to swear allegiance to the United States. This proclamation was a reaction to a fear that British traders would incite the Indians against the Americans. It was believed that the United States could control the Indians by controlling the trade. Although the proclamation was not strictly enforced, due to the absence of a military force on the upper Mississippi, it was successful in disrupting British trade in the region. In addition, as a result of the Non-intercourse Act of 1810, supplies could not be brought legally into the United States. Consequently, the British traders, including Dickson, resorted to smuggling (Tohill 1925:334, 1928:34-35; Gilman 1974:12-13).

In order to circumvent the United States' embargo on Canadian goods the Michilimackinac Company merged with the

American Fur Company, which was founded in 1808 by John Jacob Astor, under the name of the South West Company (Tohill 1928: 37; Gilman 1974:13). The sphere of operations of the new company extended from the Great Lakes westward but excluded the territory beyond the upper Missouri. The partnership did not last. An act passed in 1816 barred all foreigners from the American Indian trade, but American trading firms were later allowed to employ French Canadian voyageurs. The exclusion of Canadian traders undoubtedly discouraged the Canadian partners of the South West Company. Also, the resources of the Canadian partners were strained by low fur prices and high costs due to the Napoleonic Wars in Europe and increased competition with the Hudson's Bay Company. As a result, the Canadians sold their half of the partnership to Astor in 1817 and the South West Company became the American Fur Company (Lavender 1967:33-35).

Conditions in the fur trade (e.g., embargoes, tariffs, Wilkinson's proclamation) contributed to the outbreak of the War of 1812. The British traders foresaw doom if the United States retained control of the Northwest, as reflected in the decrease in Indian hunting grounds and the advance of settlers. "There is little solid evidence that the fur trade as a way of life for Indian people could not have continued, with some modifications, if it had been possible to guarantee them possession of the land and its resources" (Gilman 1974: 13).

Many of the causes of hostility between the Americans on one hand and the British traders and Indians on the other were due to the differing American and English land policies. It was expected by the Americans that all Indian lands would ultimately be opened for settlement. Consequently, the fur trade, which was of interest to only a small number of people, was only a temporary stage in opening the country for settlement. The Americans were generally ignorant of Indian languages, customs and beliefs, and they assumed a superior attitude toward the Indians (Tohill 1928:45-46).

The British desired to maintain the Indian hunting grounds as a source of furs for foreign markets. The Indians concurred with this policy since it allowed them to keep their ancestral homes and to engage in their accustomed pursuits. According to this policy, there were no extensive contacts between the Indians and the whites. Except for a few small British garrisons, only the traders and their engages would enter Indian territory. In addition, the British (and before them, the French) traders fostered friendly relations between themselves and the Indians by intermarrying with the Indians with whom they traded. As a consequence of living among the Indians, the British traders gained a familiarity with Indian customs and languages that the Americans lacked. Under such circumstances, the British were successful in securing the loyalty of the Indians (Tohill 1928:45-46; Parker 1951:114).

While the Americans hoped to keep the Indians neutral, the British solicited the loyalty of the Indians in the event of war with the United States by supplying the Indians with guns, ammunition, and presents (Tohill 1928:47). When war between Great Britain and the United States broke out in 1812, the Indians of the Northwest sided with the British. Dickson was very instrumental in keeping most of the Indians of the Northwest firm in their alliance with the British. An Indian force, consisting of Dakota and several other tribes, was commanded by Dickson during the capture for Fort Mackinac (Michilimackinac). Dickson commanded the Indians in several other battles during the war. Due to his war activities, Dickson's trade was destroyed (Tohill 1925:339).

The Treaty of Ghent, signed in late 1814, ended the war. Land was not restored to the Indians and the boundaries were left as they had been previous to the war. In addition, a law passed in 1816 prohibited the British and other foreigners from carrying on trade within American territory, although exceptions were later allowed (Gilman 1974:15; Tohill 1929: 183-184). The British, however, were reluctant to accept this prohibition and found a way around the law. They employed an American, obtained a license in his name, and had the goods invoiced to him. Then, the British trader accompanied the American as an interpreter until they were beyond the Indian agencies. At this point, the trader paid the American, assumed control of the property, and carried on business as usual (Holcombe 1908:54). The facility for enforcing the law came with the building of Fort Snelling in 1819 at the junction of the Mississippi and Minnesota rivers.

Joseph Renville, the son of a Dakota mother and a French father, was prominent in the fur trade of the area. After a brief sojourn in Canada following the War of 1812, in which he joined Dickson against the Americans, Renville traded at the source of the Red River of the North (Lake Traverse) for the Hudson's Bay Company until 1822 when he left its employ. Since this post was located on American soil, he was compelled to become an American citizen and obtain a trader's license in order to continue trading in the area. Consequently, he organized the Columbia Fur Company in 1822 (Ackermann 1931:232-235; Nute 1941:282-283). He was joined in this endeavor by several other veterans of the Canadian trade, including Kenneth McKenzie and William Laidlaw. "As the laws of the United States forbade foreigners to engage in the fur trade within its boundaries on their own account, the organization was legalized by bringing in certain citizens of the United States, among them Daniel Lamont, and placing it under their name. The legal title of the firm was Tilton and Company,..."(Chittenden 1954:323), but it was always known as the Columbia Fur Company.

The company engaged in trade over a vast tract extending as far west as the Missouri River. Since the Columbia Fur

Company was perceived as a threat by the American Fur Company which was endeavoring to monopolize the Northwest trade, the American Fur Company bought out its competition in 1827 (Ackermann 1931:236-237).

Joseph Renville built a Columbia Fur Company post, known as Fort Adams, near the mouth of Lac qui Parle Lake on its east bank in 1826. After the merger of the Columbia and American fur companies in 1827, Renville remained at the post and moved his family there. By 1835, the fort was generally known as Fort Renville. The fort consisted of two hewn log dwellings and a log storehouse surrounded by a stockade. From this post Renville exercised great influence over the Dakota of the area. A Wahpeton village was situated near the fort. The fort was known for its hospitality and it was a favorite stopping place for travelers. The fort incurred large debts and slowly deteriorated as the result of food shortages and poor fur seasons in the 1830's and 1840's. When Renville died in 1846, the fort was virtually nonexistent. The post was taken over at that time by Martin McLeod and moved about four miles away, to the present site of Lac qui Parle where he continued to operate it until 1851. Archaeological investigations were conducted at the former site of Fort Renville (21CP24) in 1940 and 1968 (Nystuen and Lindeman 1969).

Several other trading posts were located near the project area. In 1816 and 1817, James H. Lockwood came from Prairie du Chien and wintered at Lac qui Parle (Nute 1930:378; Moyer and Dale 1916). The American Fur Company had a post, Fort Greene, below Big Stone Lake in 1826. It may have been near the mouth of the Yellow Bank River (Nute 1930: 378-379). Joseph La Framboise had a post at Lake of the Two Woods in northwestern Deuel County, South Dakota from 1835 to 1836. Francois La Bathe succeeded him at this post at least a year (Parker 1951:211).

In the late 1860's and early 1870's the fur trade slackened. The influx of settlers crowded the already diminished population of fur bearing animals and styles in Europe began to put less emphasis on fur.

Explorations

An American military and scientific expedition commanded by Major Stephen H. Long of the Topographical Engineers in 1823 (Kane et al. 1978) was the first official American venture into the upper Minnesota River Valley and the valley of the Red River of the North. This expedition, traveling up the Minnesota River and down the Red River of the North to Fort Douglas in Canada, had as its objectives the investigation of the character and customs of the Indians and the description of the country along its route. In addition, the determination of the 49th parallel (the international boundary designated by the convention of 1818) on the Red

River was another objective (Kane et al. 1978:15-16).

The expedition party included William H. Keating, mineralogist and geologist; Thomas Say, naturalist and antiquary; Samuel Seymour, landscape artist; and James E. Colhoun, Long's assistant. They were joined by Giacomo C. Beltrami, a self-imposed Italian exile, who traveled with the expedition from Fort St. Anthony (Fort Snelling) to Pembina. Guides and interpreters during various stages of the journey included Joseph St. Peter Le Sellier, Augustin Rocque, Joseph Renville, and Charles Gasparde Brousse. At one point the party consisted of 32 men, its maximum size.

Although this was the first official government expedition to touch the banks of the Lac qui Parle and Yellow Bank rivers, it was only a fleeting contact at their confluence with the Minnesota River. While in the vicinity of the Lac qui Parle and Yellow Medicine rivers several burial mounds and numerous bison bones were observed. The party encamped near the mouth of the Yellow Bank River on July 21, 1823. Earlier in the day, they were visited by a Dakota family on their way to investigate the prospects for the forthcoming wild rice harvest (Kane et al. 1978:167-168, 295-296).

In the fall of 1835, George W. Featherstonhaugh, an English geologist, conducted a federally sponsored geological exploration of the Minnesota River Valley (Featherstonhaugh 1847, vol. I). Since Featherstonhaugh was the first geologist hired by the Bureau of Topographical Engineers, Lieutenant Colonel John J. Abert, head of the bureau, referred to him as the United States Geologist. He was accompanied by William W. Mather, an American geologist and army lieutenant, who was to make a detailed map of the Minnesota River area. The expedition traveled up the Minnesota River Valley to lakes Big Stone and Traverse and the Coteau des Prairies. One of the principal purposes of the expedition was an examination of the possible mineral structure of the Coteau des Prairies since at that time copper was believed to exist in the coteau region. In addition, Featherstonhaugh was to collect metal and mineral specimens along his route. He examined the site of Le Sueur's famed copper mines and concluded that his "copper" was in actuality a worthless iron silicate. The expedition failed to find copper or other mineral deposits along the Minnesota River and on the Coteau des Prairies. Consequently, any hope for obvious mineral wealth in these regions was dispelled. Featherstonhaugh also correctly concluded that a much larger river had formerly flowed through the valley of the Minnesota River.

The expedition stayed at Renville's fort at Lac qui Parle for several days. During his brief sojourn at the fort, Featherstonhaugh attended several Dakota dances, including a scalp dance, performed by members of the nearby Dakota village. He observed 48 tipis and 12 large bark-covered

lodges in the village (Featherstonhaugh 1847, vol. I:350). He had a keen awareness of the plight of the Indians, placing blame on both the white traders and the Indians. Due to the fertility of the soil in the Minnesota River Valley, Featherstonhaugh correctly foresaw the advent of Euro-American farmers into the area, forcing the Dakota to give up their homelands.

Joseph N. Nicollet (1786-1843), a French scientist, geographer and cartographer, came to the upper Minnesota River area (including the Coteau des Prairies) on scientific explorations in 1838 and 1839 (Bray and Bray 1976). He was accompanied on these expeditions by John C. Fremont who later gained fame exploring the Rocky Mountains in 1842 and 1843. The purpose of the expeditions, which were under the auspices of the Bureau of Topographical Engineers, was the collection of data for a map of United States territory between the upper Mississippi and Missouri rivers and the Canadian border. This included the previously unmapped Coteau des Prairies. This information was necessary for planning the future exploration and settlement of the region and the rest of the West. Nicollet's resulting map, "Hydrographical Basin of the Upper Mississippi River", published in 1843 by the United States government was so accurate that it was used as the basis for succeeding maps until the advent of modern surveys.

While in the Lac qui Parle area, Nicollet was accorded much hospitality by Joseph Renville who also loaned wagons and horses to the expedition. His son, Joseph Renville, Jr., acted as one of Nicollet's guides and interpreters.

During his journeys Nicollet recorded ethnographic information on Dakota culture. "In addition he recorded a large number of words and phrases in the Dakota language and prepared a grammatical description of Dakota, as well as several vocabularies" (DeMallie 1976:250). Nicollet saw the land over which he traveled "as the Indian saw it, and he was the last of his kind who was able to communicate such an experience to us" (Bray and Bray 1976:41).

Missionaries

Joseph Renville was instrumental in bringing a Protestant missionary, Dr. Thomas S. Williamson, to Lac qui Parle in 1835. Gideon Pond joined him there a year later, and in the spring of 1837 Stephen R. Riggs and his wife, Mary, moved to Lac qui Parle. The mission buildings were located on the north side of the Minnesota River (in present Chippewa County), about a mile from Fort Renville. Both the fort and the mission offered rest and hospitality to weary travelers passing through the area (Gilman et al. 1979:47).

During its existence this mission became the most successful of numerous missionary efforts among the Dakota,

although this and other missions recorded few conversions. A school was opened by Williamson to teach English to Dakota women and children. "One of the most significant contributions of the missionaries was the reduction of the Dakota language to writing and the publication of books in that tongue" (Meyer 1967:53). Williamson, Riggs and Renville translated several books of the Bible into the Dakota language which eased the task of teaching the Santee Dakota to read and write. Along with Renville's fort, the mission helped to ease the impact of white culture on the area's resident Dakota populations.

In the fall of 1852, Williamson moved across the Minnesota River and established the Pajutazee Mission near the river, a few miles above the mouth of the Yellow Medicine River in section 24, Minnesota Falls township. After the Lac qui Parle mission was destroyed by fire in early 1854, Stephen R. Riggs also crossed the Minnesota River and established the Hazelwood Mission about 4.8 kilometers (3 miles) above Williamson's mission. These were the only missions on the Upper Sioux Reservation until 1860 when the Episcopal church began missionary work among the Dakota, and for several years these missions provided the only educational opportunities available to the Dakota. Williamson and Riggs were instrumental in organizing agricultural efforts among the Dakota.

In 1854 the Upper Sioux Agency buildings were erected near the mouth of the Yellow Medicine River about 4.8 kilometers (3 miles) south of the Pajutazee Mission. This agency became the focal point for 4000 annuity Dakota (Narvestad and Narvestad 1972:13; Gilman et al. 1979:49). During the Dakota Uprising of 1862 Williamson and Riggs fled from their missions. The Pajutazee and Hazelwood missions and the Upper Sioux Agency were destroyed during the uprising. After the uprising, the missionaries accompanied the captive Dakota to Fort Snelling and eventually to the new reservations established for the Dakota.

Historic Trails and Transportation

The development of the network of trails commonly referred to as Red River trails and their accompanying form of transportation, the Red River cart, was the result of the fur trade. The Earl of Selkirk was one of the first to envision a transportation and commercial link through which furs and supplies would flow between his colony and American settlements. Prior to its absorption by the American Fur Company in 1827, the Columbia Fur Company developed well-marked trails between the Mississippi and the Red rivers. The original Red River trails followed Indian paths along the rivers. Exactly when they developed into cart trails is difficult to ascertain (Gilman et al. 1979:1, 5, 43).

The carts used on these trails were made entirely of

wood and the screeching of their wheels could be heard for miles. A number of changes in the design of the two-wheeled carts occurred over the years, although the basic design remained unchanged. The Red River cart, with its five-foot diameter wheels, was designed for a wide variety of travel conditions. It was easy for traversing bogs, bouyant at river crossings, strong on rocky terrain, and difficult to overturn. Depending on the terrain to be traversed, either an ox or a horse (usually an Indian pony) was harnessed to the cart. Later, mules were also used. An ox was stronger and better adapted to crossing marshes than a horse, although a horse was better on rocky or steep terrain (Gilman et al. 1979:15-16).

"The decade of the 1850s saw transportation and commerce over the Red River trails come into their own" (Gilman et al. 1979:14). The trains of carts and the trails over which they traveled brought furs, skins, pemmican, dried bison meat, moccasins, and skin garments from the Red River country to St. Paul. On the return north the carts carried staple groceries, tobacco, liquor, dry goods, clothing, tools, hardware, guns, ammunition, farm implements, and window glass. In addition, beginning in 1821 and peaking in 1826, a southern migration of dissatisfied settlers from Selkirk's Red River Settlement in present-day Manitoba followed the trails to the Mississippi Valley (Gilman et al. 1979:6-7, 14).

The earliest Red River trail across Minnesota was the Minnesota Valley Trail which generally paralleled the Bois de Sioux and Minnesota rivers from present-day Breckenridge, Minnesota to St. Paul and Mendota, Minnesota. The trail had several branches. The cart trails wound along both banks of the Minnesota River. Running south from Big Stone Lake, the north bank trail had to cross the Pomme de Terre River to arrive at Lac qui Parle. Travelers on the south bank trail had to ford both the Whetstone and Yellow Bank rivers (Gilman et al. 1979:47). The Minnesota Valley route was the principal Red River Trail throughout the 1840's and the early 1850's when it was supplanted by two shorter northerly routes, the Middle and Woods trails. In addition, most of the Minnesota Valley trails became government roads during the 1850's (Gilman et al. 1979:43-46).

The Minnesota River was easily navigable for canoes and keelboats from its mouth to Lac qui Parle in wet years, or to Traverse des Sioux or Patterson's Rapids (between the mouths of the Yellow Medicine and the Redwood rivers) in dry years. By 1835, the American Fur Company's boats met the southbound carts at Patterson's Rapids, and throughout the 1840's and 1850's Traverse des Sioux was the rendezvous between cart and keelboat (Gilman et al. 1979:43).

In 1850, a new form of transportation was developed on the Minnesota River. The steamer "Anthony Wayne" made a

successful voyage up the Minnesota River to Carver. A month later, the "Yankee" steamed upriver more than 240 kilometers (150 miles) to Traverse des Sioux. In 1852, four steamboats made 13 round trips on the river, and the following year eight boats opened regular service on the river (Jones 1962:101-106).

There was always the dream of steamboating all the way to Big Stone Lake, crossing the divide to Lake Traverse and continuing down the Red River. Major Long's expedition had been told of successful canoe portages across the divide. In 1820, three Mackinaw boats carrying supplies for Selkirk's Red River colony traveled up the Minnesota River to Big Stone Lake. Then the boats were dragged and floated across the marshy divide to Lake Traverse and the journey continued via the Red River. This is the only instance on record of heavy articles having been transported the entire distance from Prairie du Chien to the Red River settlements by boat (Barrett 1881:6; Gilman et al. 1979:4). In 1859, the steamboat "Freighter" made an attempt to follow this continuous route, but was stopped by a broken hull 13 kilometers (8 miles) below the mouth of Big Stone Lake. "Freighter" was the first steamboat to reach the Lac qui Parle and Yellow Bank rivers. Prior to that time, only the "Frank Steele" had reached even as far as the Yellow Medicine River (Jones 1962:110-111).

The development of railroad lines opened a new era of commercial and agricultural development. Markets were provided for farm produce, and in return the farmers could receive supplies and equipment. There were three major railroad lines serving the study area.

The Winona-St. Peter Division of the Chicago Northwestern Railway Company arrived at Benson, Minnesota in 1870. By 1886-87, this line was extended to Huron, South Dakota. It passed through the hamlets of Albee, LaBolt and Stockholm, South Dakota. In 1900, the name was changed to the Great Northern, and a merger in 1970 changed it to the present Burlington-Northern line.

The first railroad line in Lac qui Parle County was the Minnesota and Pacific Railway which, in 1884, crossed 10-Mile Township northwest to Madison Township, then headed due west out of the county to Grant County, South Dakota. This is the "old railroad grade" snaking around the present project areas on current topographic maps (see Chapter 4, project area YB-25 map). Towns along the route are Boyd, Dawson, Madison and Marietta, Minnesota and Revillo, Wilson and Strandburg, South Dakota.

In 1872, the Chicago Northwestern reached "Headquarters" (now Gary, South Dakota) from Canby, Minnesota. The road bed was graded to Kampeska that year and completed the following spring; however, a prairie fire destroyed bridges and ties,

and due to the depression of the 1870's, it was not in operation again until 1878 when it was rebuilt from Watertown to Gary (Deuel Co. 1977).

Agricultural Settlement

The upper Minnesota River watershed was formerly part of Minnesota Territory that was organized in 1849 and Dakota Territory that was organized in 1861. Minnesota was admitted to the Union as a state in 1858. South Dakota became a state in 1889.

When Minnesota Territory was formed, the census listed 33 males and 35 females (Euro-Americans and American Indians/ Euro-Americans) in the upper Minnesota River Valley. Of these, 20 were at Lac qui Parle and the others were in the fur trade business (Narvestad and Narvestad 1972:8). Following the Treaty of Traverse des Sioux in 1851, Euro-American settlement expanded up the Minnesota River Valley. The entire population of Minnesota increased almost tenfold in the first half of the 1850's (Jones 1962:138). Further settlement in the Minnesota River Valley was temporarily halted as a result of the Dakota Uprising of 1862. In addition, many potential settlers were engaged in the Civil War and were unable to expand Minnesota's development at that time.

As peace returned to the nation and the Minnesota River Valley, settlement resumed. The Minnesota River once again became a highway for the transportation of supplies and settlers. Again, the earlier trend of settling along the main river in the eastern part of the counties was followed. In 1865, the first permanent settlers since the Dakota Uprising arrived in the Lac qui Parle River Valley. Ten people settled in the vicinity of the earlier Williamson mission and the old Upper Agency. That same year, Redwood County was formed, which included present-day Lyon, Lincoln, Yellow Medicine, Lac qui Parle and Redwood counties (Narvestad and Narvestad 1972:41). Settlement gradually spread up the tributaries of the Minnesota River, including the Lac qui Parle and Yellow Bank rivers.

Agricultural historians have termed the years 1878-1887 the "Great Dakota Boom", indicating an influx of settlers to Dakota Territory. It was during this time that much of Dakota Territory was settled. Historians disagree as to whether settlements drew railroads or vice versa. It is probable that both situations occurred. Briggs (1930:79-80) has suggested that the extension of railroads throughout most of the Northern Plains was important in starting and maintaining the flow of settlers into the area. Although the Dakotas would eventually have been occupied, the land boom would not have been possible without good transportation facilities. The appearance of railroads resulted in lower transportation costs for necessities brought into the region and also made it profitable to send surplus crops to market. In addition,

since most of the Dakotas lacked trees, railroads made it possible to ship in building materials at a lower cost than was otherwise possible. The railroads also attracted settlers by distributing printed pamphlets and publishing advertisements that described the country and listed its advantages.

Another factor affecting the rapid settlement of the Dakotas was the land itself. Most of the immigrants who were attracted to the region were either farmers or persons who intended to become farmers. "By 1879 there was little free land in the eastern states as desirable for farming as that of Dakota" (Briggs 1930:80).

During the 1880's, most of the immigrants came from Germany, Scandinavia, Great Britain, and Ireland, but by the later 1890's, most immigrants came from eastern, southern, and central Europe (Luebke 1977:407; Holmquist 1981:3). "The most important single cause that impelled people to leave Europe was economic" (Luebke 1977:408). Since landowners were highly respected in Europe, the prospect of owning land on the American Great Plains as a result of the Homested Act of 1862, was overpowering for many European peasants. In order to qualify for a free 65 hectare (160 acre) farm under this act, a homesteader had to live on his claim for at least five years and cultivate it. In addition, he had to take out his first papers for naturalization (Luebke 1977:409).

Most European immigrants arrived on the Great Plains as family units. Relatives and neighbors usually followed later. However, formal colonization was carried out by ethno-religious societies and the railroads which had ten mile wide strips of alternating sections of land for sale on both sides of their right-of-ways. (Several farmsteads in the present project areas were originally part of the Winona & St. Peter Railroad's land grant.) Sometimes, large colonies of immigrants came as the result of highly organized programs. Although less organized in their efforts, the various churches were also important in the settlement of the Great Plains. As a result of these colonization efforts, the various ethnic groups were able to retain their own religion, language, and culture (Luebke 1977:407, 410-411).

Most of the homesteaders in the Lac qui Parle and Yellow Bank watersheds were Old-Stock Americans, Germans, Swedes, and Norwegians (Holmquist 1981; Ostergren 1983). "The Old-Stock Americans were members of white European families whose ancestors had resided in North America for a number of generations before they made the trek to Minnesota" (Rice 1981:55). Rubinstein (1981:121-122) suggests that many of the homesteaders, no matter what their nationality or ethnic background may have been, were only concerned with gaining title to a farm of their own. The only prerequisites were that the farmland had to be rich and full rail service had to be available.

Within the upper Minnesota River area, choice land along the streams which provided both water and a wood supply was settled first. The fortunate settlers who had access to a supply of wood built log cabins. Others built either sod houses on the prairies or dugouts along the stream banks. County histories for all four counties of the Yellow Bank and Lac qui Parle subbasins mention early dugouts as common occurrences. A recent study by Caspers (1980) examined records of sod houses and dugouts throughout Minnesota. Several dugout depressions were recorded within the project areas during the present survey.

The dugout was a semi-subterranean type of house either wholly or partially excavated into the side of a hill or ravine. It was roofed with logs, brush, or prairie hay or sod. The front side, facing the ravine, contained the door and possibly a window. Viewed from the rear, the stovepipe extending through the roof was often the only indication of the dwelling's presence (Barnes 1970:57-59). An early resident of Deuel County, South Dakota, related her memories of her family's dugout home:

> It was one big room, painted a light blue color, and [had] a low upstairs over it. The stove stood in the middle of the room and the stairway was on the east side. The upstairs was not finished, only 2x4 rafters, so we slept there only in the summer, as it was too cold in the winter. There was a dirt wall and a small bedroom added on the southeast with a small window at the top. Later father built a shanty to the south of the big room that was the kitchen. Mary and I would walk up the hill from the east and west sides on the dirt to the roof of the house and slide down on the dirt (Deuel Co. 1977:9-10).

Outbuildings such as stables and root cellars were constructed in the same method.

Watson (1976) and Woolworth and Woolworth (1980b) reported dugout depressions in the Canby Creek watershed, Yellow Medicine County, Minnesota. These dugouts, referred to as site F/5, were found in section 9, T114N, R45W, Norman township, approximately 4.8 kilometers (3 miles) northeast of project area LQP-8. Test excavations of one depression indicated the presence of lime, assumed to be the remains of whitewash from the dwelling's walls. Two other depressions associated with the site are believed to be a barn and a root cellar.

During the first decades of Euro-American settlement, the people were faced with drought, grasshopper plagues, blizzards and other tests of nature. Every county history is filled with personal stories of hardship, death and survival, strength and fortitude. The following generation faced its own drought, depression and dust storms. The depression of

the 1930's followed a decade of heavy debts, relatively low prices, expanding production and shrinking markets.

Farm foreclosures, which reached a high rate during 1924 and 1925, were on the increase in 1932. During the period 1921 to 1932, a total of 34,419 farm foreclosures were instituted, involving 7,192,000 acres, or 19.6 percent of the farm acreage on the assessment rolls. Nearly one-third of these foreclosures occurred during 1931 and 1932 (Schell 1968:283). Deed records for most of the farmsteads examined for this study indicated some kind of foreclosure action during these depression years.

Due to low market prices, a farm strike movement was born. By 1932, this national movement reached South Dakota, climaxing in a three day strike by farmers blockading cattle shipments into Sioux Falls. In May, 1933, the Agricultural Adjustment Act was instituted to raise farm prices. Farmers who agreed to curtail production were to receive benefit payments (Schell 1968:287-288).

Part of this relief plan included a cattle killing program whereby the government would purchase cattle for a few dollars a head. This not only gave the farmers some income from the cattle, but also saved them the expense of buying feed to replace the shortage of hay and grass. Some of the meat was canned and redistributed to those on relief. Other animals were simply shot and buried (Deuel Co. 1977: 16), as at site 39GT14 in project area YB-25.

As the preceding, brief overviews indicate, the upper Minnesota River watershed has a rich and varied history, a history that is still unfolding.

CHAPTER 4

Field and Laboratory Methods

Introduction

Initial work began during the third week in June, 1982, with a search of pertinent historical literature. The archaeological cultural resource reconnaissance began the second week in July and was continued into August. Additional field survey was conducted during the month of September when the vegetation cover was reduced, permitting greater ground visibility.

Literature and Records Search Methods

The project historian conducted a literature search of published and unpublished reports and documents relative to the history of the Lac qui Parle and Yellow Bank subbasins of the Minnesota River Valley. Research of historical documents for the seven proposed lake areas and the channelization project areas included a search of unpublished manuscript materials. The following is a summary of materials investigated at various institutions.

Historical Preservation Office Files

(1) Historic site files in the Minnesota State Historic Preservation Office, St. Paul, were examined for Yellow Medicine and Lac qui Parle counties. National Register sites in these counties were noted (listed in Appendix B). Other historic and archaeological sites located near the project areas in these counties were also noted. Appendix B lists historic sites on record for Norman and Florida townships of Yellow Medicine County and archaeological sites in the area.

(2) Historic site files in the South Dakota State Historical Preservation Office, Vermillion, were examined for Grant and Deuel counties. National Register sites for these counties were noted (listed in Appendix B). Other historic and prehistoric sites located near the project areas in these counties were also recorded, and this information is included in the project reports (Chapter 5).

County Registers of Deeds

Land ownership records were inspected for project lands that contain remains of historic buildings noted by the archaeological survey crew. This information, when combined with research in county atlases, can help determine the builder of the structures. The ownership records also substantiate reports in secondary sources, such as those on railroad land grants and mortgage defaults.

(1) Lac qui Parle County deed records were not searched since no historic structures or sites were located along the

channelization project.

(2) Yellow Medicine County records were inspected at the courthouse in Granite Falls, Minnesota, for ownership records of historic sites and standing structures located in project areas LQP-3 and LQP-8. The results of these searches are included in these project areas' site reports (Chapter 5).

(3) Deuel County records were examined at the courthouse in Clear Lake, South Dakota, for ownership records of historic sites and standing structures located in project area LQP-3. The results are included in the project area's site reports (Chapter 5). Land ownership records were not inspected for project area LQP-40 since no historic sites were recorded in it.

(4) Grant County records were examined at the courthouse in Milbank, South Dakota, for ownership records of historic sites and standing structures located in project areas YB-15, YB-25 and YB-6. The results of these investigations are included in these project areas' site reports (Chapter 5). Land ownership records were not inspected for project area YB-18 since no historic sites were recorded in it.

Libraries

(1) The Minnesota State Historical Society Library, located in St. Paul, was a primary source of information. Using Brook (1974) and the card catalog as guides, secondary sources pertaining to the history of the Minnesota River Valley and the Lac qui Parle and Yellow Bank subbasins were examined. Besides general regional histories, the library had county histories and atlases for Lac qui Parle and Yellow Medicine counties.

(2) The South Dakota State Historical Resource Center, located in Pierre, was visited. The library contained both hard copy and microfilm copies of county atlases for Grant and Deuel counties. The manuscript collection in the Archives was examined, but nothing relating to the specific project areas was found.

(3) The I.D. Weeks Library, on the campus of the University of South Dakota, Vermillion, contained several secondary sources relating to the history of the Minnesota River Valley, as well as county histories for Deuel and Grant counties.

(4) The Grant County Library, located in Milbank, South Dakota, was the most informative of the local libraries. The secondary county history and a vertical file of manuscript histories of the project areas were examined. These histories, although not of professional quality, provided background information for project area overview reports.

(5) The Clear Lake Public Library, located in Clear Lake, South Dakota, had Deuel County histories. In addition, this library was the only one to contain Stone's (1972) history of Gary, South Dakota. Stone (1972) was valuable in providing exact locations for historic sites alluded to in other sources.

(6) The Gary Public Library, located in Gary, South Dakota, had nothing relative to the project areas other than the published Deuel County history.

(7) The Canby Public Library, located in Canby, Minnesota, contained the published Yellow Medicine and Lac qui Parle county histories.

(8) The Madison Public Library, located in Madison, Minnesota, had a copy of the published Lac qui Parle County history available.

(9) The Watson Library, on the campus of the University of Kansas, Lawrence, contained several primary and secondary sources relating to the history of the Minnesota River Valley.

Museums

(1) The Kampeska Heritage Museum, located in Watertown, South Dakota, was visited. No historical information relative to the project areas was obtained there, but it was suggested that Betty Sterner be contacted for possible information concerning prehistoric sites in the project region.

(2) The County Museum, located in Madison, Minnesota, was visited. This museum contained a library that offered a few sources unavailable elsewhere, but these sources dealt more with the Lac qui Parle Mission area of the county and not with specific project areas.

Other

Other sources used include the General Land Office (GLO) survey maps that were available at the Secretary of State's Office in St. Paul for Minnesota and at the Office of School and Public Lands in Pierre for South Dakota. Local historians and history "buffs" contributed information on historic sites within the project areas. Maynard Cochrane of Lake Cochrane, South Dakota, a historian and grandson of one of the early settlers in project area LQP-3, provided background information for historical research in that project area. William Stone of Lake Cochrane, South Dakota, author of the history of Gary, South Dakota, provided information concerning locations of historic sites within project area LQP-3. Ambrose Weber of R.R. 1, Revillo, South Dakota, has a collection of documents relating to the history of the Yellow Bank Creek area. He has organized a slide show

on the history of the old townsite of Wilson, including the historic sites within project area YB-15. His research was especially valuable in locating and documenting these historic sites. Betty Sterner of Watertown, South Dakota, a local amateur archaeologist, was interviewed but she was unable to provide any information concerning possible prehistoric sites within the project boundaries. Her expertise is in upland sites situated near lakes and along more major drainages in the local area.

The Archaeological Reconnaissance Methods

Concurrent with the historian's literature searches, the Principal Investigator examined reports concerning previous archaeological investigations in and near the project areas. An archaeological field crew was selected. The crew was directed by David Stanley. The crew members were Derrick Marcucci and Ron Kunkle. Dennis Beissel was the geomorphologist for the project. The field crew drove to the project area during the second week of July. This archaeology crew traversed all of the lands within lake projects LQP-3, YB-18, YB-25, and portions of LQP-8, YB-15 and LQP-40. Portions of project areas LQP-8, YB-15 and LQP-40 and all of YB-6 were initially not examined due to the presence of crops or the denial of access by the landowners. However, all of project area YB-6 and the remaining portions of LQP-8 and LQP-40 were examined at later dates by Kenneth and Marie Brown (September 17-20, 1982) and Bill Ranney (May 25, 1984), respectively. The initial traversing of the project lands by the first crew was done to record all discernible evidence of historic structures and/or remains in order to provide the historian with site information in the early stage of the field work for conducting local historic archival research. At the beginning of August, the first crew met with the historian who was then in Watertown, South Dakota. The historian and the field crew exchanged information concerning historic site locations within the project boundaries.

A 100 percent pedestrian reconnaissance within each of the seven proposed reservoirs and a 10 percent sample pedestrian survey along each identified channel alternative reaches were specified in the Scope of Work. These specifications were altered during the course of the field work due to topography, vegetation and constraints on time and monies. The pedestrian reconnaissance within the seven proposed reservoirs consisted of the following procedures: (1) 25 percent or greater slopes (22.5 and greater degrees) were not subsurface tested for prehistoric cultural remains since the probability of such steep surfaces having been loci of prehistoric habitation is very unlikely. However, these slopes were examined for historic cultural remains such as dugouts, foundations, etc. and discernible prehistoric features such as mounds, stone alignments, petroglyphs, etc. In addition, cutbanks, cattle paths, rodent burrows and other exposed areas were examined for evidence of cultural remains. These steep slopes were traversed in 25 to 50 meter transects

by the crew. Other areas within the proposed reservoirs that were less steep were traversed in 25 meter transects or less, depending upon surface visibility and topography (e.g., the more dense the vegetation, the closer were the transects). (2) Landforms that appeared most likely to have cultural remains were examined more closely by means of shovel testing and augering if surface visibility was less than 25 percent. This was selected as the cut-off point for subsurface testing because the Principal Investigator's professional experience has shown this to be the minimal percentage of ground visibility necessary to effectively locate archaeological sites. (3) Although the Scope of Work specified the recording of all shovel tests on test forms and maps, the field crew, instead, kept level forms and maps for all shovel tests, auger holes and systematic test pits that yielded cultural remains and/or were adjacent to recorded sites. This procedure was done to allow for a more intensive investigation (i.e., test pits) of project areas that yielded cultural remains. This was determined to be a more efficient use of project time and funds as opposed to the time-consuming recording of shovel test forms and maps of areas that yielded no evidence of cultural remains. (4) All soils from shovel tests, auger holes, and test pits were sifted through quarter-inch hardware cloth. Test pits were exavated in arbitrary 10 cm levels and their locations were recorded on site maps. (5) All site locations were recorded on 7.5 minute U.S.G.S. quadrangle maps. All sites were recorded on South Dakota site inventory forms and sent to the South Dakota Archaeological Research Center. No prehistoric sites were recorded in Minnesota, but information on standing structures was sent to the Minnesota State Historical Society. All sites and standing structures were photographed. Datums were set into the ground at seven sites. The datums, consisting of four-inch diameter, five foot long, white plastic pipe, are excellent site markers. The pipes were buried about two to three feet in the ground. These datums are non-deteriorating, nonmagnetic for setting a transit over, and are very visible in dense underbrush. They will permit future investigators to more easily relocate the sites and locations of test excavations.

Since all of the survey areas are privately owned, landowner permission was obtained before entering any of the lands to be surveyed. At the same time, the landowners were questioned concerning the presence of prehistoric and historic sites on their property. Access was eventually allowed to all survey areas, with the exception of the northeasternmost corner of project area YB-15.

Because some of the fields to be surveyed were in crops at the time of the field reconnaissance in July and August, a team of two archaeologists (Kenneth Brown and Marie Brown) returned to the project area during the third week of September to survey those areas that had had crops and to

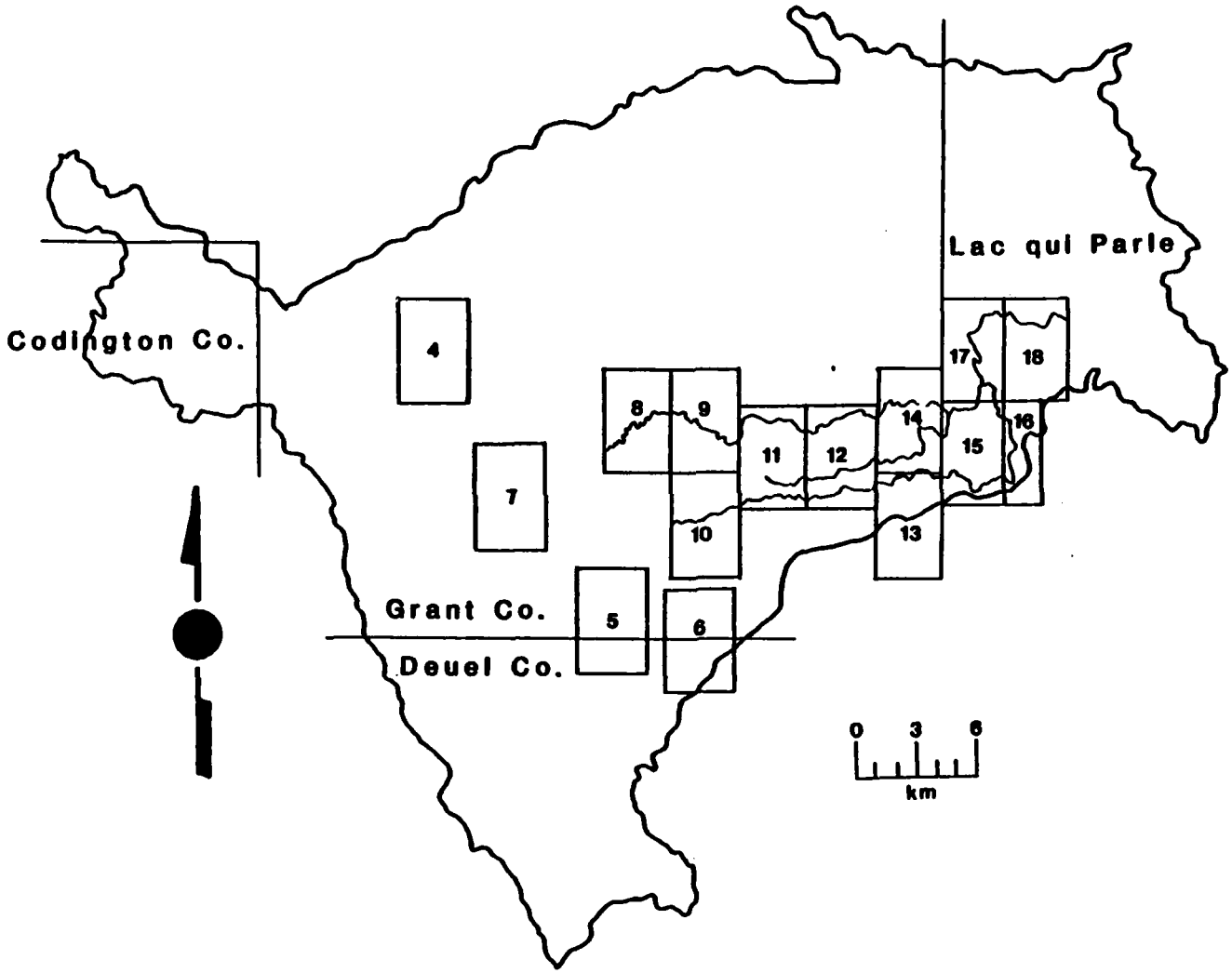


Figure 7. Index map of the Yellow Bank Subbasin showing the locations of the individual topographic and General Land Office maps 4, 5, 6, 7, 8, 9, 10 ,11, 12, 13, 14, 15, 16, 17 and 18.

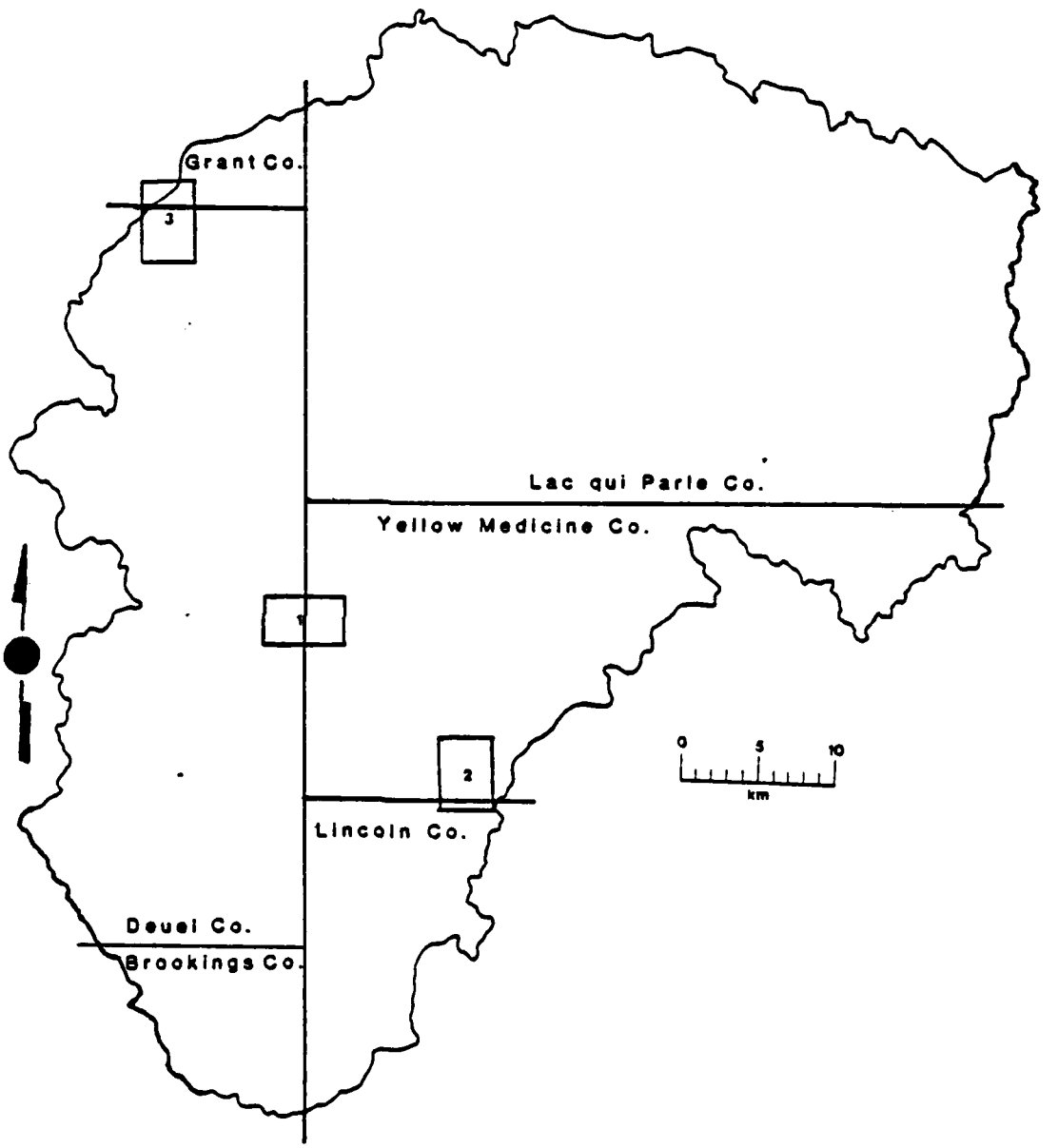


Figure 8. Index map of the Lac qui Parle Subbasin showing the locations of the individual topographic and General Land Office maps 1, 2 and 3.

survey project area YB-6. This survey team spent four days examining project areas and recording sites. Several fields that had had crops during the initial field work in July and August were not examined in September due to extreme wet conditions of the fields. This field work was completed on September 20, 1982. Cultivated fields in project area LQP-40 were examined in May, 1984, by Bill Ranney. The following are descriptions of field methods employed within each proposed lake area. The field survey methods employed within each project area are shown on a series of topographic maps. The index maps (Figs. 7 and 8) show the position of each of the individual topographic maps (Figs. 9, 13, 14, 15, 16, 23, 24).

LQP-3

There are 315 acres within project area LQP-3 (Fig. 9). Of these, approximately 115 acres occur on landforms with less than 25 percent slope (i.e., terraces and gentle slopes). This project area was visited by the survey crew on several occasions. The first visit consisted of a pedestrian survey of all of the project lands without conducting any subsurface testing. The survey crew divided the area into three subareas: (1) an eastern portion owned by Grabow; (2) a central portion owned by Maas; and (3) a western portion, west of State Highway 22, owned by Fairchild.

The eastern portion was in pasture with 35 to 40 percent ground visibility and a garden with 90 percent visibility. Two terraces were observed and noted for further testing. The center portion was in pasture and woodland, with no ground visibility. Ten terraces and/or slopes were noted for further testing. The western portion was also in pasture and woodlands. The field crew relocated site 39DE16, a historic site consisting of foundations and barns, the Grabow farmstead (MN1), and site 39DE55 that consists of three dugouts.

The field crew returned to project area LQP-3 and conducted shovel tests on 12 terraces and two upland slopes. All soils were sifted through quarter-inch hardware cloth. Tests were first conducted on a long narrow terrace 113 meters east and 10 meters south of the southeast corner of the Maas barn. A 1 X 1 meter test pit was arbitrarily placed on the top of the terrace remnant and excavated in 10 cm levels to a depth of 1.09 meters. Cultural remains were recorded from the top 10 cm (site 39DE54). A grid was established 45 degrees east-of-north. Two bisecting transects were established, one 25 meters southeast/northwest and one 30 meters northeast/southwest. Auger holes were dug at every ten meter interval north/south and at two meter intervals east/west (Fig. 10). This testing completely covered the terrace remnant. No additional cultural remains were recovered from the auger holes. The 17 auger holes varied in depth from 20 to 40 cm due to the difficult digging caused by dense gravel deposits.

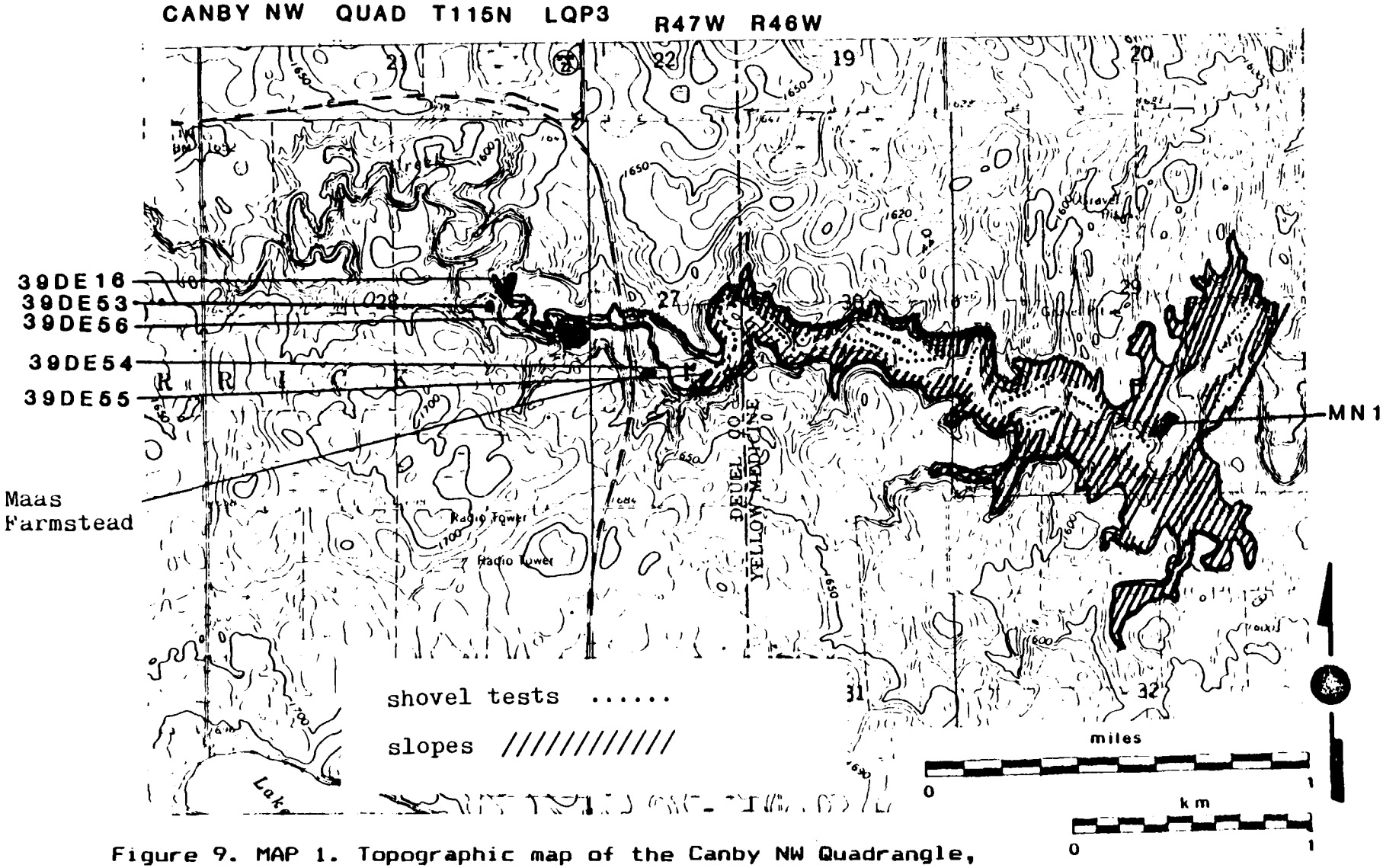


Figure 9. MAP 1. Topographic map of the Canby NW Quadrangle, T115N, R46W; T115N, R47W, showing the location of project area LQP-3 and survey areas.

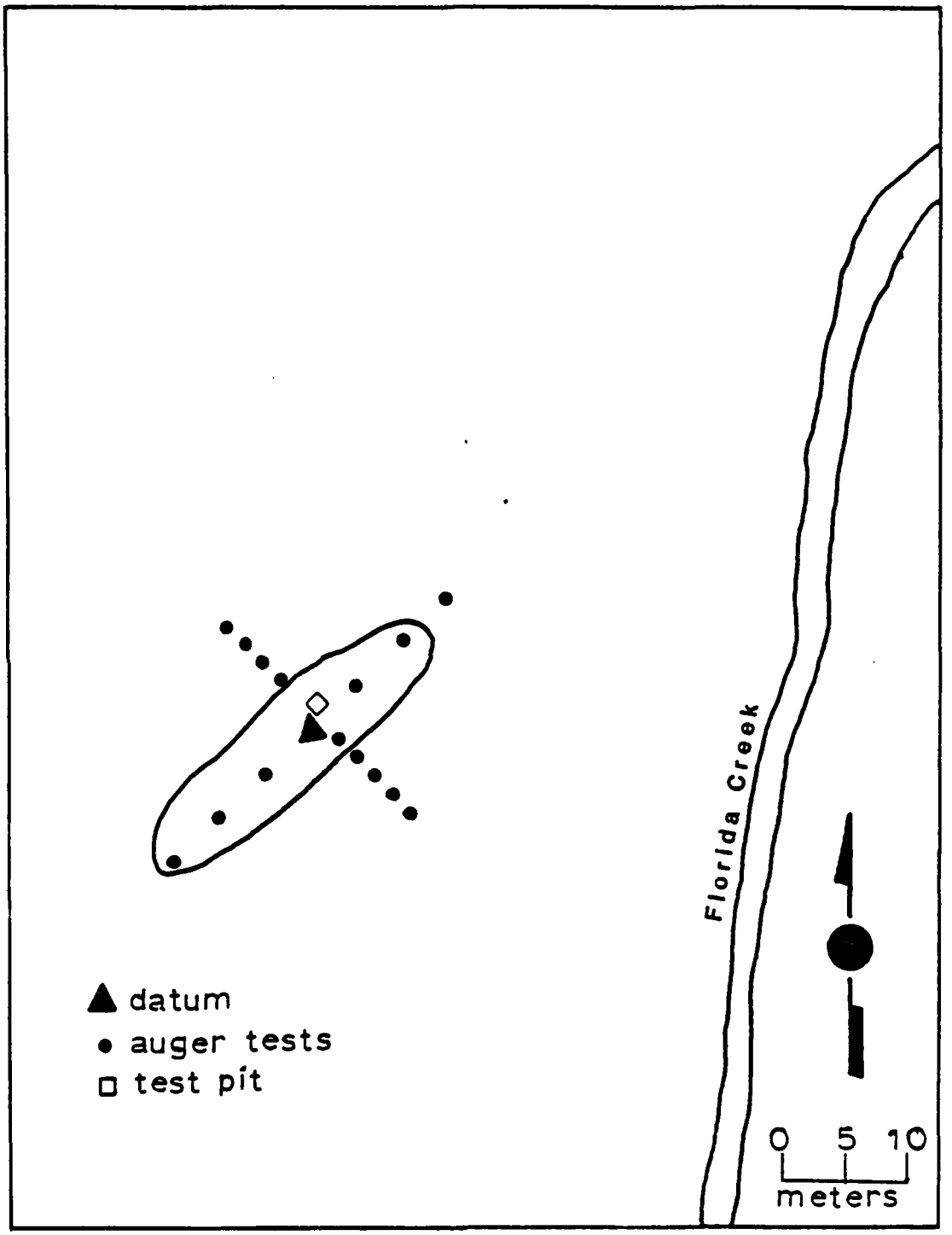


Figure 10. Map showing the general location of auger tests and 1 X 1 meter test pit at site 39DE54.

A second terrace, located approximately 40 meters north of site 39DE54, was tested with auger holes. Two bisecting, 40 meter long, transects were established in a north/south and east/west direction. Auger holes were dug at ten meter intervals to a depth of 40 cm. No cultural remains were observed. A total of 10 auger holes were dug.

A terrace approximately 50 meters northeast of site 39DE54 was tested next. This terrace contained the remains of three dugouts, designated as site 39DE55. A large, basalt, chopping tool was recovered from a cutbank along the terrace, but it was not in situ. A 1 X 1 meter test pit was excavated near the location where the basalt tool was recovered (Fig. 11). The test pit was excavated in 10 cm levels to a depth of 60 cm. No cultural remains were observed. A single 60 meter long transect was established 45 degrees east of north in a northeast/south direction on the terrace containing the three dugouts. Auger holes were dug at five meter intervals in the northeast half of the transect (six tests) and at 10 meter intervals (4 tests) in the southwest half of the transect (Fig. 11). The spacing was varied to determine whether the closer spacing of auger holes would yield more cultural material. No cultural materials were recovered from any of the auger holes.

The remaining 10 terraces and two upland slopes were systematically shovel tested. Transects were arbitrarily placed on the terraces and upland slopes. Ten shovel tests, 40 cm deep, were dug at 10 to 15 meter intervals along each transect. Soils were sifted through quarter-inch hardware cloth. The soils are all similar except for those of the upland slopes. The former are dark gray silty/sandy loam and the latter a dark brown sandy loam. The upland slopes also have a considerable amount of glacial till. The presence of the glacial till indicates that if sites are present, they are not likely to be deeply buried.

In the west portion of project area LQP-3 an attempt was made to locate historic American Indian burials (39DE53). Also, a buried hearth (site 39DE56) was observed in a cutbank. Two bisecting auger test transects were placed on the terrace containing the buried hearth. A 60 meter north/south and a 30 meter east/west transect were established. Nineteen auger tests were dug at five meter intervals to a depth of 60 cm. Three 1 X 1 meter test pits were excavated in 10 cm levels to depths of 50 to 70 cm. (Fig. 12). The sites in this project area were visited in September, 1982.

LQP-8

There are 345 acres within this project area of which approximately 200 acres occur on landforms with less than 25 percent slopes (Fig. 13). Several historic farmsteads were

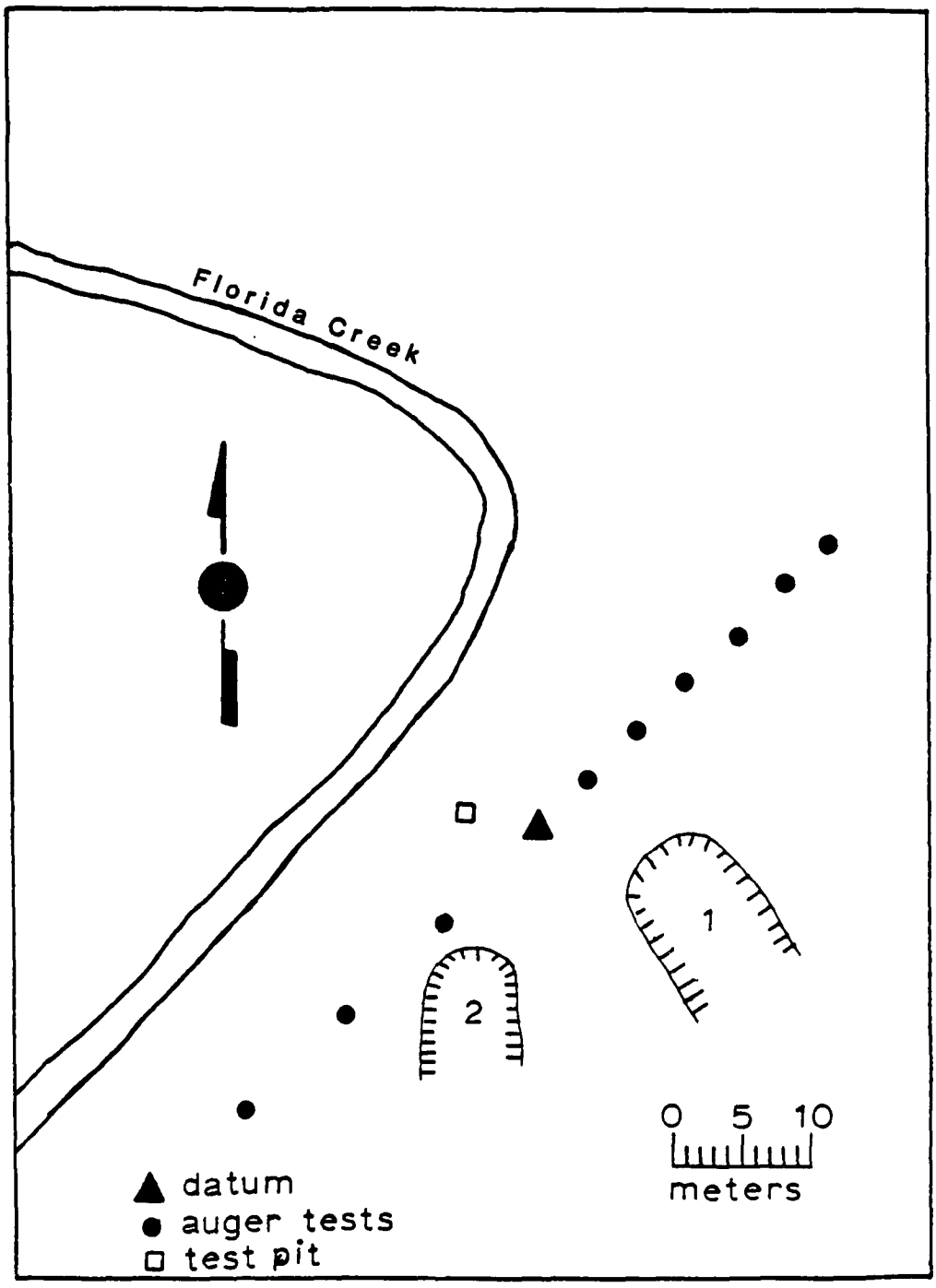
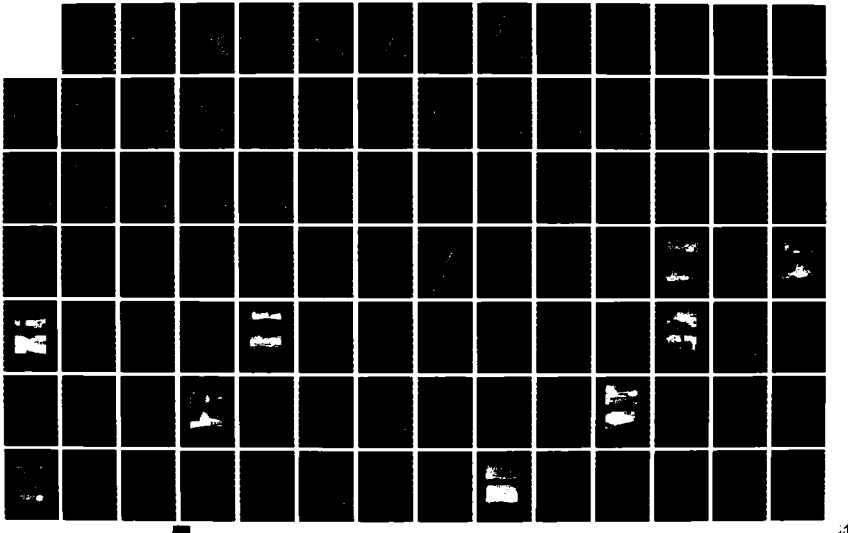
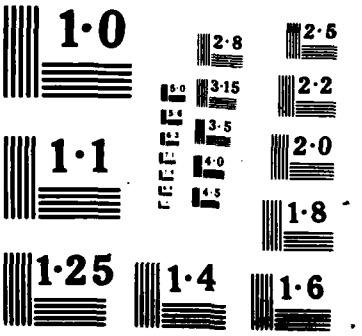


Figure 11. Map showing the general location of auger tests and 1 X 1 meter test pit at site 39DE55.

AD-A172 332 CULTURAL RESOURCES INVESTIGATIONS OF THE UPPER MINNESOTA RIVER (619) PROJ..(U) SOUTH DAKOTA UNIV VERMILLION ARCHAEOLOGY LAB D BEISSEL ET AL. SEP 84 2/4

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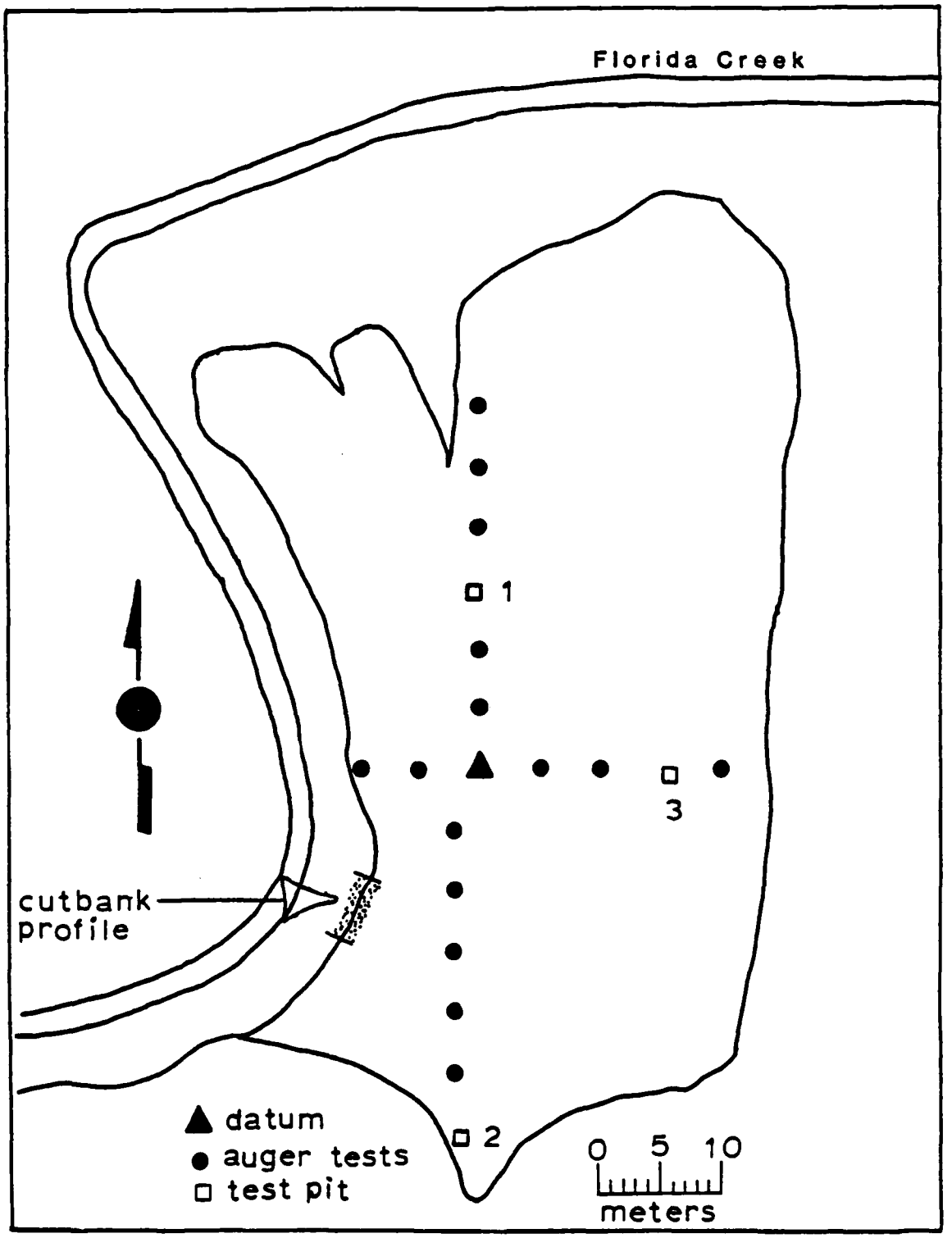


Figure 12. Map showing the general location of auger tests and three 1 X 1 meter test pits at site 39DE56.

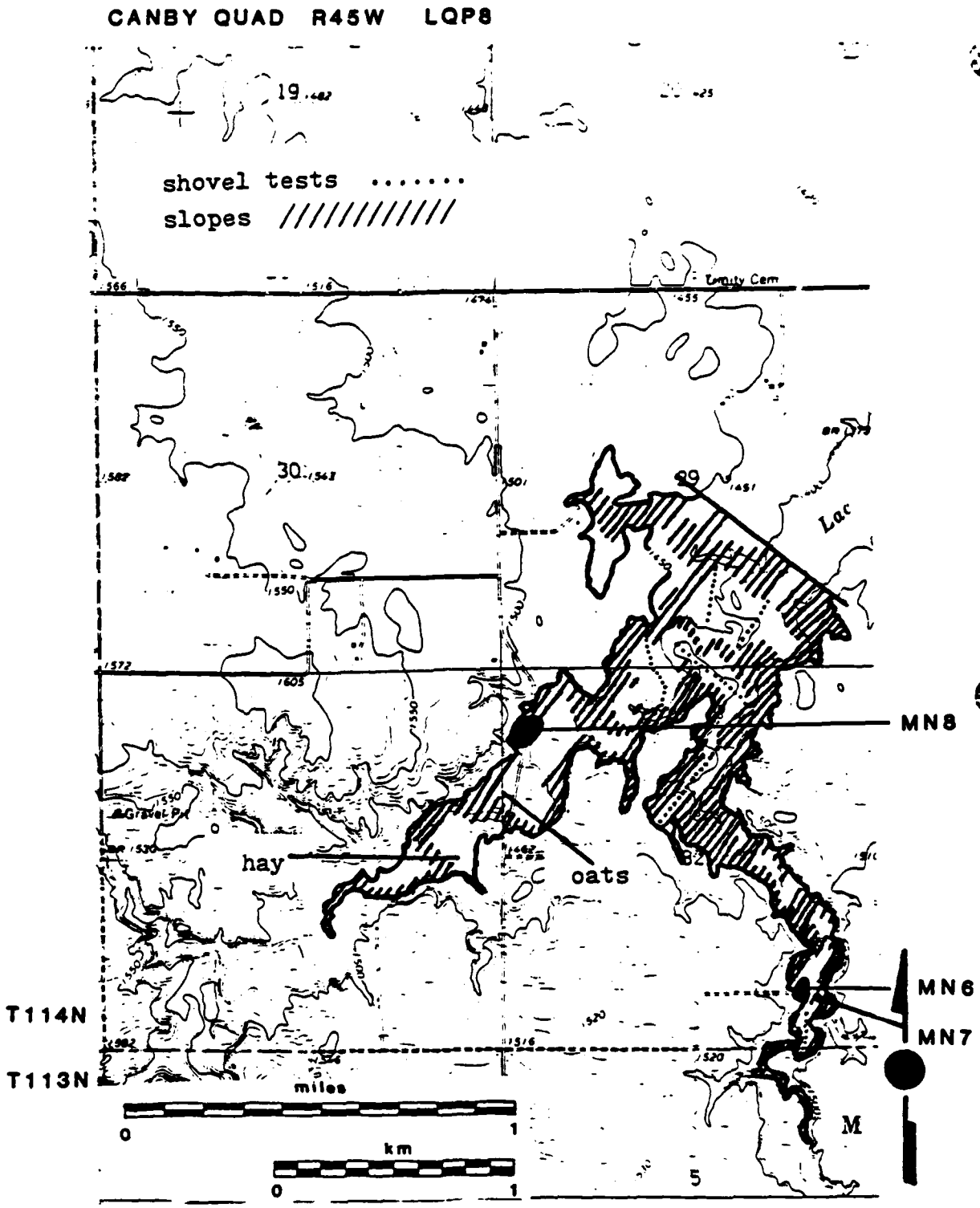


Figure 13. MAP 2. Topographic map of the Canby Quadrangle, T113N, R45W; T114N, R45W, showing the location of project area LQP-8 and survey areas.

located, including MN6 and MN8, and a bridge (MN7). Six terraces and slopes were noted for further testing. Transects were arbitrarily placed on each terrace and slope. Shovel tests, 40 cm deep, were dug at 10 to 15 meter intervals along the transects. Two small fields were in crops. One field had oats and the other had hay, 16 acres and 10 acres respectively. Due to crop cover, subsurface shovel tests were not conducted in these two fields. Ground visibility was zero in most of the project area except for exposed areas. These cultivated fields and one farmstead (MN6) were visited in September, 1982, by Kenneth Brown and Marie Brown. The farmstead (MN6) was visited in order to obtain a more specific description of the remains.

LQP-40

There are 57 acres within this project area of which approximately 35 acres occur on landforms with less than 25 percent slopes (Fig. 14). Initial survey indicated approximately 60 to 65 percent of the project area was located on terraces and bottomlands. These areas were in flax with 35 to 40 percent ground visibility. The landowner denied access to the croplands but allowed examination of the remaining 35 to 40 percent of the project area that was in pasture and consisted of steep slopes. These areas had zero ground visibility and were not shovel tested due to the steepness of the slopes. The cultivated portion of the project area was revisited in May, 1984, by Bill Ranney. He traversed all of the cultivated fields in approximately 20 meter transects. Ground visibility was 80 to 90 percent. No prehistoric remains or historic structures were observed.

YB-6

There are 106 acres within this project area of which approximately 45 acres occur on landforms with less than 25 percent slopes (Fig. 15). Access to this project area was initially denied by the landowner. However, the landowner permitted access to the project area in September, 1982, when Kenneth Brown and Marie Brown conducted additional field work. The project area north of the gravel road was in pasture and timber while the lands south of the road were in hay that had recently been cut prior to field survey.

Ground visibility in the hay fields, which total approximately 15 acres, was approximately 30 to 50 percent. The rest of the project area had zero ground visibility except for exposed areas, such as numerous rodent backdirt piles, cattle paths, and eroded stream banks. Due to the numerous rodent activities and eroded cattle paths, shovel tests were not done. However, all of the exposed areas were carefully examined for cultural remains. The survey team recorded one dugout, site 39GT7, along the stream bank. No other cultural remains were observed.

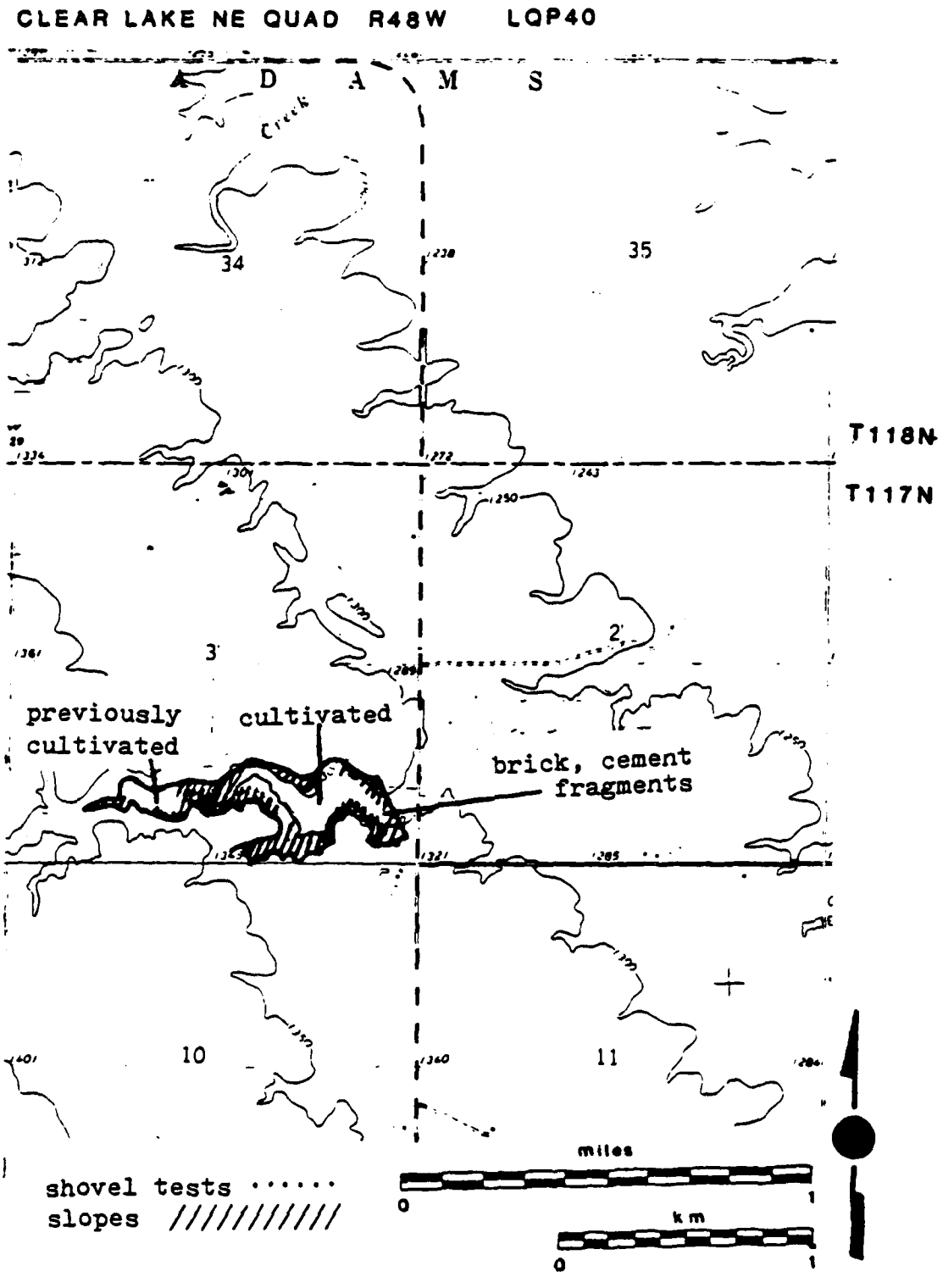


Figure 14. MAP 3. Topographic map of the Clear Lake NE Quadrangle, T117N, R48W; T118N, R48W, showing the location of project area LQP-40 and survey areas.

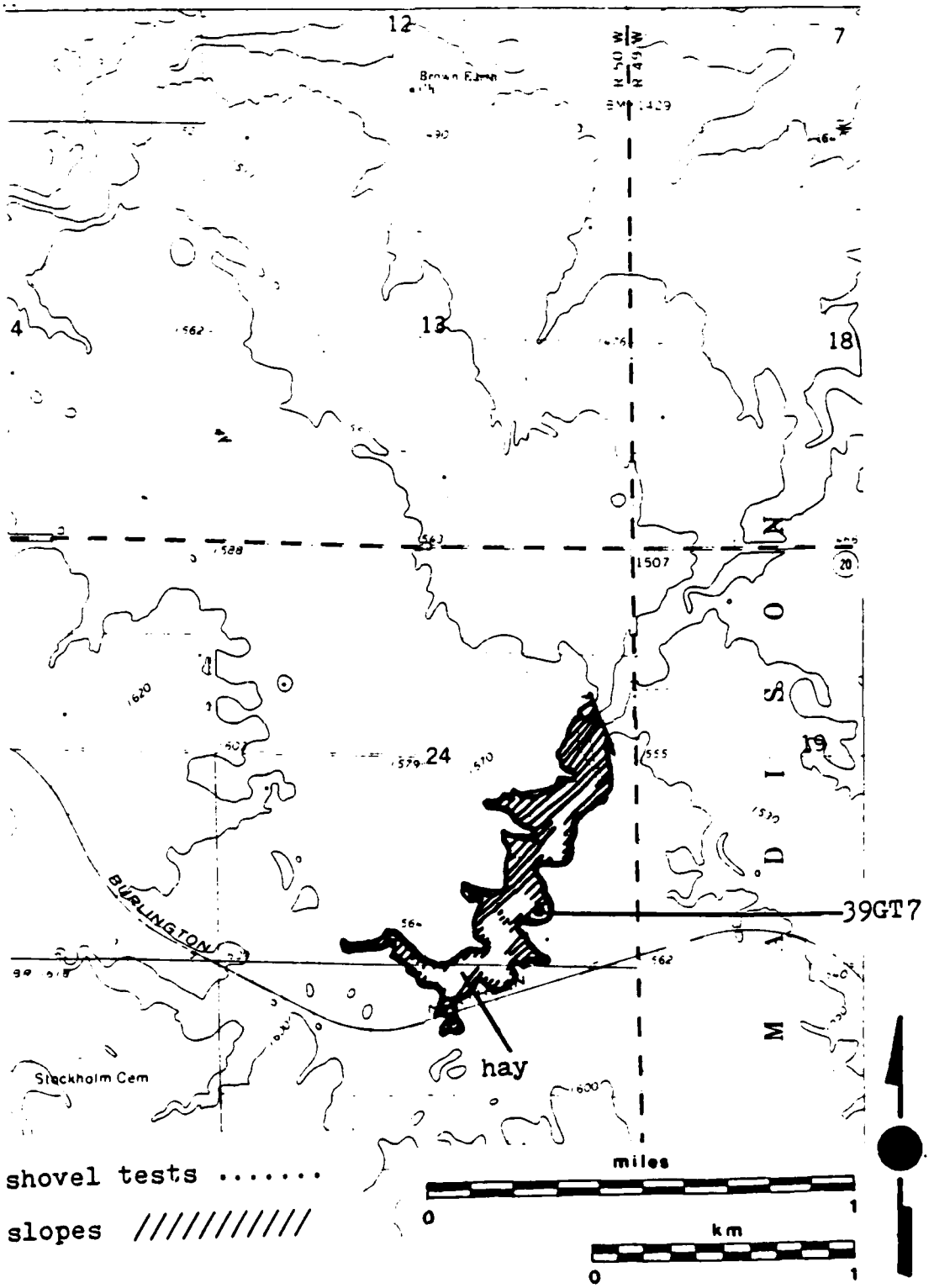


Figure 15. MAP 4. Topographic map of the Stockholm Quadrangle, T119N, R50W, showing the location of project area YB-6 and survey areas.

There are 599 acres within this project area of which approximately 410 acres occur on landforms with less than 25 percent slopes (Fig. 16). There are four landowners within this project area. Tillma and Mills denied access to their property, which totals approximately 75 acres in the northeast portion of the project area. A cursory examination was made of Mills' property when Street, one of the other landowners, accompanied the field crew to the location of a former flour mill, site 39GT16. At this time a dugout, site 39GT13, was observed near the flour mill. Other exposed areas, including cattle paths, eroded stream banks, etc., were examined for cultural remains but none were observed. Therefore, the only lands not examined at all were Tillma's, which total approximately 42 acres, of which 20 acres were in flax (Fig. 16).

During initial survey, the project lands were in flax (100 acres, including Tillma's), corn (13 acres), oats (5 acres), and the rest was in pasture and timber. The cultivated fields, encompassing approximately 100 acres (excluding Tillma's), were not originally surveyed due to crop cover, but were examined in September after the crops had been harvested.

In the southern portion of the project area four terraces were subsurface tested by augering. These four terraces were in pasture with zero ground visibility. Grids were established on each terrace and auger holes were dug at 10 meter intervals to depths of 40 cm. All soils were sifted through quarter-inch hardware loth. Figure 16 shows the locations of the four terraces and Figures 17 thru 20 show the configurations of the auger tests on each terrace. Terrace one had 13, terrace two had seven, terrace three had five and terrace four had seven auger tests dug. The configuration of the auger tests was determined by the size and shape of the terraces. No cultural remains were recovered from any of these auger tests.

The initial survey recorded the locations of a flour mill (39GT16), a silver mine (39GT8), a cluster of five dugouts (39GT9), a single dugout (39GT13), a clapboard structure (39GT18), an abandoned farmstead with two possible dugouts (39GT17), one occupied farmstead (MN16), and a bridge (MN18). An isolated chert flake was recovered from an eroded cattle path and was designated site 39GT10. The chert flake was recovered from a terrace that had previously been auger tested (see terrace two above). However, after finding the flake, additional shovel testing was done in the vicinity of the flake. No additional cultural remains were recovered.

Fifteen shovel tests were dug in the vicinity of two possible dugouts (39GT17). Only a part from a cultivator was recovered. East of the abandoned farm buildings, on the east

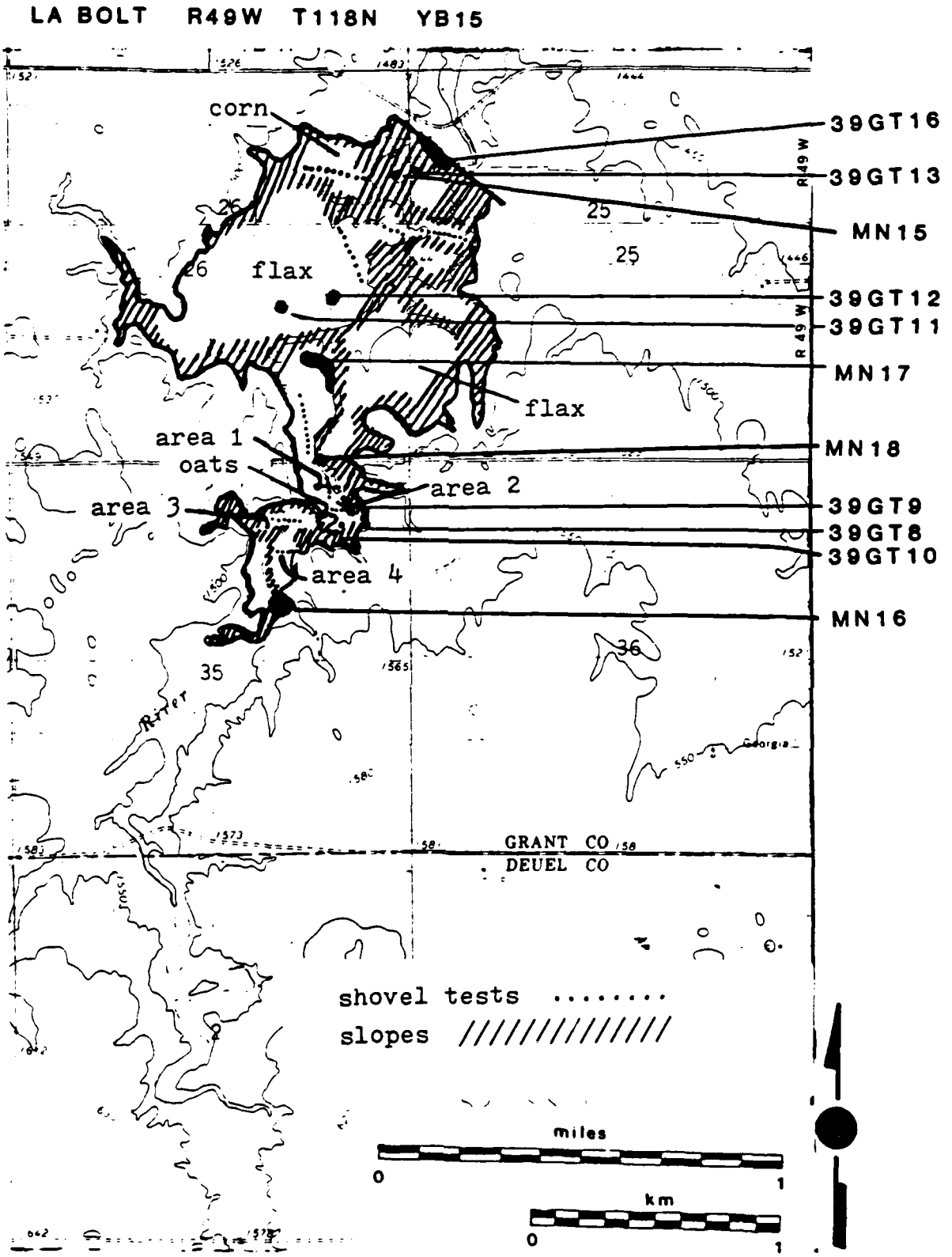


Figure 16. MAP 5. Topographic map of the La Bolt and Tunerville Quadrangles, T118N, R49W, showing the location of project area YB-15 and survey areas.

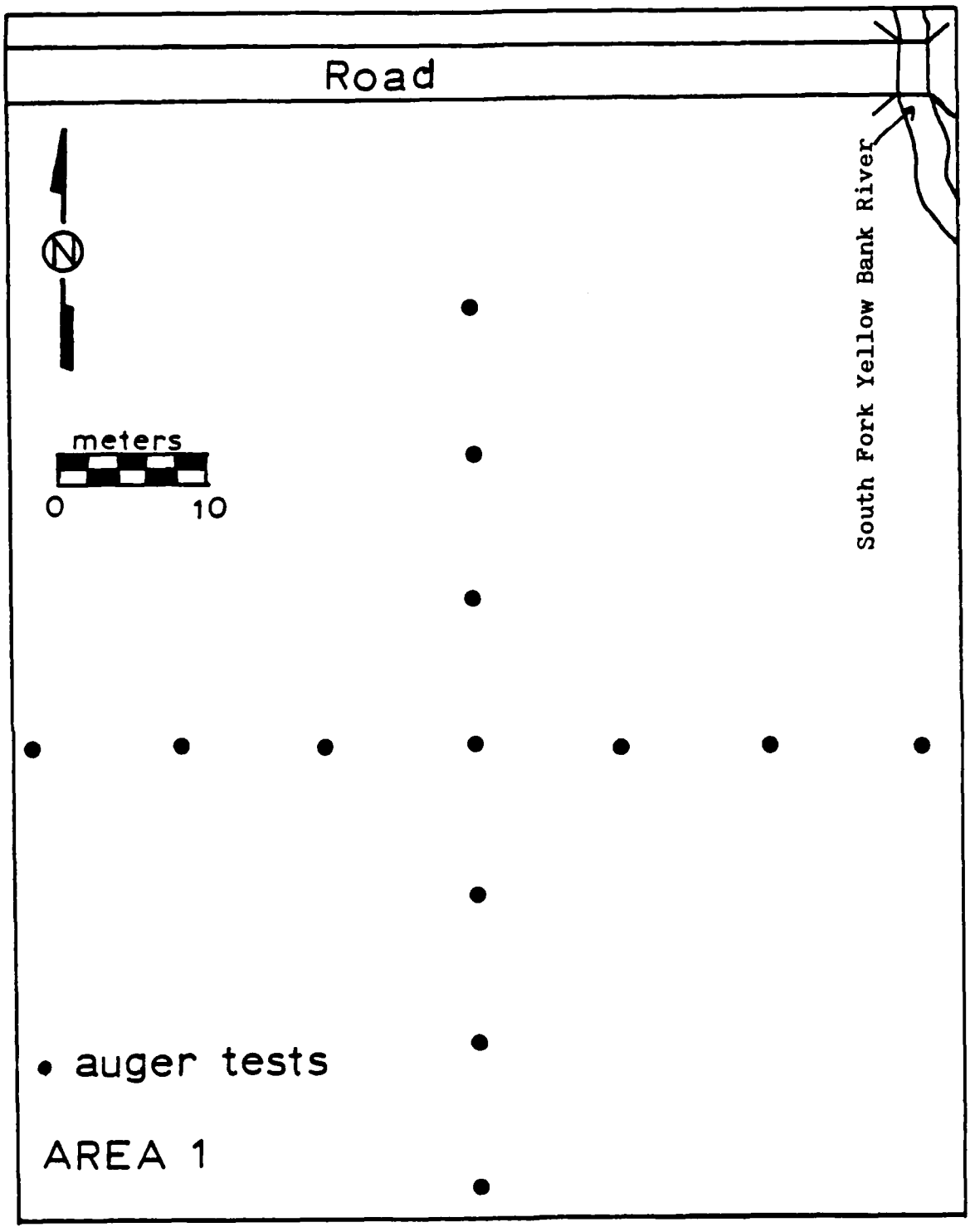


Figure 17. Map showing the approximate location of auger tests in area no. 1 within project area YB-15.

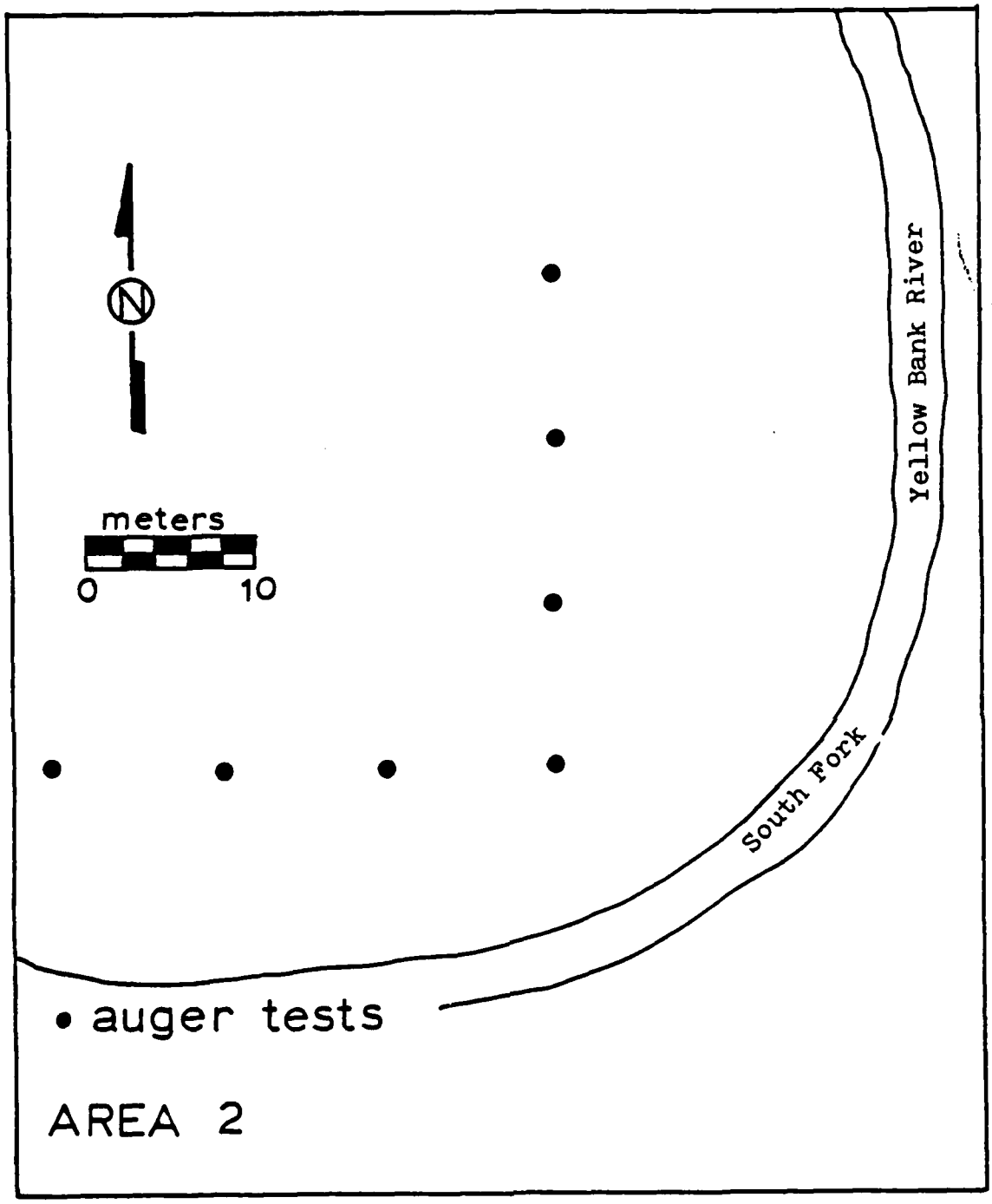


Figure 18. Map showing the approximate location of auger tests in area no. 2 within project area YB-15.

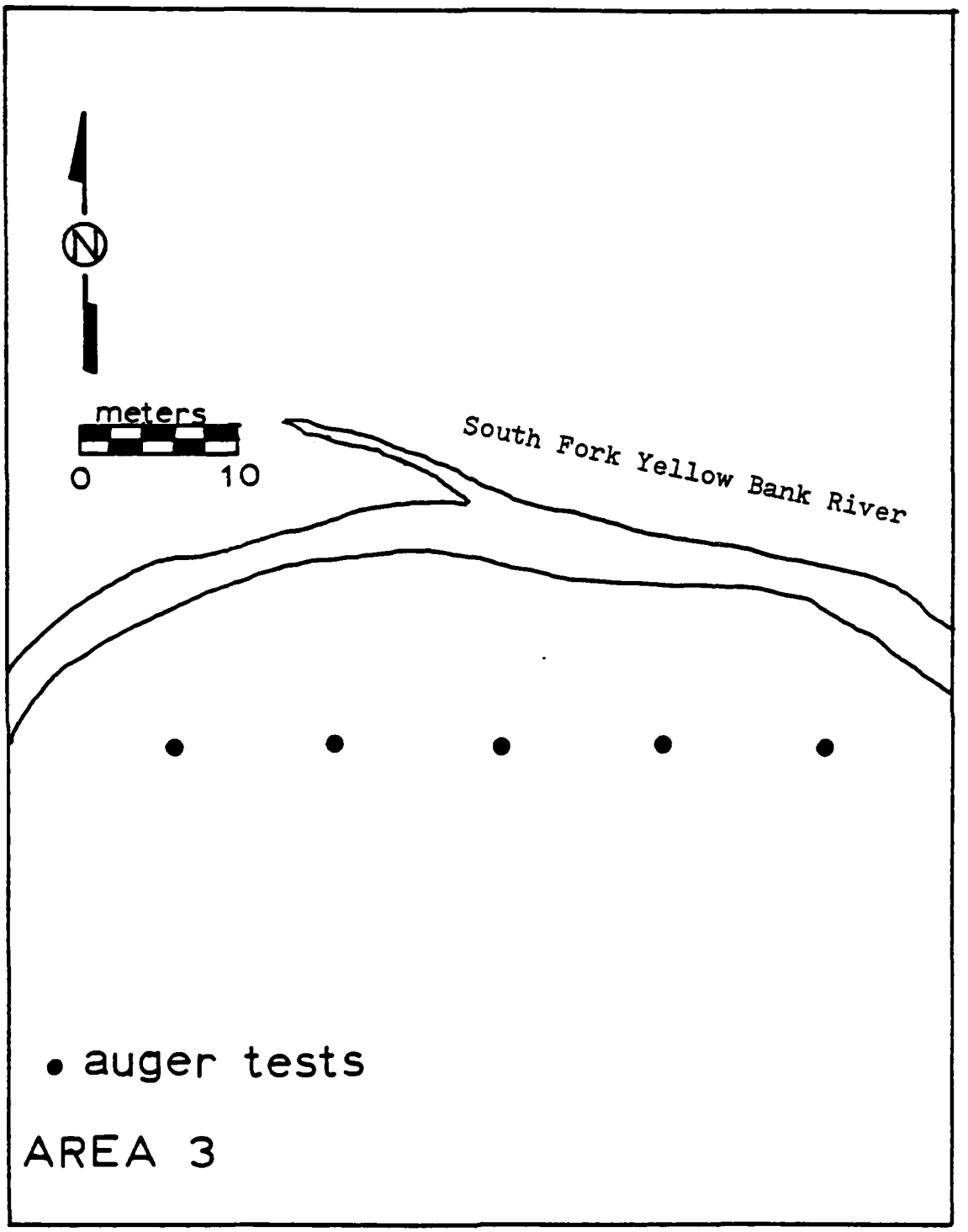


Figure 19. Map showing the approximate location of auger tests in area no. 3 within project area YB-15.

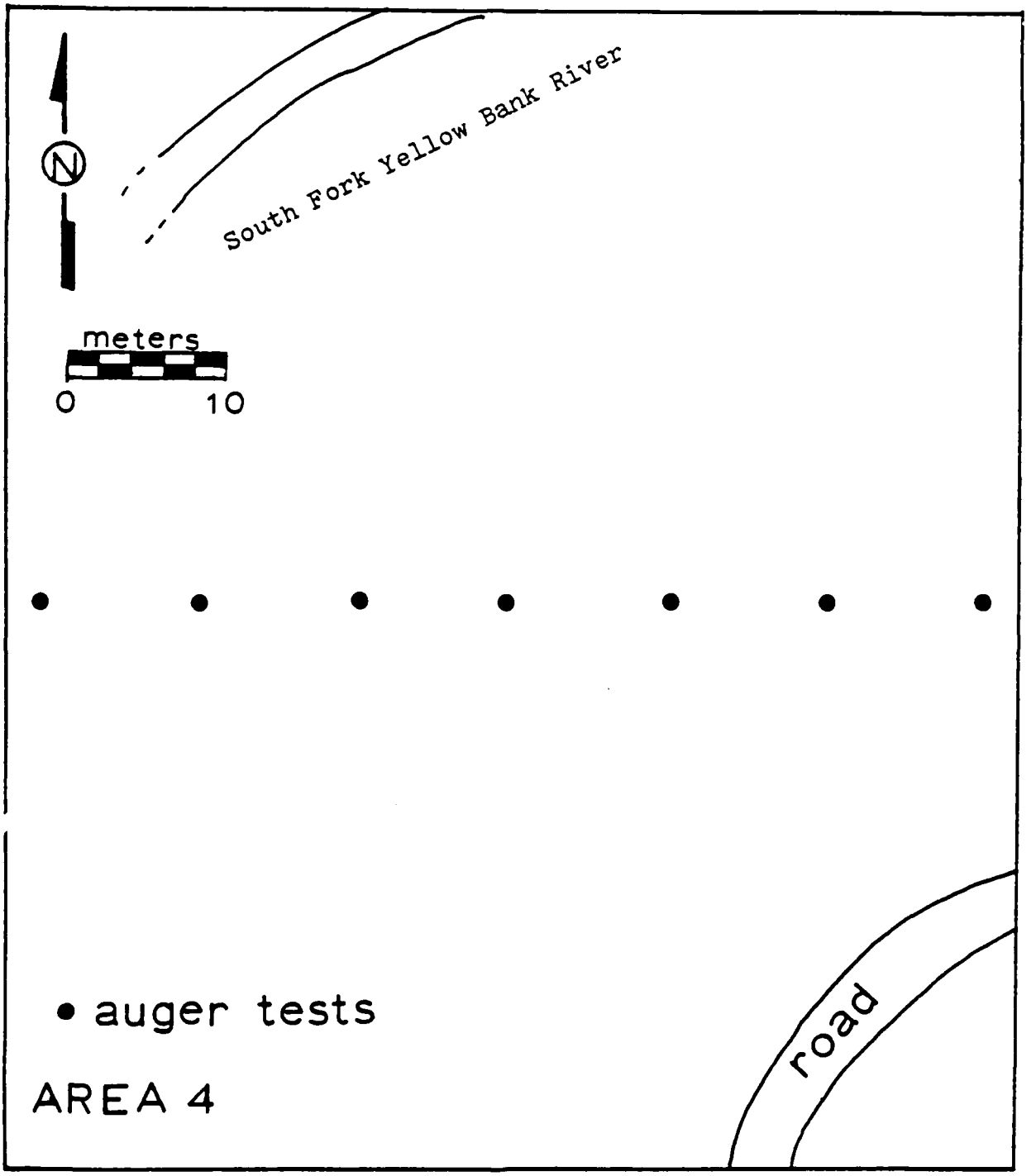


Figure 20. Map showing the approximate location of auger tests in area no. 4 within project area YB-15.

side of the stream, five shovel tests were dug in the eroded areas of abandoned gravel quarries. No cultural remains were recovered. In the northern portion of the project area 30 shovel tests were dug on three slopes and one terrace. All soils were sifted through quarter-inch hardware cloth. No cultural remains were recovered.

Datums were established at the flour mill (39GT16), the cluster of five dugouts (39GT9) and the silver mine (39GT8). In addition, maps were made of the flour mill (Fig. 21) and the cluster of five dugouts (Fig. 22). The project area was revisited in September, 1982, after crops had been harvested. The survey team traversed the cultivated portions (excluding Tillma's) of the project area that were not previously examined. Ground visibility was 90 to 100 percent. Two small lithic scatters situated on small knolls north of the abandoned farmstead (39GT17) were recorded. Five shovel tests were dug at each site location. Four shovel tests were placed in each of the cardinal directions and one was placed in the center. Soils were sifted through quarter-inch hardware cloth. No cultural remains were recovered. A large quantity of glacial till, in the form of rounded gravel and cobbles, was noted. The two lithic scatters were assigned site numbers 39GT11 and 39GT12.

YB-18

There are 97 acres in this project area of which approximately 30 acres occur on landforms with less than 25 percent slopes (Fig. 23). Lands within the project area were pasture (95 percent) and oats (five percent). The field of oats was not surveyed because of the oat crop. All of the pasture land was surveyed. The pasture was heavily grazed; consequently, ground visibility was approximately 35 to 40 percent. All exposed areas, such as cattle paths and eroded stream banks, were carefully examined for cultural remains. This area is heavily eroded and glacial till is visible on the surface. No cultural remains were recovered from the project area.

YB-25

There are 95 acres within this project area of which approximately 75 acres occur on landforms with less than 25 percent slopes (Fig. 24). The entire project area was surveyed. Approximately 99 percent was in pasture and one percent was in corn. Ground visibility in the corn was 60 percent and zero to 10 percent in the pasture. There were four terraces and slopes noted to be shovel tested. These four areas were tested at a later date. The initial survey recorded one bridge foundation (39GT15), six structures and a well of a previous farmstead (39GT14), and a standing barn that may be periodically inundated (MN22). The project area was revisited and a datum was placed at the farmstead (39GT14) and a map was made of the six structures and well

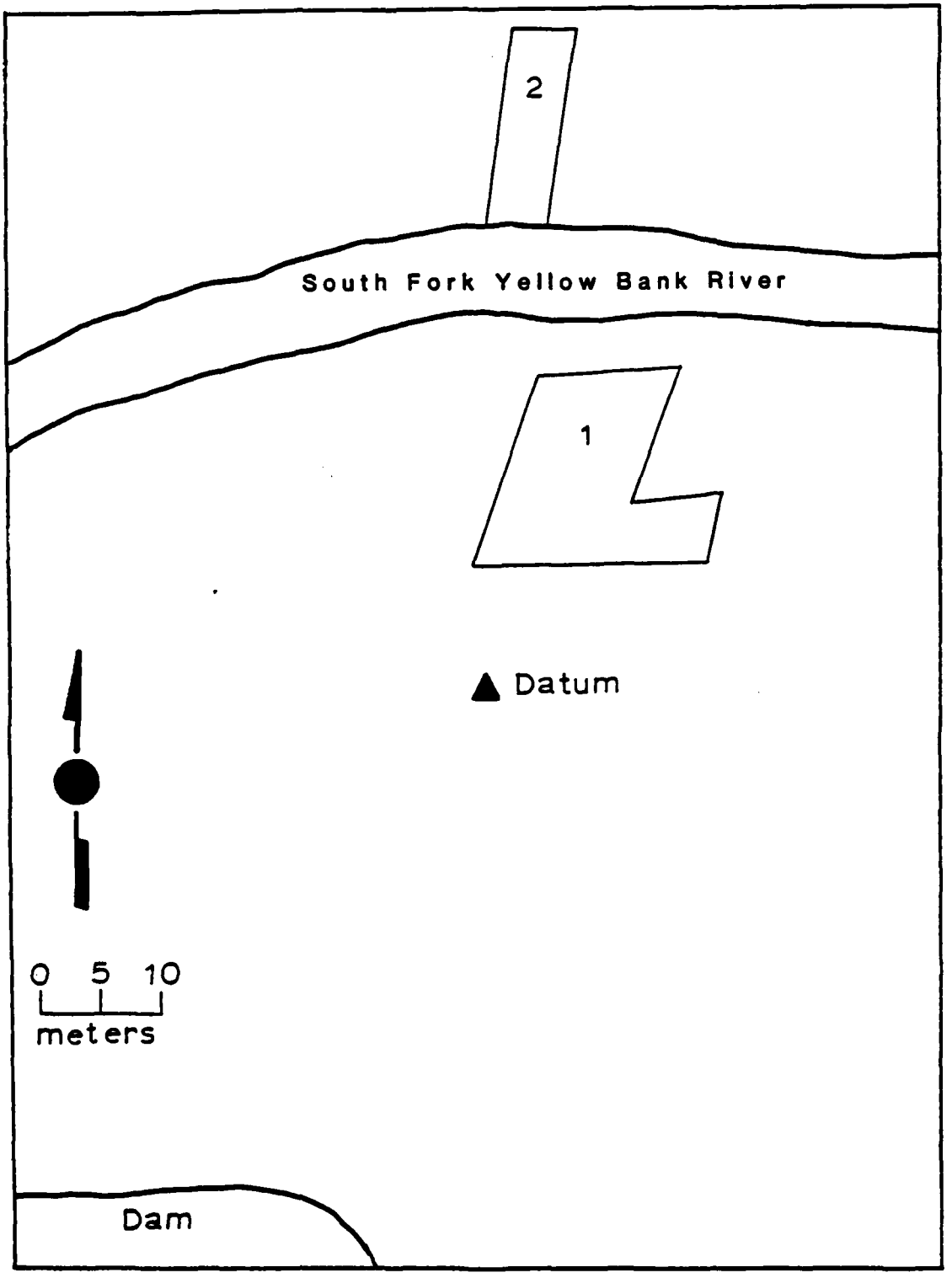


Figure 21. Map showing the general location of the foundations at the grist mill, site 39GT16.

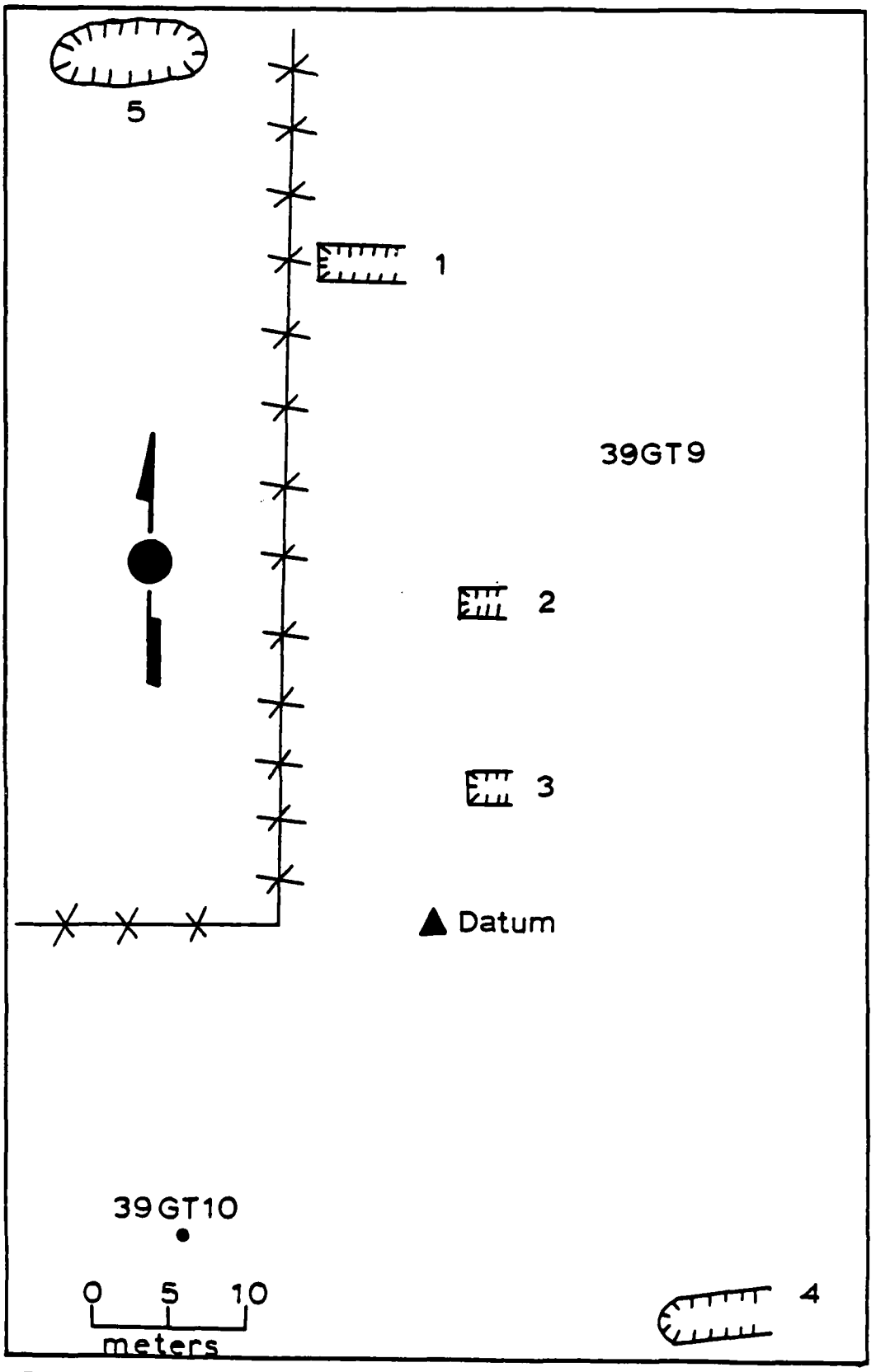


Figure 22. Map showing the locations of dugouts at site 39GT9 and the location of site 39GT10.

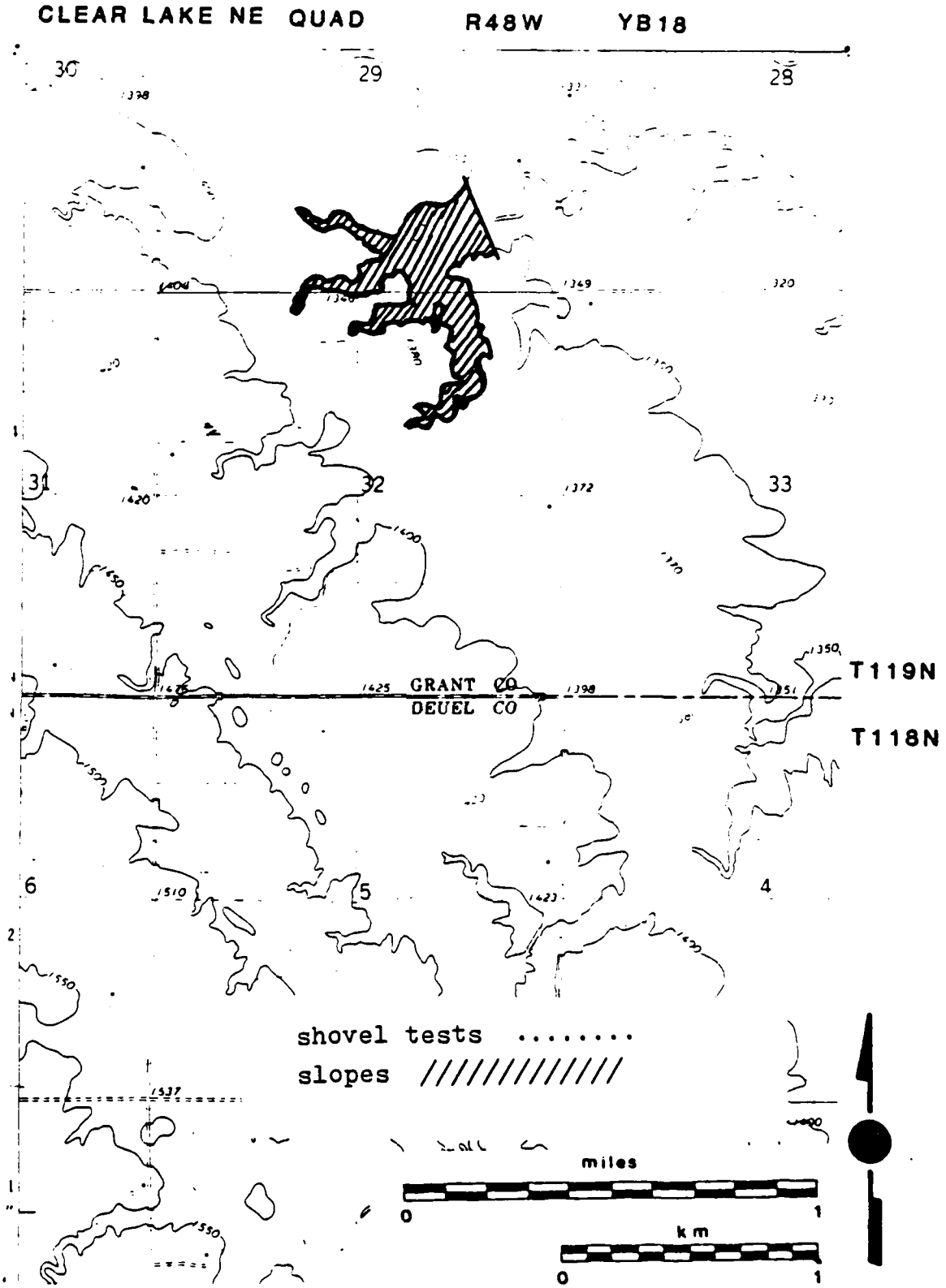


Figure 23. MAP 6. Topographic map of the Clear Lake NE Quadrangle, T118N, R48W; T119N, R48W, showing the location of project area YB-18 and survey areas.

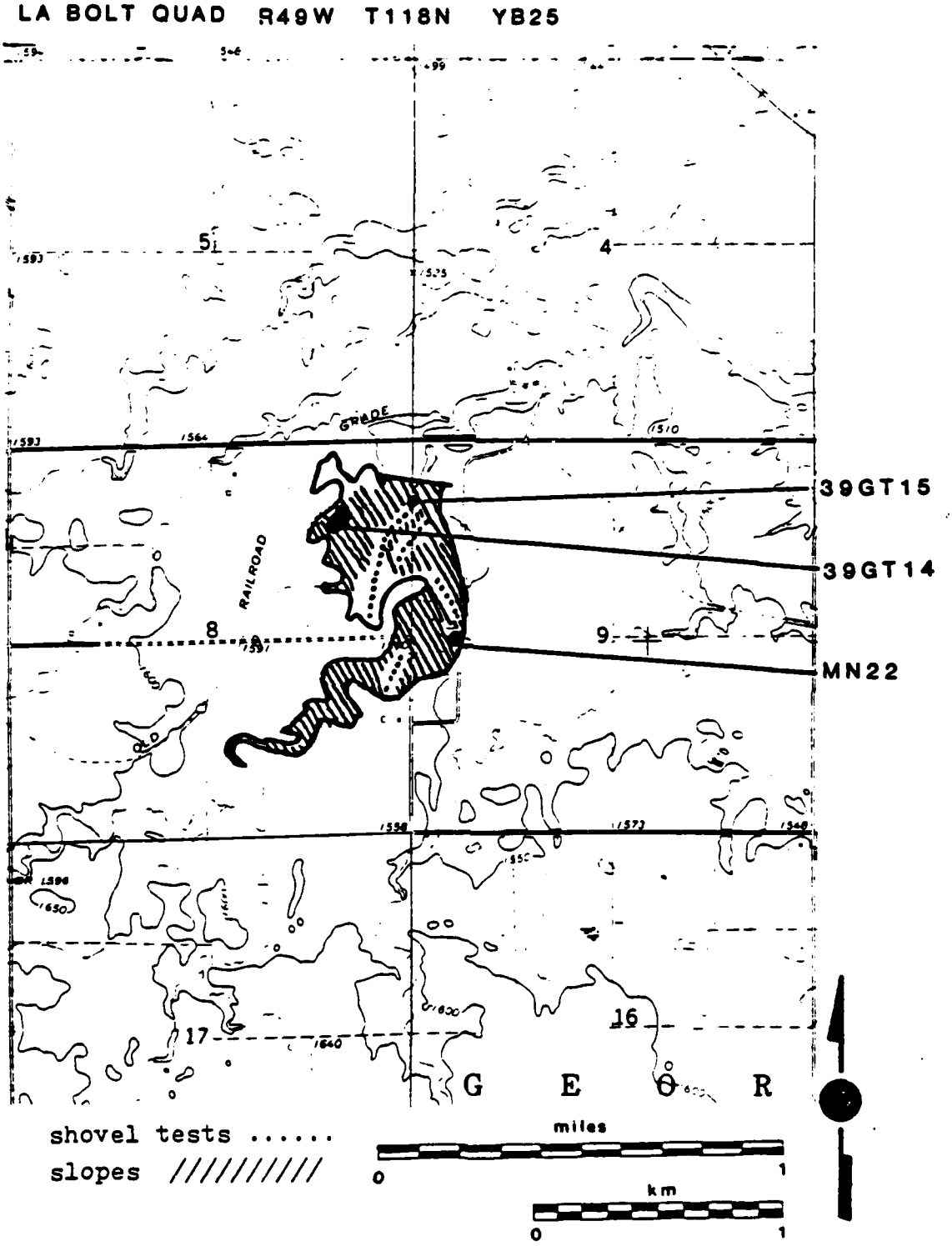


Figure 24. MAP 7. Topographic map of the La Bolt Quadrangle, T118N, R49W, showing the location of project area YB-25 and survey areas.

(Fig. 25). The four previously designated areas that required testing were shovel tested. Parallel transects were established at 10 to 20 meter intervals, depending upon vegetation and topography, and shovel tests were dug to a depth of 40 cm at 10 to 15 meter intervals (Fig. 24). No cultural remains were observed.

Channel Reaches

The sample survey of the channel reaches was derived by dividing each stream channel into quarter-mile segments, with each tenth quarter-mile segment near a road crossing selected for survey. This procedure resulted in 29 segments, or 7.25 miles for a 13.65 percent sample of the 53.1 miles of channel reaches (Table 9)(Figs. 7, 26 thru 36). The channel reach survey consisted of approximately a 60 meter wide corridor on each side of the river. Survey transects were conducted at 10 meter intervals paralleling the rivers. Marshy areas, which included active floodplains (approximately 10 meters wide) not conducive to pedestrian reconnaissance were not surveyed. A literature and records search prior to initiating field work indicated the South Fork of the Yellow Bank River and many of its tributaries on the lowlands have changed their courses and/or have been largely channelized or ditched for agricultural purposes (Waters 1977:293; General Land Office Survey Maps, ca. 1858 and 1872)(Figs. 8, 37 thru 40). Therefore, many of the present-day channels are different from what they were 100 years ago. Some were not present at that time and have subsequently been ditched. The decision to shovel test selected areas with poor ground visibility was made in the field by the field supervisor. The selection of these areas was dependent upon the professional judgement of the field supervisor as to whether or not areas had been previously greatly altered for agricultural purposes.

Shovel tests were dug at 10 to 15 meter intervals and to a depth of 40 cm in the selected areas where ground visibility was less than 25 percent. Soils were sifted through quarter-inch hardware cloth. In an effort to maximize project time and monies, it was decided to only record positive shovel tests on field maps and testing forms. Since there were no positive shovel tests (i.e., no cultural remains were obtained), shovel test forms were not completed and detailed shovel test maps were not made. All rodent backdirt piles and cattle paths were examined for cultural remains.

Because it was anticipated that crops, such as wheat and hay fields would inhibit survey coverage, the sample size of greater than 13.5 percent was intentionally selected to compensate for this problem. Therefore, even though none of the wheat fields and a few of the hay fields and areas of dense vegetation were not surveyed and/or shovel tested within the 13.65 percent sample, this increased sample size resulted in the actual survey of approximately a 10 percent

Table 9

Yellow Bank Subbasin Channel Reaches

Channel Reach	County	Survey Segments	Total Estimated Miles	Miles Surveyed	Responsible* Agency
Q2208	Lac qui Parle	28A 29A	3.4	0.50	Corps
Q2209	Lac qui Parle	10A 11A 25A	2.6	0.25	Corps
Q2211	Lac qui Parle	23A 24A 26A 27A	5.9	1.00	Corps
Q2212	Lac qui Parle	21A 22A	3.2	0.50	Corps
G2001	Grant	16A 17A 18A 19A	8.6	1.00	SCS
G2201	Grant Lac qui Parle	12A 13A 14A 15A	9.6	1.00	SCS
G2202	Grant	1A 2A 3A 4A 5A 6A 7A 8A 9A	17.7	2.25	SCS
G2212	Grant	20A	2.1	0.25	SCS
Totals		29	53.1	7.25	

**Responsible Agency: Corps = Army Corps of Engineers
SCS = Soil Conservation Service

Table 10

Vegetation Cover and Shovel Test Frequencies in River Corridor Segments

River Segment	Plowed	Wheat	Bean	Corn	Pasture or Hay	Wooded Grass	No. Shovel Tests
1A	-	-	-	-	-	2*	15
2A	-	-	-	2	-	-	-
3A	-	1	1	-	-	*	20
4A	-	2	-	-	-	*	20
5A	-	1	1	-	-	*	10
6A	-	-	-	1	1*	-	10
7A	-	-	-	-	-	2	-
8A	-	-	1	1	-	-	-
9A	-	1	-	1	-	-	-
10A-11A	1	-	1	-	-	1*	10
12A	1	-	1	-	-	-	-
13A	-	-	-	-	2*	-	10
14A	-	2	-	-	-	-	-
15A	-	-	-	2	-	-	-
16A	-	-	-	-	2*	*	10
17A	-	-	1	-	1*	*	12
18A	-	-	2	-	-	-	-
19A	-	-	-	1	1*	*	20
20A	-	-	-	1	1*	-	15
21	-	1	-	1	-	-	-
22A	-	-	1	1	1	-	-
23A	-	-	-	1	1	-	-
24A	-	-	-	2	1	-	-
25A	-	1	-	2	-	-	-
26A	-	1	1	-	1	-	-
27A	-	-	2	-	-	-	-
28A	-	-	-	-	2	-	-
29A	-	-	1	1	-	-	-
Totals	2	10	12	17	14	5	152

Key:

* = Vegetation areas shovel tested.
# = Number of sides of river or stream with the designated type of vegetation.

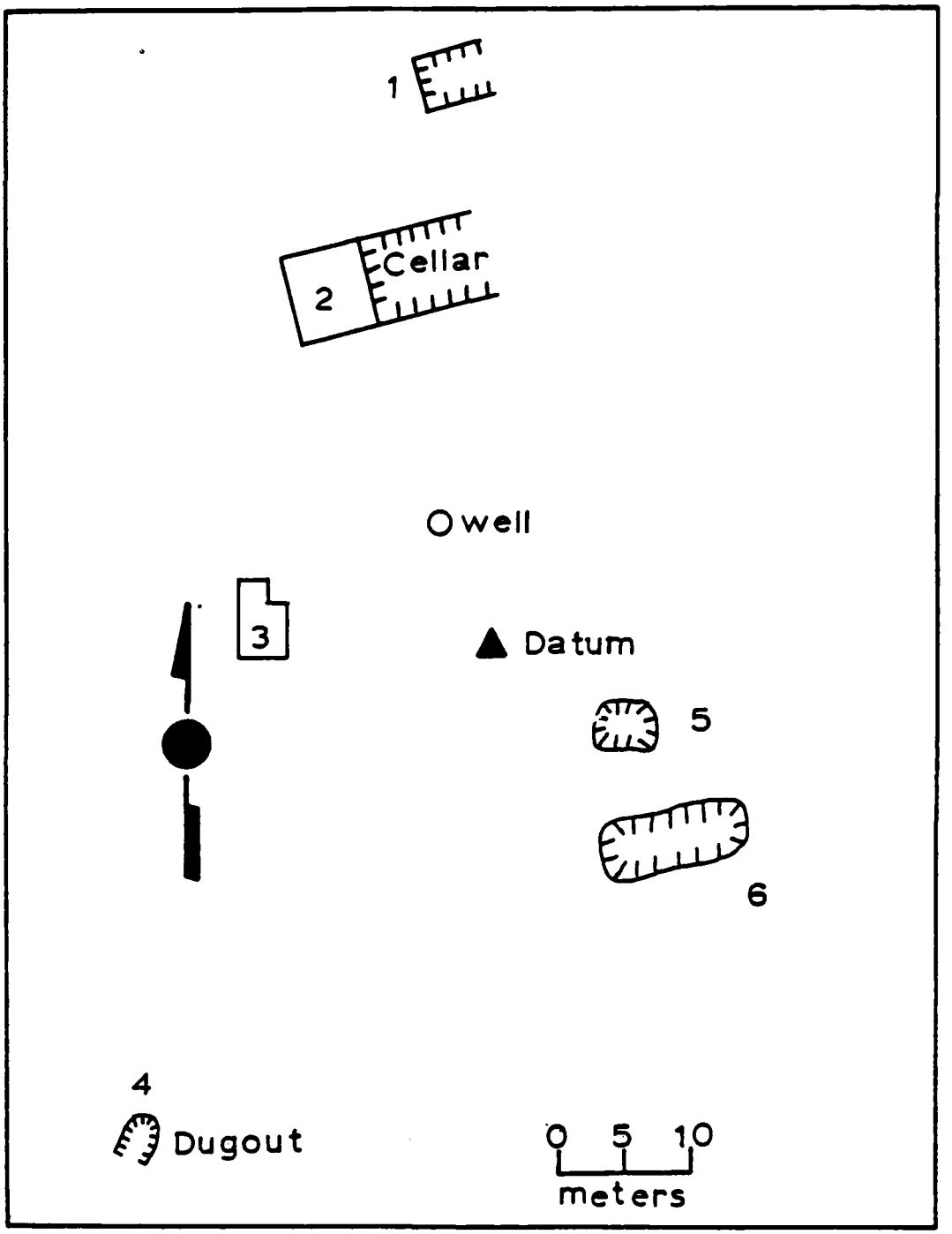


Figure 25. Map showing the locations of structural remains at site 39GT14.

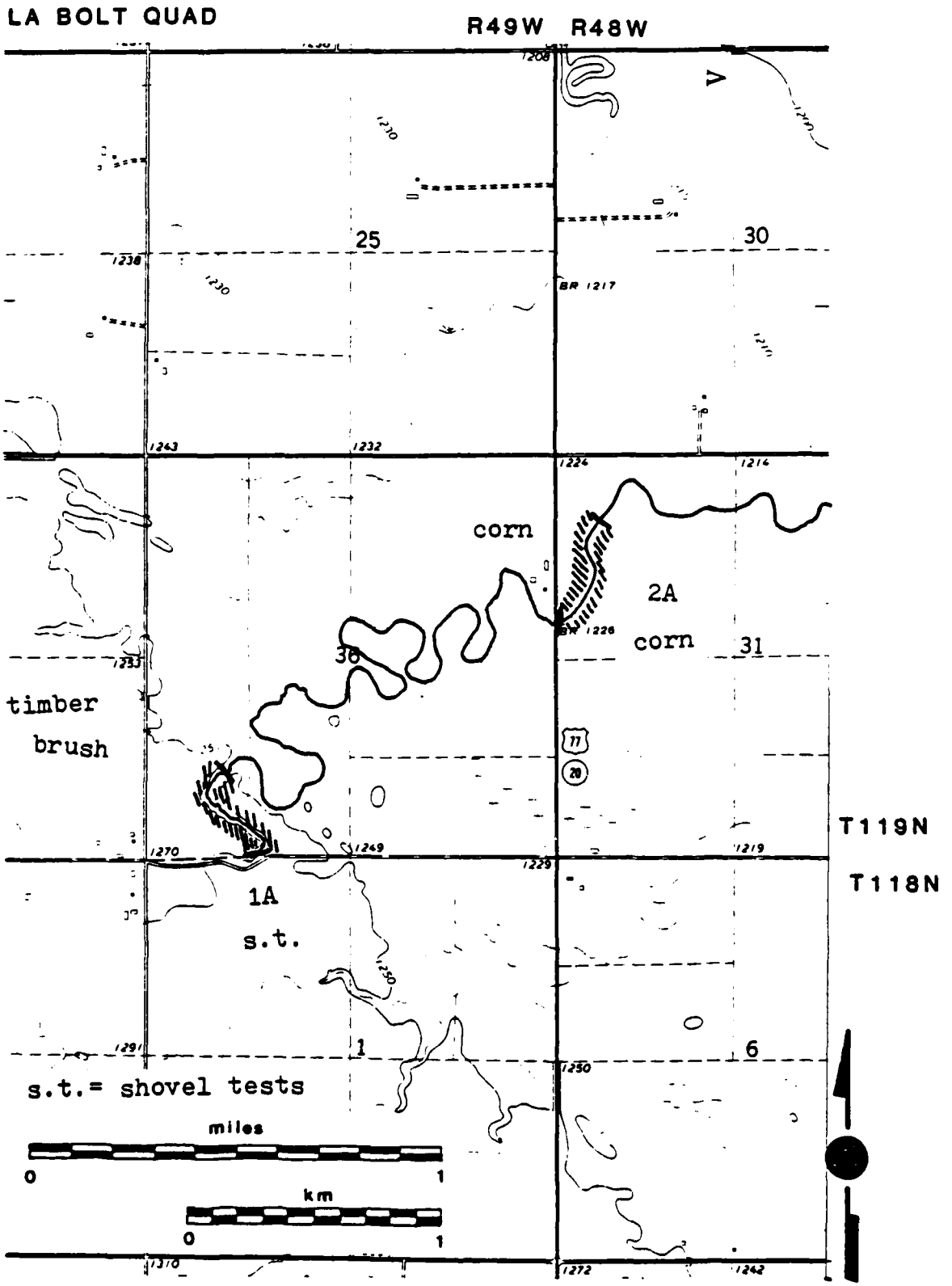


Figure 26. MAP 8. Topographic map of the La Bolt Quadrangle, T118N, R48W; T118N, R49W; T119N, R48W; T119N, R49W, showing the locations of channel segments 1A and 2A.

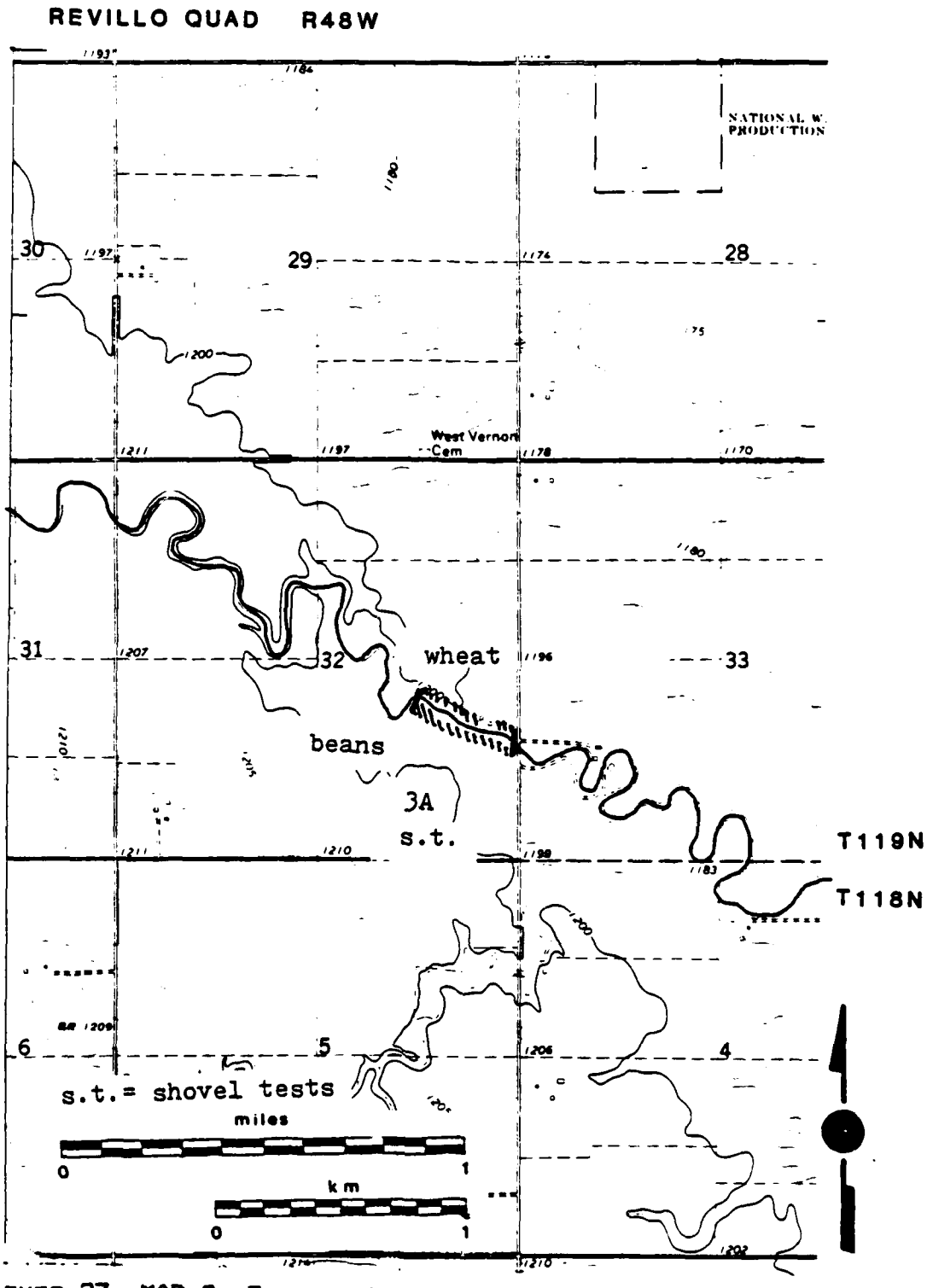


Figure 27. MAP 9. Topographic map of the Revillo Quadrangle, T118N, R48W; T119N, R48W, showing the location of channel segment 3A.

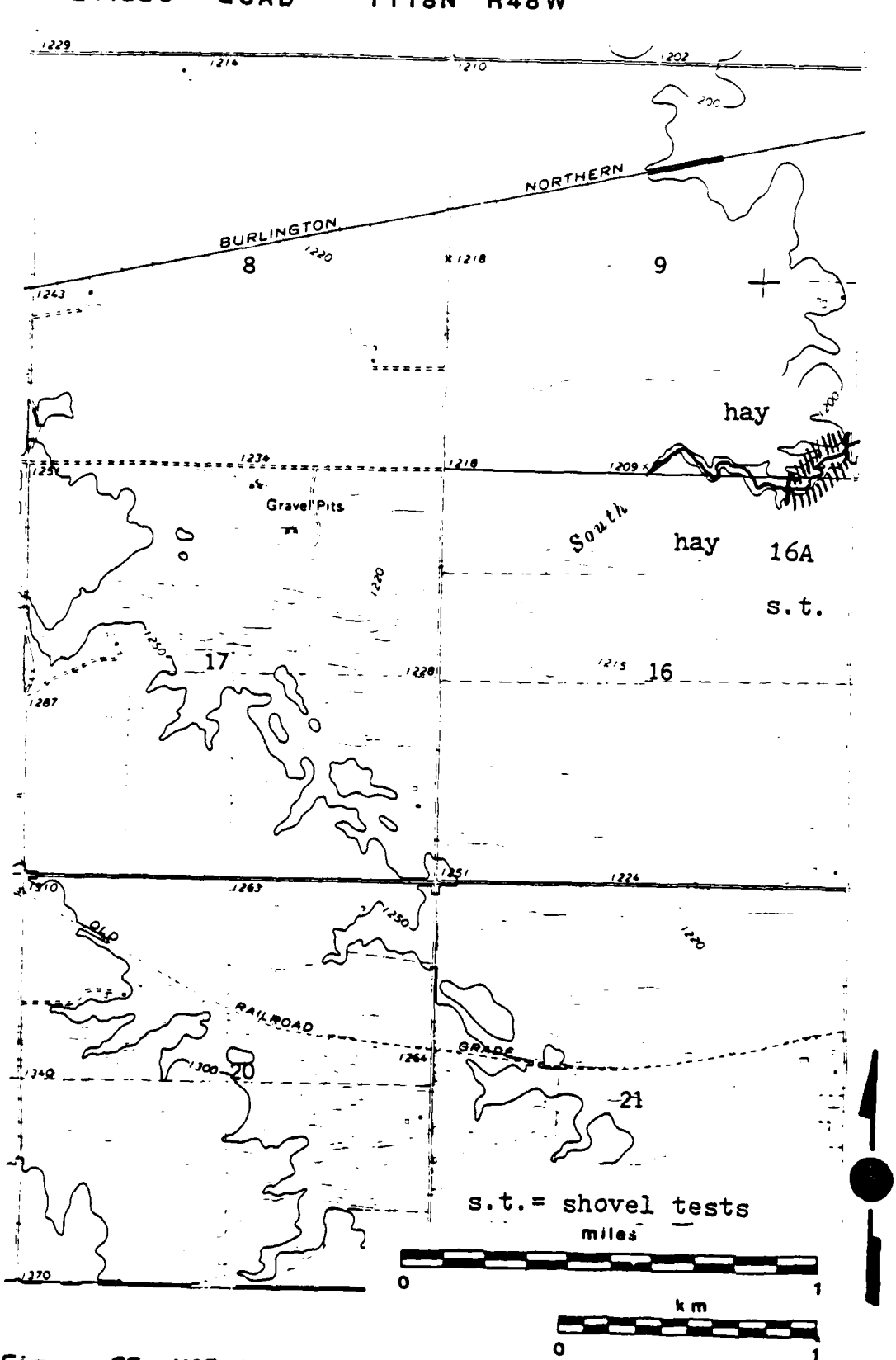


Figure 28. MAP 10. Topographic map of the Revillo Quadrangle, T118N, R48W, showing the location of channel segment 16A.

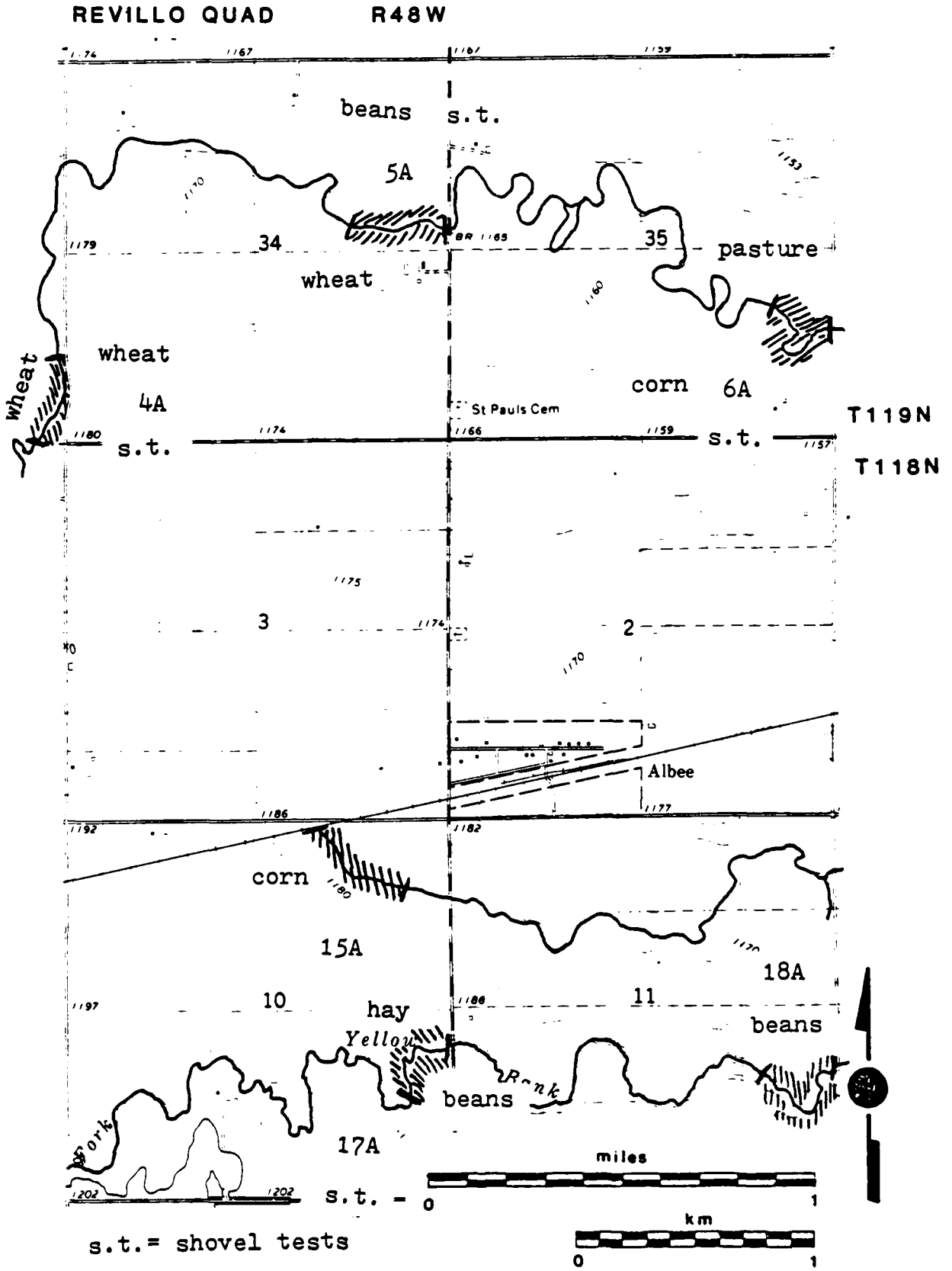


Figure 29. MAP 11. Topographic map of the Revillo Quadrangle, T118N, R48W; T119N, R48W, showing the locations of channel segments 4A, 5A, 6A, 15A, 17A and 18A.

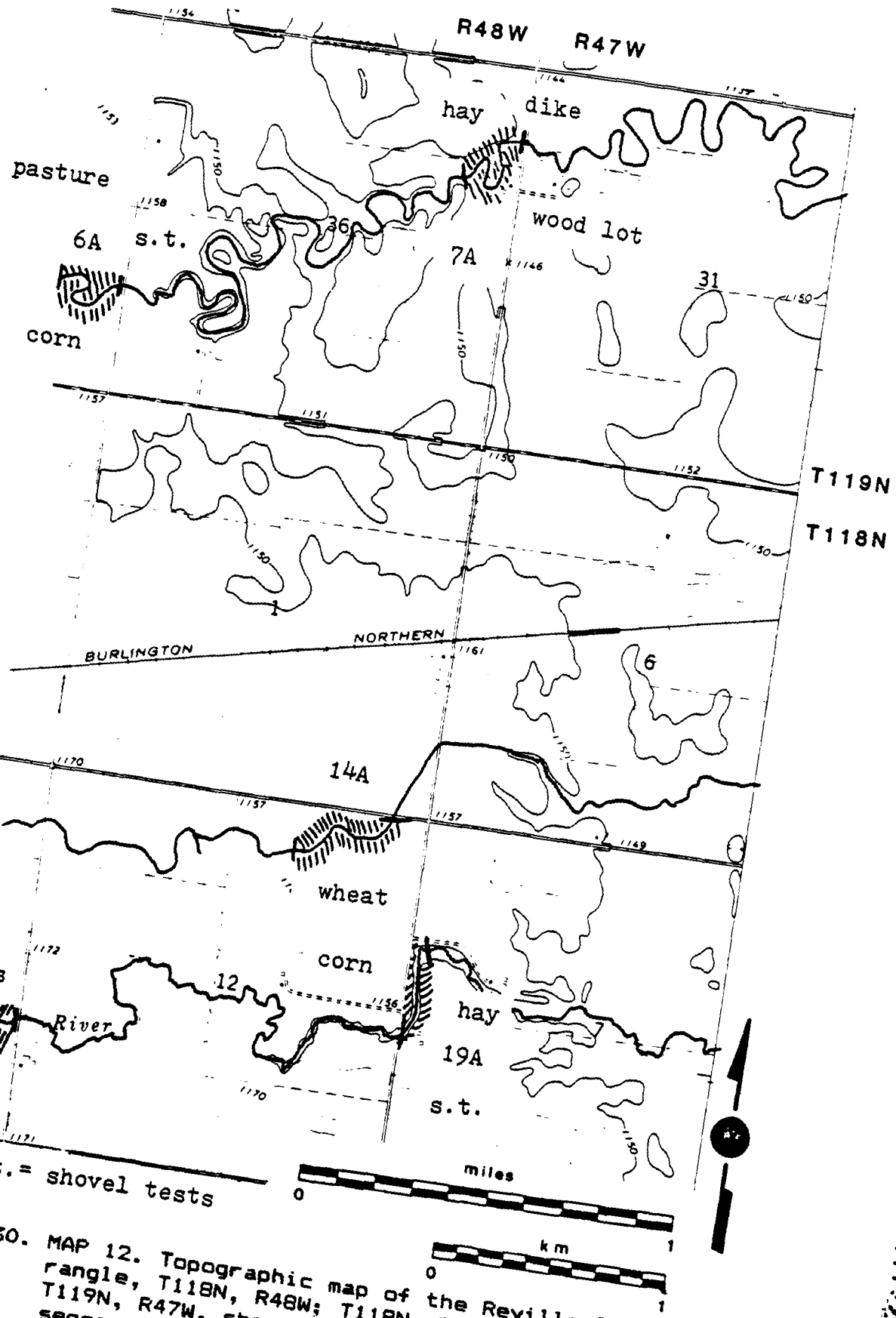


Figure 30. MAP 12. Topographic map of the Revillo Quadrangle, T118N, R48W; T118N, R47W; T119N, R48W; T119N, R47W, showing the locations of channel segments 6A, 7A, 14A, 18A and 19A.

MARIETTA QUAD T118N R47W

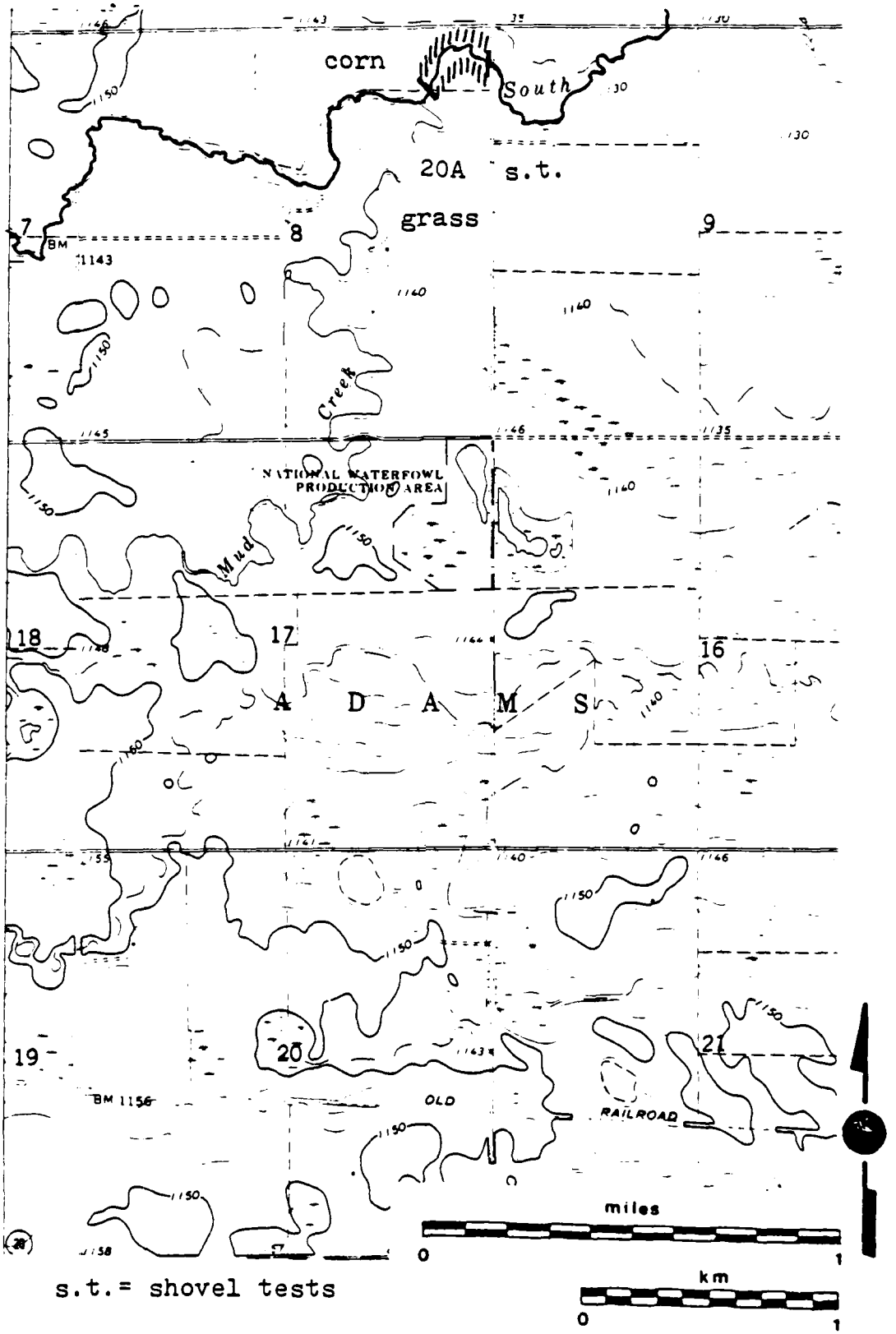


Figure 31. MAP 13. Topographic map of the Marietta Quadrangle, T118N, R47W, showing the location of channel segment 20A.

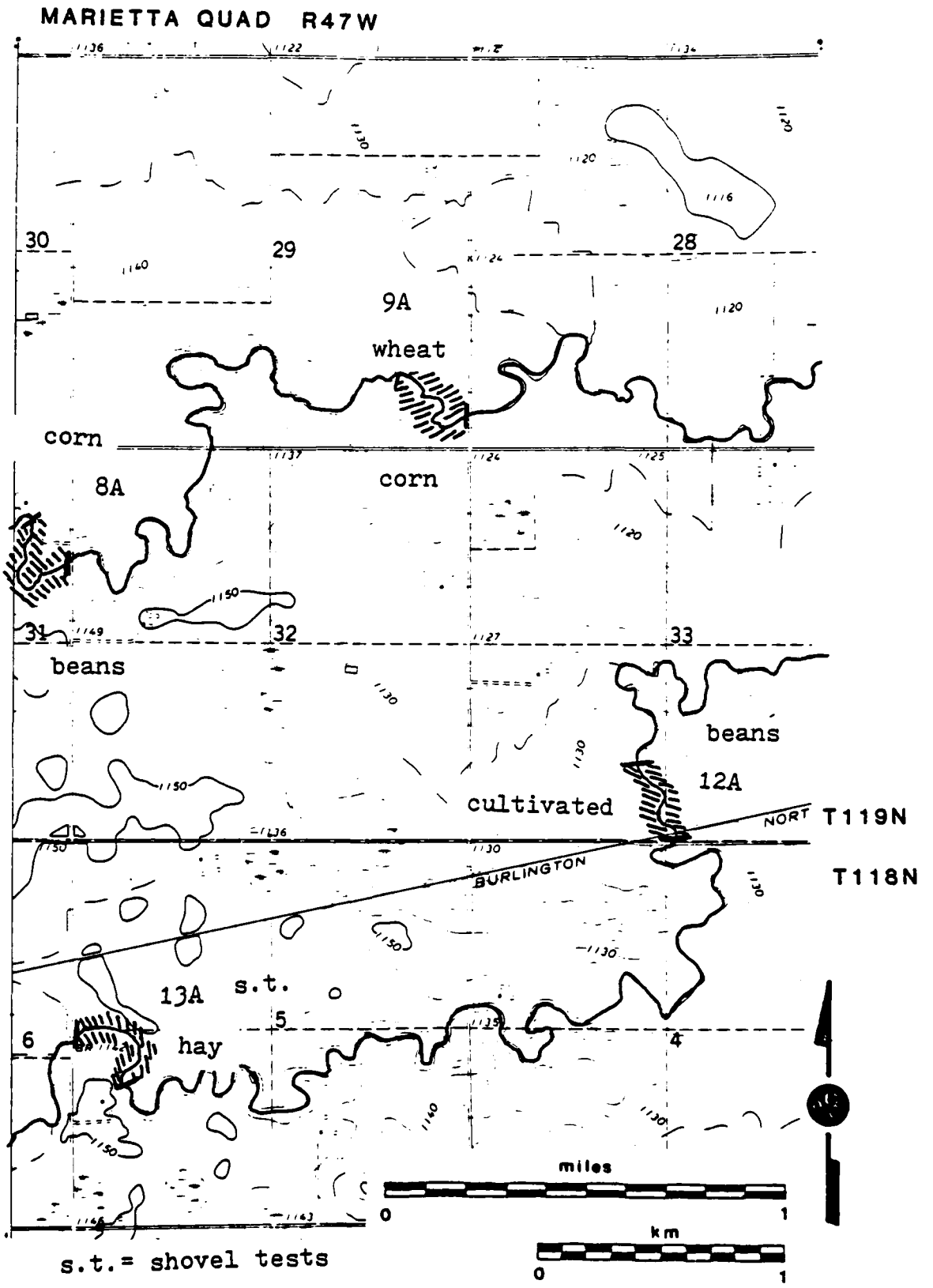


Figure 32. MAP 14. Topographic map of the Marietta Quadrangle, T118N, R47W; T119N, R47W, showing the locations of channel segments 8A, 9A, 12A and 13A.

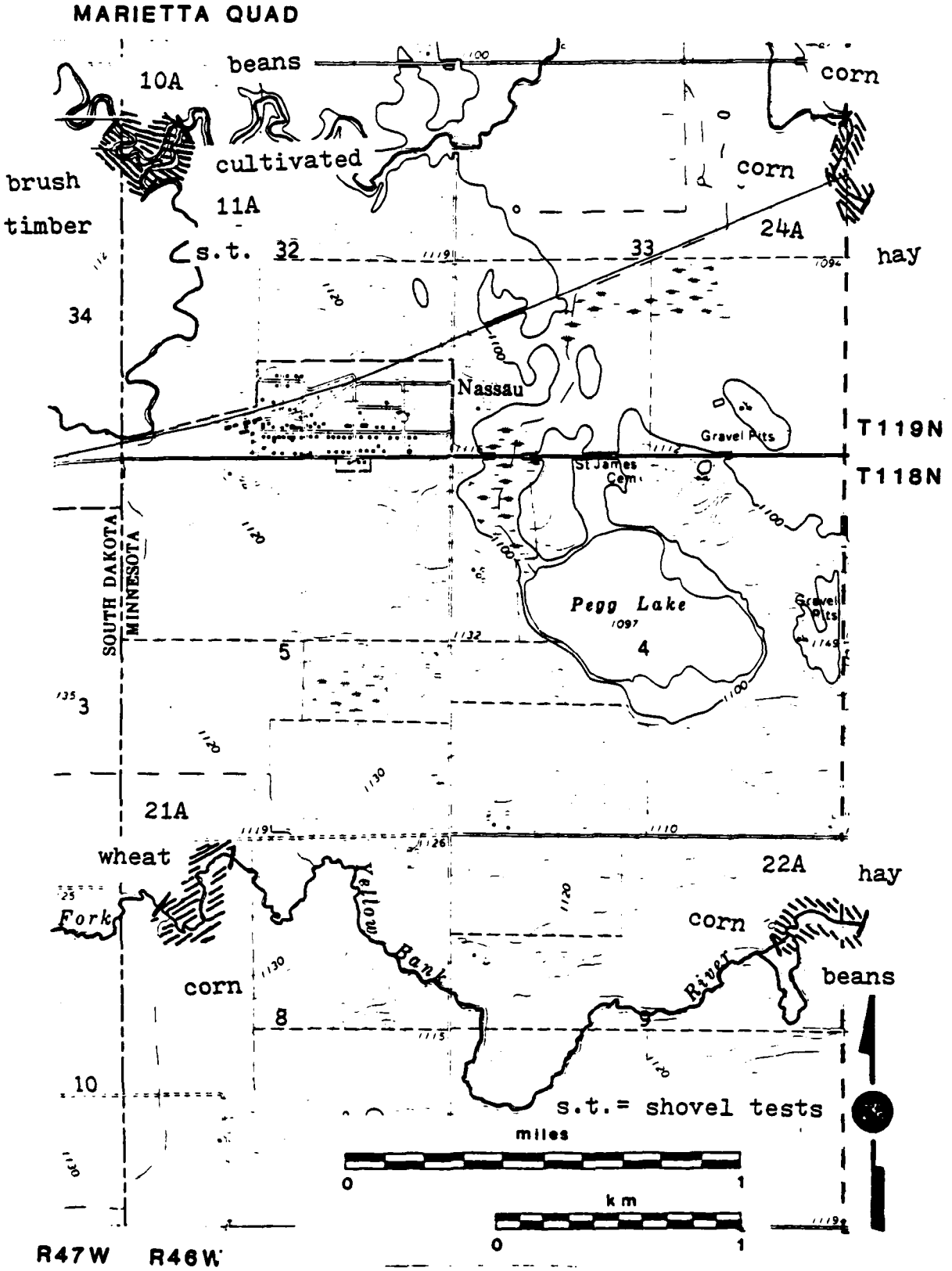


Figure 33. MAP 15. Topographic map of the Marietta Quadrangle, T118N, R46W; T118N, R47W; T119N, R46W; T119N, R47W, showing the locations of channel segments 10A, 11A, 21A, 22A and 24A.

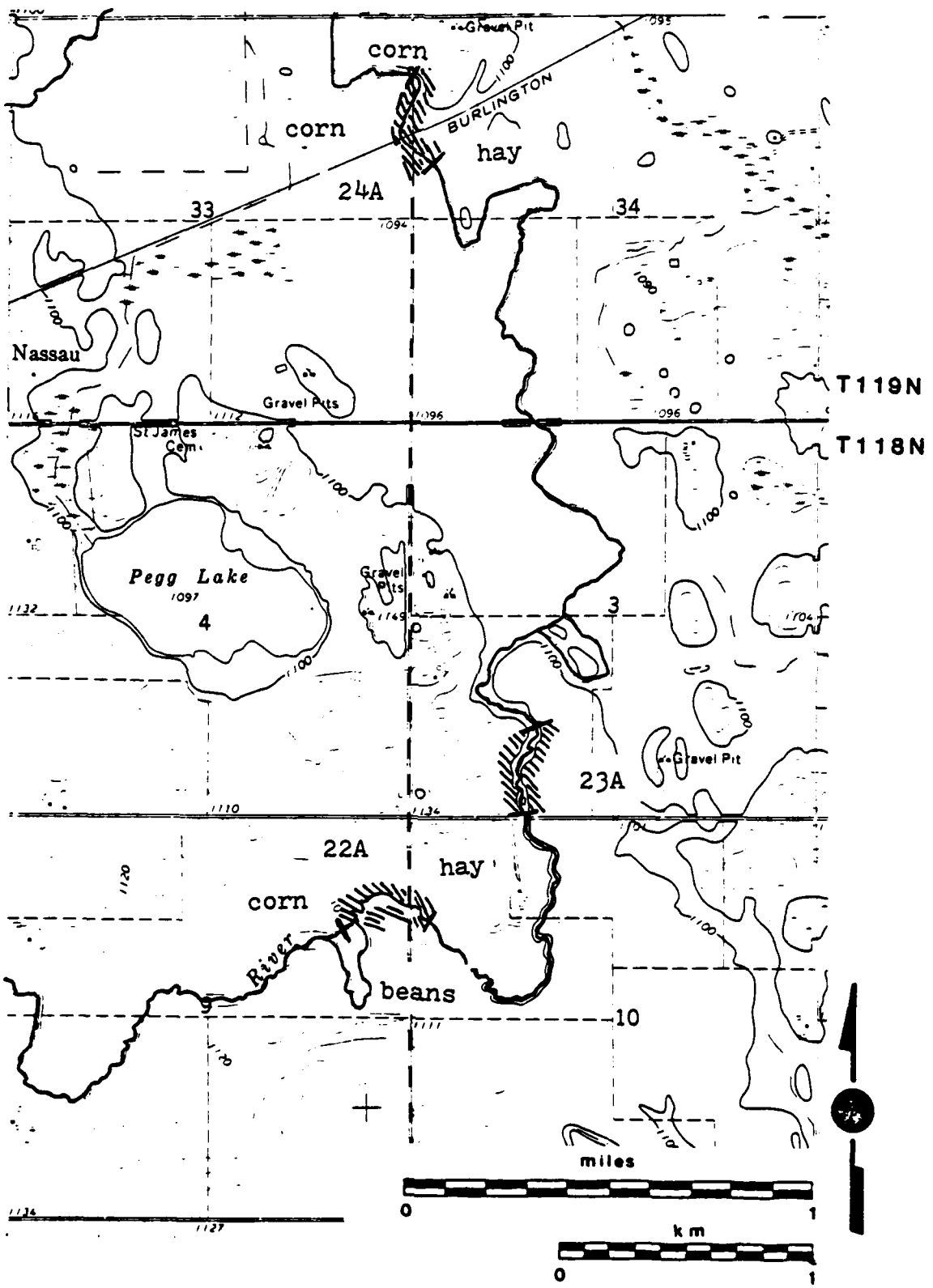


Figure 34. MAP 16. Topographic map of the Marietta Quadrangle, T118N, R46W; T119N, R46W, showing the locations of channel segments 22A, 23A and 24A.

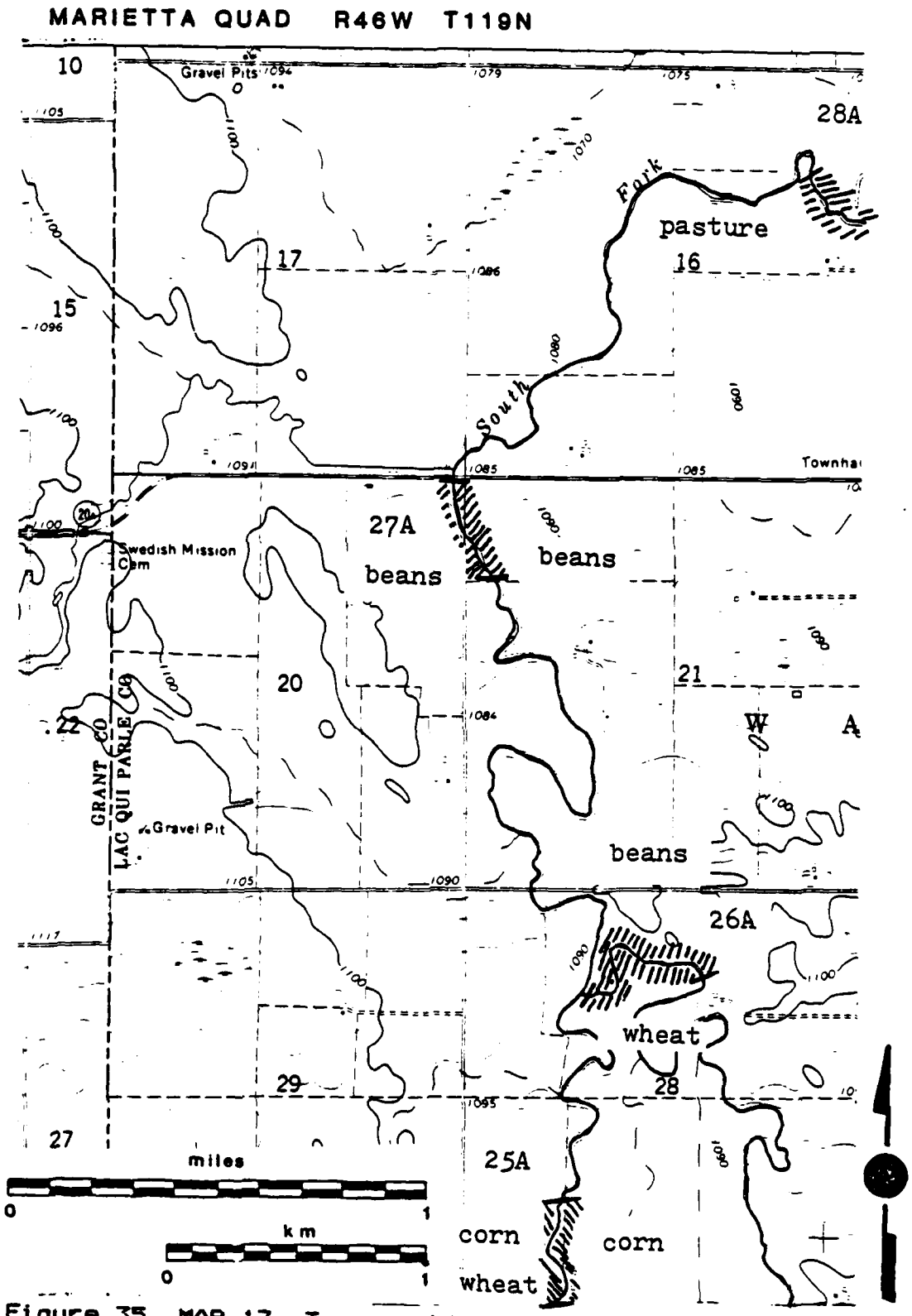


Figure 35. MAP 17. Topographic map of the Marietta Quadrangle, T119N, R46W, showing the locations of channel segments 25A, 26A, 27A and 28A.

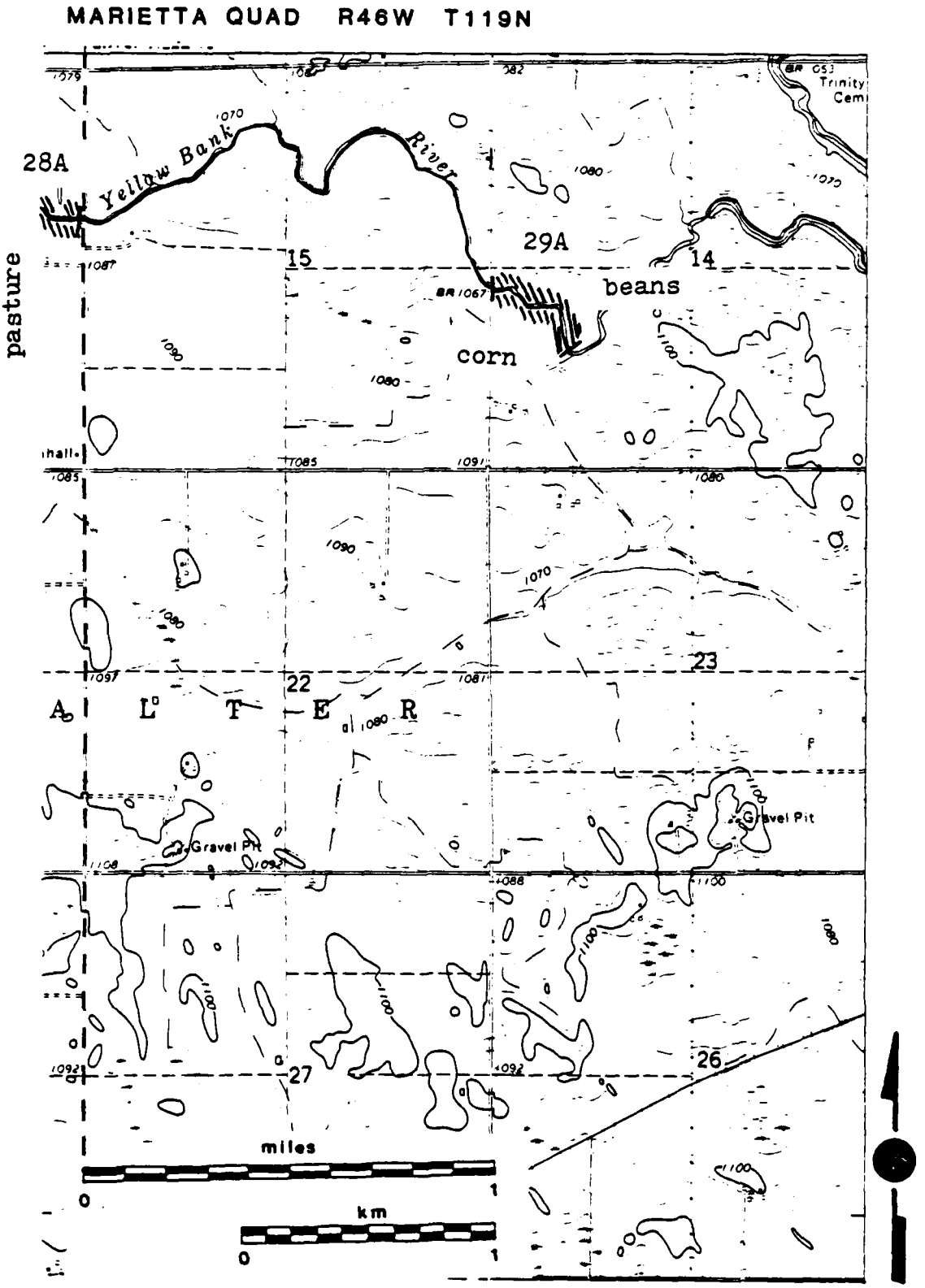


Figure 36. MAP 18. Topographic map of the Marietta Quadrangle, T119N, R46W, showing the locations of channel segments 28A and 29A.

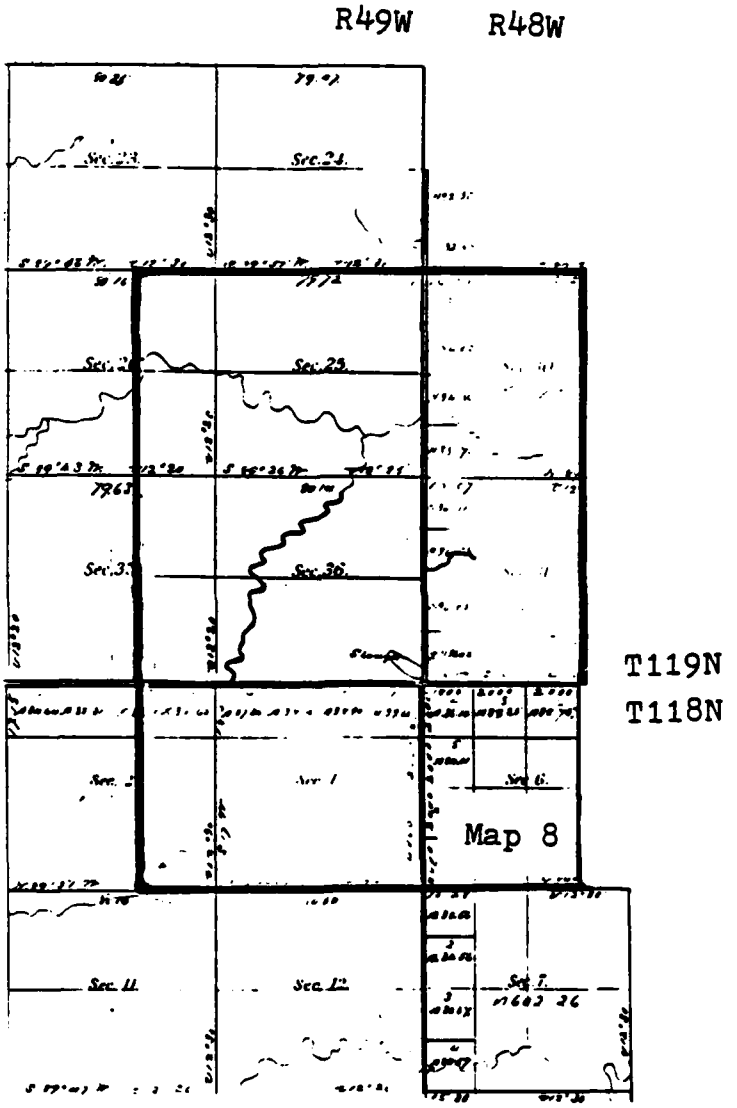


Figure 37. General Land Office map T119N, R49W, ca. 1872; T118N, R49W, ca. 1872; T118N, R48W, ca. 1872; T119N, R48W, ca. 1872. Shows channel reaches and the location of Map 8.

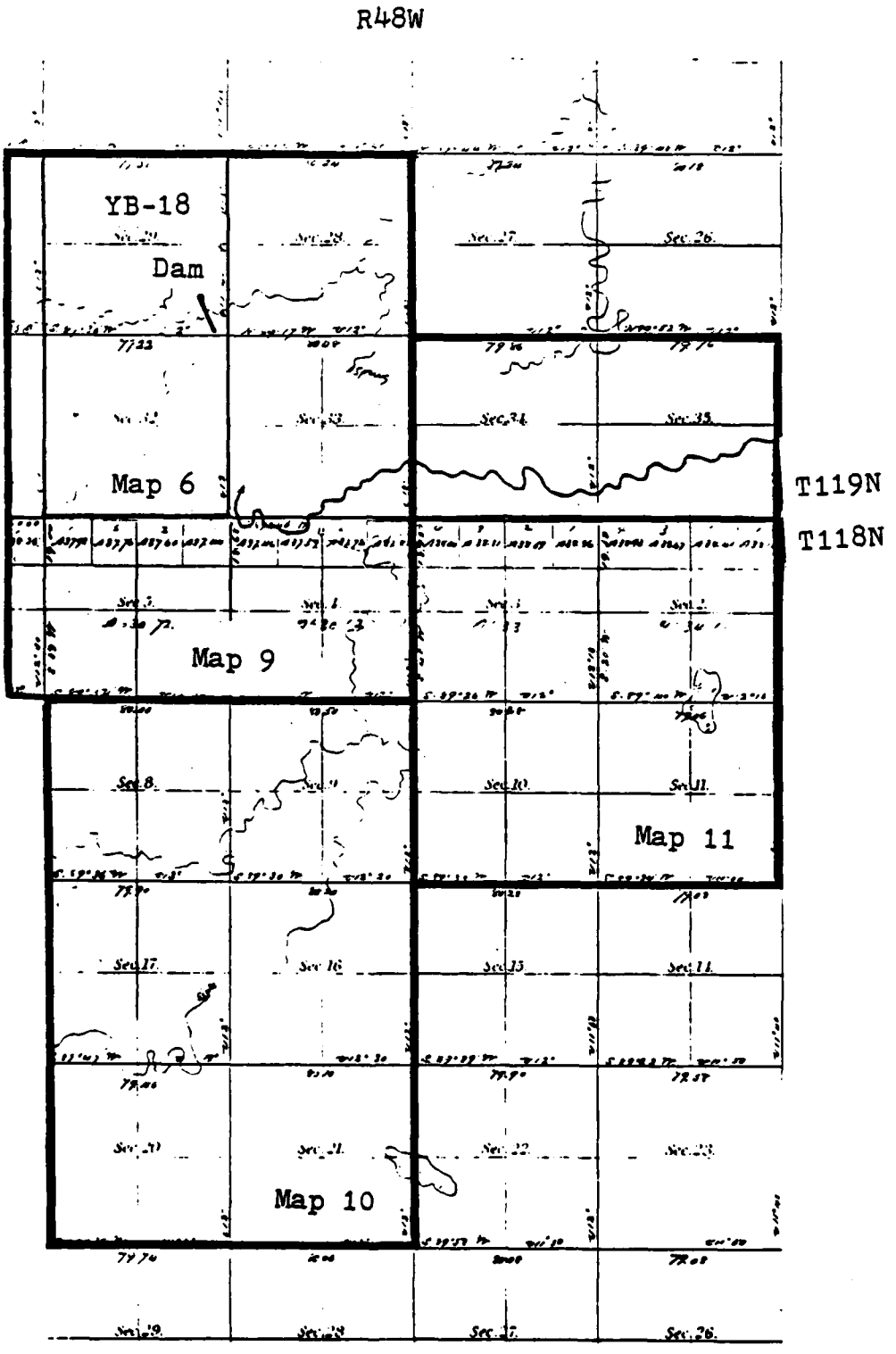


Figure 38. General Land Office map T118N, R48W, ca. 1872; T119N, R48W, ca. 1872. Shows locations of Maps 6, 9, 10, 11, and project area YB-18.

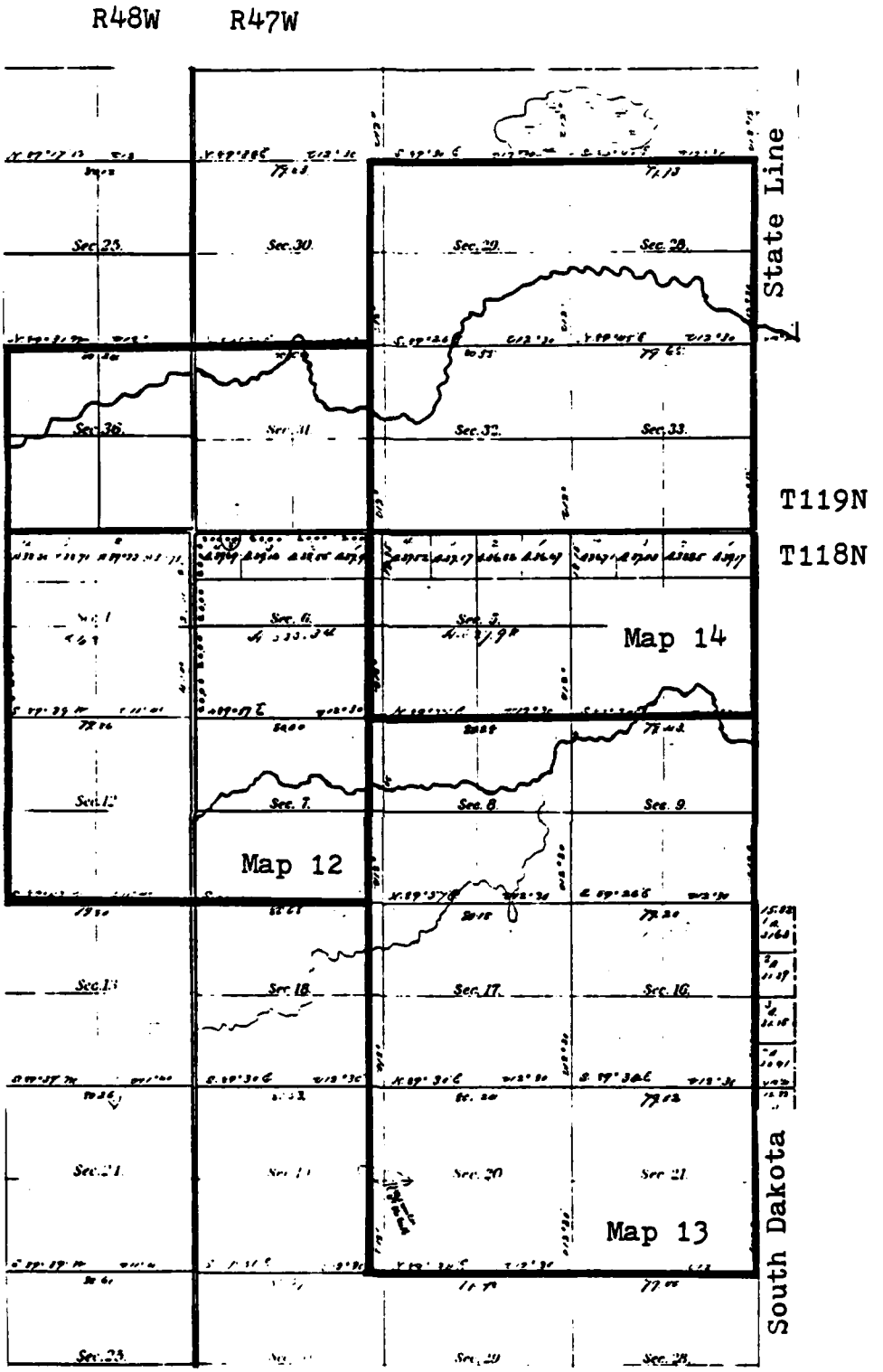


Figure 39. General Land Office map T119N, R48W, ca. 1872; T119N, R47W, ca. 1872; T118N, R48W, ca. 1872; T118N, R47W, ca. 1872. Shows channel reaches and locations of Maps 12, 13 and 14.

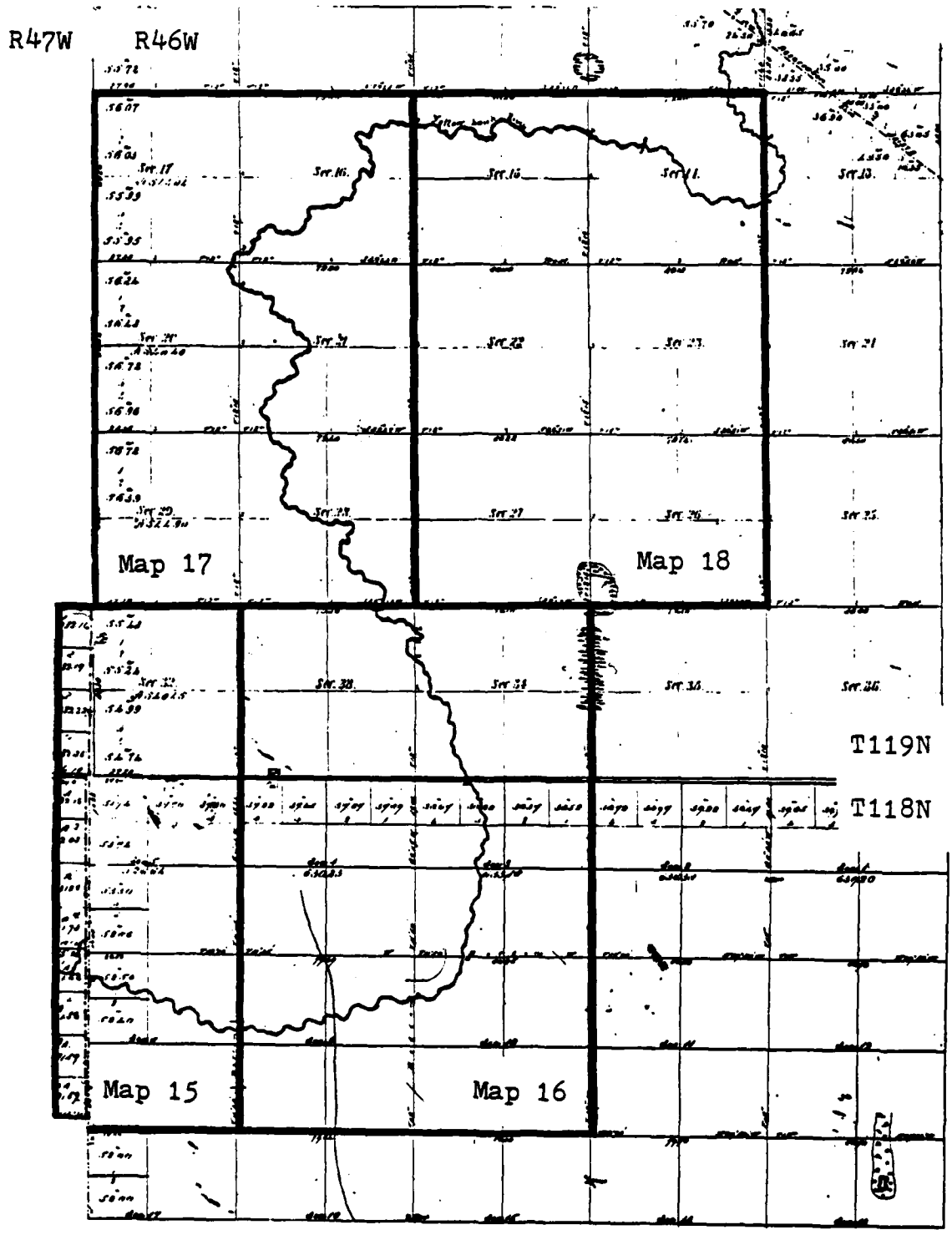


Figure 40. General Land Office map T119N, R47W, ca. 1872; T119N, R46W, ca. 1865; T118N, R46W, ca. 1858; T118N, R47W, ca. 1872. Shows channel reaches and locations of Maps 15, 16, 17 and 18.

sample, as specified in the Scope of Work. The following are descriptions of conditions in each of the 29 river corridor segments (Table 10)(Figs. 7, 26 thru 36).

1A, LaBolt Quadrangle (Fig. 26)

The floodplain, which is very narrow (approximately 10 meters wide), has a dense growth of brush and trees. Fifteen shovel tests were dug in the dense vegetation. The soil is a dark gray silty loam. No cultural remains were observed. A concentration of probable post-World War II garbage was observed.

2A, LaBolt Quadrangle (Fig. 26)

Adjacent fields were in corn, with approximately 15 meters of tall prairie grass seperating the channel from the cultivated fields. Ground visibility in the cultivated fields was approximately 60 percent. All eroded cutbanks were examined. No cultural remains were observed.

3A, Revillo Quadrangle (Fig. 27)

This segment appears to have been previously channelized. A field of beans and a field of wheat were approximately 20 meters south and north of the channel, respectively. Tall prairie grass and trees are near the channel. The bean field had 40 to 50 percent visibility. The wheat field had 20 to 30 percent visibility, but was not surveyed because of crop cover. Twenty shovel tests were dug in the more dense vegetation. The soil is a dark gray silty loam. No cultural remains were observed.

4A, Revillo Quadrangle (Fig. 29)

Fields on both sides of the channel were in wheat. The wheat fields were not surveyed because of crop cover. Cutbanks along the channel were examined, as well as rodent burrows. Twenty shovel tests were dug in the more dense vegetation along the channel. The soil is a sandy silt loam, dark brown in color. No cultural remains were observed.

5A, Revillo Quadrangle (Fig. 29)

Fields of beans and wheat were on the north and south sides of the channel, respectively. Both fields were 10 to 15 meters from the channel. Ground visibility was 50 percent in the bean field. The wheat field was not traversed because of crop cover. Ten shovel tests were dug along this segment. The soil is a dark brown sandy loam. No cultural remains were observed.

6A, Revillo Quadrangle (Fig. 29)

Fields of corn and pasture were on the south and north

sides of the channel, respectively. The corn field had 60 percent ground visibility, and was approximately 15 meters from the channel. Ten shovel tests were dug in the pasture. The soil is a dark gray silt with some gravel. No cultural remains were observed.

7A, Revillo Quadrangle (Fig. 30)

Dense floodplain vegetation occurred on both sides of the channel. A hay field and a woodlot extend to the north and south of the channel, respectively. A large earthen dike has been constructed on the north side of the channel. No shovel tests were dug along the dike due to the presence of disturbed soils. No cultural remains were observed.

8A, Marietta Quadrangle (Fig. 32)

A bean and corn field were on the south and north sides of the channel, respectively. The ground visibility was 40 percent in the bean field and 50 percent in the corn field. The fields extended to within five meters of the channel. No cultural remains were observed.

9A, Marietta Quadrangle (Fig. 32)

Corn and wheat fields were south and north of the channel, respectively. Ground visibility was 60 percent in the corn field. The wheat field was not traversed because of crop cover. No cultural remains were observed.

10A and 11A, Marietta Quadrangle (Fig. 33)

These two segments are located at the confluence of two intermittant streams. A recently plowed field, with 90 percent ground visibility, was present south of the channel. North of the channel was a recently cultivated bean field with 100 percent ground visibility between the rows. Between the two channels was floodplain vegetation. Ten shovel tests were dug in this area. The soil is a dark gray sandy loam. No cultural remains were observed.

12A, Marietta Quadrangle (Fig. 32)

A recently plowed field with 90 percent visibility was west of the channel and east of the channel was a bean field with 60 percent visibility. The bean field was approximately 20 meters from the channel. No cultural remains were observed.

13A, Marietta Quadrangle (Fig. 32)

Hay fields were present on both sides of the channel, with zero ground visibility. Ten shovel tests were dug along this segment. The soil is a dark brown sandy loam. No cultural remains were observed.

14A, Revillo Quadrangle (Fig. 30)

Wheat fields were present on both sides of the channel. The fields extended to the bank of the channel. The wheat fields were not traversed because of crop cover. Cutbanks were examined with negative results.

15A, Revillo Quadrangle (Fig. 29)

The channel traverses a corn field that had 60 percent visibility. The channel is very narrow and has grass vegetation. No cultural remains were observed.

16A, Revillo Quadrangle (Fig. 28)

Hay fields were present on both sides of the river. Floodplain vegetation extends approximately 50 meters on both sides of the channel. Ten shovel tests were dug along this segment. The soil is a dark brown sandy silt.

17A, Revillo Quadrangle (Fig. 29)

A bean field with 50 percent ground visibility and a hay field with 10 percent visibility were present on the south and north sides of the channel, respectively. Twelve shovel tests were dug in the hay field. The soil is a dark brown sandy silt. No cultural remains were observed.

18A, Revillo Quadrangle (Fig. 30)

Bean fields with 50 percent ground visibility were present on both sides of the channel. Small, waterworn pebbles were observed in the bean fields. The soils are a very friable sandy silt.

19A, Revillo Quadrangle (Fig. 30)

A corn field with 50 percent ground visibility and a hay field with zero ground visibility were present on the north and south sides of the channel, respectively. Floodplain vegetation occurs for about 50 meters on each side of the channel. Twenty shovel tests were dug along this segment. The soil is a dark brown sandy loam with some gravel.

20A, Marietta Quadrangle (Fig. 31)

A corn field with 40 percent ground visibility and prairie with zero ground visibility were present on the north and south sides of the channel, respectively. Fifteen shovel tests were dug in the prairie. The soil is a dark brown sandy loam with waterworn pebbles present.

21A, Marietta Quadrangle (Fig. 33)

A wheat field with zero ground visibility and a corn field with 30 to 40 percent visibility were present on the north and south sides of the channel, respectively. The wheat field was not traversed due to crop cover. The cutbanks were carefully examined but no cultural remains were observed.

22A, Marietta Quadrangle (Fig. 34)

A hay field with zero ground visibility was on the northeast side of the channel. A bean field with 60 percent ground visibility and a corn field with 30 percent visibility were south and northwest of the channel, respectively. The soil is sandy with waterworn pebbles present.

23A, Marietta Quadrangle (Fig. 34)

A hay field with 30 percent ground visibility and a corn field with 30 percent ground visibility were west and east of the channel, respectively. No cultural remains were observed in the fields or cutbanks of the stream channel.

24A, Marietta Quadrangle (Fig. 33)

There were corn fields northeast, southwest and northwest of the channel. A hay field was southeast of the channel. Ground visibility in the corn fields was 30 to 40 percent. A heavily grazed pasture along the channel had a 20 to 30 percent ground visibility. No cultural remains were observed.

25A, Marietta Quadrangle (Fig. 35)

Corn fields with 20 to 30 percent ground visibility were east and northwest of the channel. A wheat field was southwest of the channel. The wheat field was not traversed because of crop cover. No cultural remains were observed.

26A, Marietta Quadrangle (Fig. 35)

A wheat field with zero ground visibility and a bean field with 20 to 30 percent ground visibility were west and east of the channel, respectively. A small portion of a hay field with zero ground visibility was also present east of the channel. No cultural remains were observed.

27A, Marietta Quadrangle (Fig. 35)

East of the channel was a bean field with 20 to 30 percent ground visibility. West of the channel was a gravel road and another bean field that also had 20 to 30 percent ground visibility. No cultural remains were observed.

28A, Marietta Quadrangle (Fig. 36)

Heavily grazed pasture with 10 to 20 percent ground visibility was present on both sides of the channel. Railroad tracks are adjacent to, and cross, the channel. This area was not shovel tested because of extensive disturbance by railroad and farming activities.

29A, Marietta Quadrangle (Fig. 36)

A bean field with 20 to 30 percent ground visibility and a corn field with 20 to 30 percent ground visibility were present on the east and west sides of the channel, respectively. No cultural remains were observed.

Evaluation of Research

The goals and procedures originally set forth in the Scope of Work were changed slightly during the course of the project. Areas with greater than a 25 percent slope were not shovel tested, but eroded areas were examined for the presence of buried soil surfaces (paleosols) that may have cultural remains present. It is believed that the field procedures utilized during the cultural resource reconnaissance were 75 percent effective in locating low density sites due to the density of vegetation cover, the thickness of alluvial deposits overlying sites (e.g., 39DE56), and the low probability of shovel tests exposing small, thin occupation sites.

It is interesting to note that a recent study of the effectiveness of four commonly used sampling techniques (shovel testing, one meter square excavation pits, coring, and clamshell digger) indicates the coring technique used in conjunction with microdebitage recovery methods is by far the most effective method for locating both surface and buried archaeological sites. The usefulness of this technique is enhanced in environments that have had little or no aeolian disturbance. Hand augering to collect cores, in conjunction with microdebitage recovery techniques, works best only where a stable environment of aggradation and post aggradation can be assumed. Poorly drained wetlands are best (Nicholson 1983).

Microdebitage recovery methods include the saving of soil samples from the field cores and returning them to the laboratory for processing. The soils are water screened through 2 mm, 1 mm and 0.05 mm geologic sieves to recover microdebitage. A recent study shows lithic manufacture produces large amounts of microdebitage as a by-product and this material can be expected to permeate the soil matrix of a site occupation (Fladmark 1982).

Of the four commonly used sampling techniques it was found that shovel testing conducted on a known archaeological site did not yield any evidence of human occupation

(Nicholson 1983:277). It should be noted that soils from the shovel tests were not sifted. However, even the excavation of 1 X 1 meter pits, where soils were sifted through quarter-inch hardware cloth, was not a very effective technique for finding sites where cultural remains were thinly dispersed (Nicholson 1983:278). In the present upper Minnesota River 639 project, with the exception of site 39DE56 in project area LQP-3, none of the shovel tests or auger tests yielded evidence of cultural remains, even though soils were sifted through quarter-inch hardware cloth. This compares favorably with the findings of Nicholson's (1983) study. The effectiveness of sampling techniques is directly related to the density of cultural remains.

It should be noted that the geomorphologist, Dennis Beissel, has previously stated that cultural remains may potentially be present to varying depths within the seven proposed lake project areas (LQP-3: 1 to 2 meters; LQP-8: 90 to 105 cm; LQP-40: 92 cm; YB15: 46 to 51 cm; YB-16: 18 to 61 cm; YB-18: 46 cm; and YB-25: 46 cm). This information, not available in the field, was acquired from the descriptions of soil complexes defined by the Soil Conservation Service in the Grant and Yellow Medicine County soil survey books (Hokanson 1981; Miller 1979). These soil books were not acquired until after the field work had been completed. Also, it is worth noting that it is not feasible to test every terrace to sufficient depth as many times as it would be necessary in order to predict with reliability that a site does or does not occur in buried soil deposits at any particular location.

Laboratory Methods

Artifacts were transported to The University of South Dakota Archaeology Laboratory in Vermillion, South Dakota. Laboratory work was begun during the last week in September, 1982, and completed during the second week of November, 1982. Artifacts were washed and cataloged. Site numbers were printed on all artifacts. Analysis included detailed examination of all artifacts to determine probable function, temporal placement, and cultural affiliation. Faunal remains were identified to the lowest possible taxon and were examined for the presence of butcher marks.

Lithic Resource Utilization

Six types of lithic resources were identified within the collection of flakes and shatter recovered from the project area. The following is a brief description of the lithic types utilized by the prehistoric inhabitants of the region.

Tongue River Silicified Sediment

Tongue River silicified sediment occurs as a primary source in northwest South Dakota. Gravel deposits along the Grand River also contain this material and, since the Grand River flowed east to the James River prior to the last

glaciation, the material occurs further east in glacial deposits and stream gravels. It occurs in stream gravel along the Little Sioux River in northwest Iowa (Porter 1962; Anderson 1978; Ahler 1977).

Tongue River silicified sediment varies in grain size from extremely fine to medium or coarse sand. Color varies from a light olive brown (2.5Y 5/4) to light yellowish brown (2.5Y 6/4) to weak red (10R 4/4) and dark reddish brown (2.5YR 3/4). Results from experiments in heat treating indicate the material turns a reddish color. Large pieces of Tongue River silicified sediment contain root and stem holes of all sizes. The material is extremely tough and resists weathering (Porter 1962; Anderson 1978; Ahler 1977).

Knife River Flint

Knife River Flint is a distinctive dark brown rock. The geologic source of this flint has been questioned in recent years. Knife River Flint was quarried from sources in the Knife River Valley in Dunn and Mercer counties, North Dakota. The material contains some irregular light and dark beds and lenses. It sometimes is mottled. It occurs as large boulders, small cobbles, and tabular chunks. Color varies from very dark brown (10YR 2/2) to thin, translucent flakes of lighter brown (10YR 3/3, 10YR 5/3). Weathering results in a light gray or white (10YR 7/2) patina (Clayton, Bickley, and Stone 1970; Ahler 1977).

Quartzite

Quartzites recovered from the area are characterized by great heterogeneity in grain size and color. Color is usually light gray, blue-gray, or pink. The stone occurs in the glaciated regions of South Dakota and Minnesota.

Chert

Cherts recovered from the region are medium grained to microcrystalline in texture. Color varies from bright red to white and yellow. Colors are oftentimes banded. Chert boulders and cobbles occur within the glaciated regions of South Dakota and Minnesota.

Quartz

Quartz occurs in the glaciated regions of South Dakota and Minnesota. It is usually white to opaque in color.

Basalt

Basalt is a dark gray to black colored, medium to fine grained, igneous rock. The most likely origin for basalt found in eastern South Dakota and western Minnesota would be the Rocky Mountains. Basalt cobbles are known to occur along

the Missouri River, which may have been the source of the basalt found during this project.

Artifact Typologies

Introduction

The following typologies contain information pertinent to cultural and historical significance. Artifact types are defined relative to their known cultural and historical associations. The typologies are divided into three groups: (1) prehistoric chipped stone artifacts; (2) prehistoric pottery; and (3) faunal remains.

Prehistoric Chipped Stone Artifacts

The first human inhabitants of Minnesota and South Dakota had a well-developed technology to modify stone into usable implements for all aspects of subsistence and survival. Reducing an initial mass of rock (lithic) material to the finished product requires many stages of manufacture, each of which produces waste. Knowledge of the techniques utilized by different cultures in making stone implements is of great importance in the study of past cultures. Certain cultures used specialized techniques in manufacturing some of their stone implements that is helpful in determining the cultural association and temporal placement of the artifacts. Modification of stones by the application of force, known as flintknapping, is one of the earliest industrial arts of humans. The following are descriptions of the types of stone artifacts recovered during the project.

FLAKES

Definition: Any piece of chert, flint or raw material that has been removed from a larger mass by the application of force and that has at least one of several distinguishing characteristics present: (1) a striking platform remnant: (2) compression rings; (3) a bulb of force; and (4) a hinge fracture. Flakes that are less than 3 cm in length along the axis of force are sometimes referred to as chips. Chips are often removed by a pressure flaking technique.
Potential errors: Flakes are usually easily recognized.
Cultural-historical position: Flakes are associated with all prehistoric complexes in South Dakota and Minnesota.
Research value: The presence of a large number of flakes at a site is indicative of the location of extensive stone tool manufacture.

CHUNKS/SHATTER

Definition: Any piece of chert, flint or raw material that is cubical or irregularly shaped and lacks any well-defined pattern of negative or positive bulbs of force, striking platforms, or systematic alignment of cleavage scars on the various faces (Binford and Quimby 1963).
Potential errors: Chunks/shatter may be confused with cores.
Cultural-historical position: Chunks/shatter are associated

with all prehistoric complexes in South Dakota and Minnesota.
Research value: The presence of a large number of chunks/shatter indicates the testing of raw materials that may be associated with a locus of extensive stone tool manufacturing.

CORES
Definition: Any piece of raw material that has a recognizable striking platform and has well-defined flake scars and systematic alignment of cleavage scars on the various faces. Cores can be further divided into "block cores" and "blade cores". Block cores are used in the production of irregularly shaped flakes while blade cores are used in the production of regularly shaped blades, or flakes.
Potential errors: Cores may be confused with chunks/shatter.
Cultural-historical position: Block cores are associated with all prehistoric complexes in South Dakota and Minnesota while blade cores are most frequently associated with the Plains Woodland and more recent cultural complexes.
Research value: The potential of cores for production of flakes and blades is sometimes not exhausted, and therefore, the presence of cores may represent the storage of raw material (House 1975:65).

The implements described above can be further modified. Since flintknapping modified the blank from which the tool originated, it is often difficult or impossible to determine the type of blank from which a tool was manufactured. This is especially true of implements modified (retouched) on both faces, such as preforms, projectile points, knives and drills. The following implement types may be marginally retouched or invasively retouched. Invasive retouch is the by-product of flake removal originating from the lateral edges of a blank and extending more than half the distance across the dorsal and/or ventral faces of the blank. When modification occurs on both faces of a blank, it is referred to as a biface or bifacial retouch. Marginal modification is the by-product of flake removal originating from the lateral edges of a blank and extending less than half the distance across the dorsal and/or ventral faces of the blank.

RETOUCHED FLAKES
Definition: A flake that has marginal and/or invasive modification along one or more of its lateral edges or ends.
Potential errors: Retouched flakes may be confused with flakes that have been damaged by recent activities at the site, such as modern agricultural practices.
Cultural-historical position: Retouched flakes are associated with all prehistoric cultural complexes in South Dakota and Minnesota.
Research value: The presence of a large number of retouched flakes may indicate the maximum use of available raw materials.

Prehistoric Pottery

Only six body sherds were recovered during the project investigations. These sherds, recovered from site 39DE56, are tempered with crushed granite and have cordmarked exterior surfaces. They appear to be of the Late Woodland period and are too fragmentary for assignment to a more specific pottery ware or type.

POTTERY
Definition: Any piece of prehistoric clay material that was formed into the shape of a pot or vessel and that was subjected to high temperatures to "fire" the clay into an aplastic form. Pots were used to cook and store food and other materials.
Potential errors: Pottery is easily recognized.
Cultural-historical position: Pottery is most frequently associated with Woodland and Plains Village cultures (A.D. 1 to 1850). The decoration and vessel forms are good temporal and cultural indicators.
Research value: The presence of pottery indicates a relatively late occupation of a site and the presence of food storage and preparation.

Faunal Remains

FAUNAL REMAINS (vertebrates)
Definition: The skeletal remains of any vertebrate animal (i.e., mammal, bird, fish, reptile, amphibian).
Potential errors: Faunal remains are easily recognized. Specific identification of animal remains may be difficult.
Cultural-historical position: Animal bones can occur in any prehistoric or historic site in South Dakota and Minnesota.
Research value: Faunal remains can be good, past-climatic indicators, as well as helpful in determining subsistence and butchering patterns. In the present study, few vertebrate faunal remains were recovered and identified.

CHAPTER 5

Site Descriptions

The following are the site descriptions and associated artifacts recorded during this project. A site is defined as the locus of past human activities that can be delineated by the presence of cultural features (houses, storage pits, hearths, ditches, etc.) and/or cultural artifacts (tools and debris). A find spot is defined as an isolated find of a single tool or artifact. The sites are assigned numbers according to the Smithsonian Institution trinomial number system. The first two digits refer to the state (39 is for South Dakota), the next two digits designate counties (DE for Deuel County and GT for Grant County) and the third set of digits refer to the sequential site numbers recorded for each county. Standing structures (e.g., occupied farmsteads, bridges, etc.) that were not assigned a trinomial number were given a project number such as MN17. Also included in this chapter are histories for each of the seven proposed lake areas as well as for historic sites located within each proposed lake area. The sites and standing structures recorded within each project area are shown on a series of topographic maps. The index maps (Figs. 7 and 8, Chapter 4) show the position of each of the individual topographic maps (Figs. 41, 52, 56, 58, 60, 69, 70).

T115N, R47W, S½ of sec. 27 and part of sec. 28. Herrick Township, Deuel County, South Dakota and T115N, R46W, S½ of sec. 30, S½ of Sec. 29, N½ of sec. 32. Florida Township, Yellow Medicine County, Minnesota (Fig. 41).

Historical Overview

This lake project area is located at the intersection of township, county and state lines on a tributary of the Lac qui Parle River known as "Cobb Creek" on the South Dakota side, and as "Florida Creek" on the Minnesota side. It is located 1.2 kilometers (three-fourths mile) south of the South Dakota town of Gary. The Winona and St. Peter Railroad line reached Gary in 1872. Gary was then known as "Headquarters", "State Line", or "Degraff", but was officially named "Gary" when the post office was established in 1873 or 1874 (Stone 1972:4). As a railhead, Gary served as the trade center for Deuel County and the southern portion of Grant County.

In 1871, several squatters lived along the banks of Florida Creek in Florida Township. In the northeast corner of the township were Lockwood, Edwards, Parmenter, A. King, Tom King, Marey and C.H. McCutchin. In the southwest corner, within the project area, were Fred Fithing and LeBlanc, along with "Wahkadisne". These people were all described as "mixed-blood" or "French Canadian" trappers. LeBlanc, Fithing and McCutchin were the only ones to receive actual land patents (Narvestad and Narvestad 1972:561). Several illegible names appear on the General Land Office (GLO) survey maps of this area, and are probably the names referred to by the Narvestads (Fig. 42). The dugouts located by the present survey were possibly associated with these early settlers (see site 39DE55).

The earliest Euro-American settlers around Gary were B.J. Cochrane, who settled in the S½ of Section 4, T114N, R47W (now a historic site on Lake Cochrane), and John J. Huffman on the E½, NE¼ of section 6, T115N, R45W. Huffman's buildings were near the NE¼ of Yellow Medicine County, but most of his land was in Lac qui Parle County. H.H. Herrick, for whom the Deuel County township was named, settled in the E½, SE¼ of section 4, T115N, R47W (Stone 1972:1).

One of the earliest landowners along Cobb Creek was A.B. Anderson whose claim in 1879 was actually 16 kilometers (10 miles) west in section 30 on Fox Lake. He purchased about 3.2 hectares (eight acres) of land and a log cabin on the creek near the state line from a "mixed-blood" family who lived there. He then moved the log cabin to his claim (Stone 1972:15).

One of the earliest Euro-American settlers on the

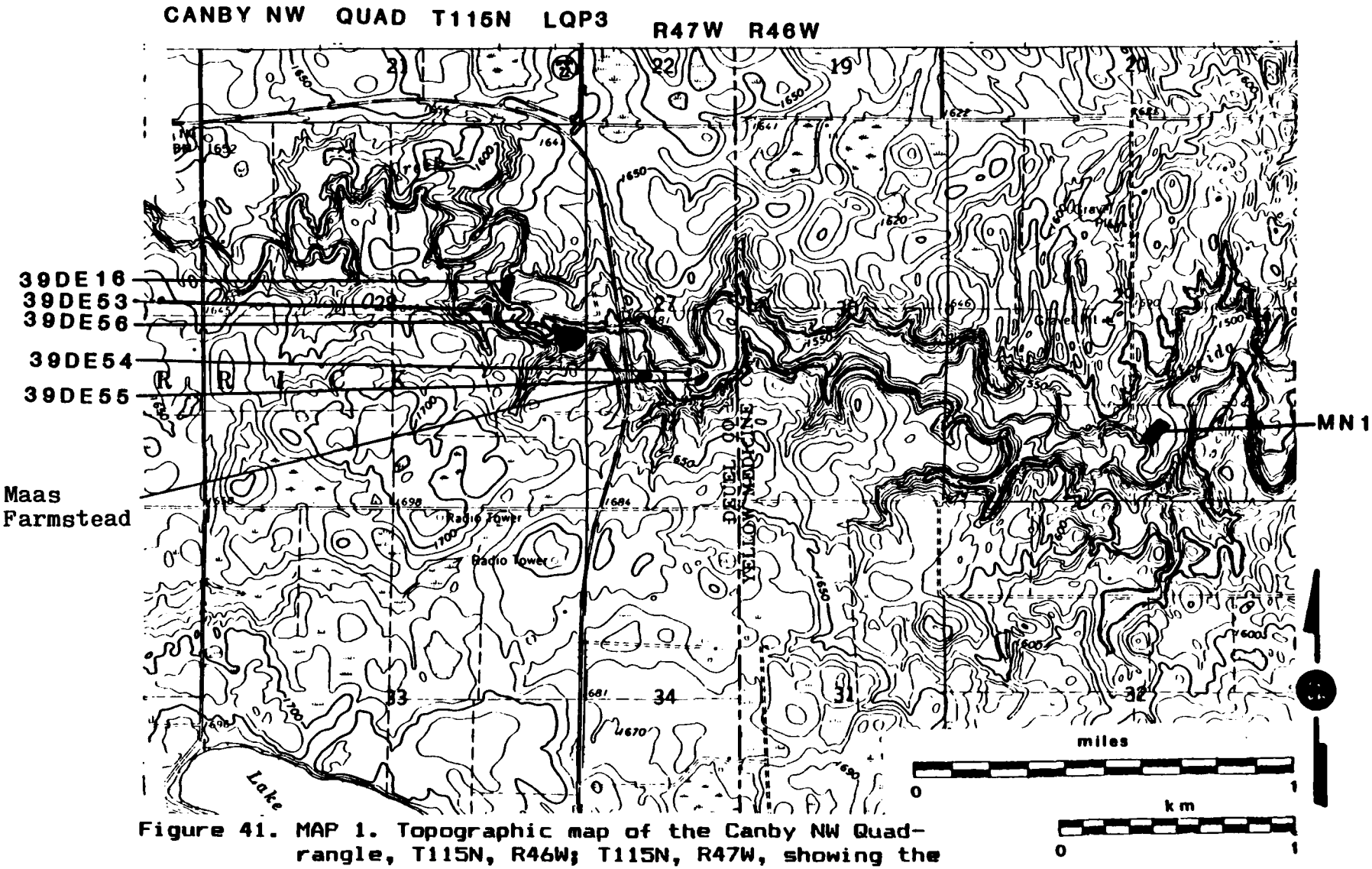


Figure 41. MAP 1. Topographic map of the Canby NW Quadrangle, T115N, R46W; T115N, R47W, showing the location of project area LQP-3 and associated sites and farmsteads.

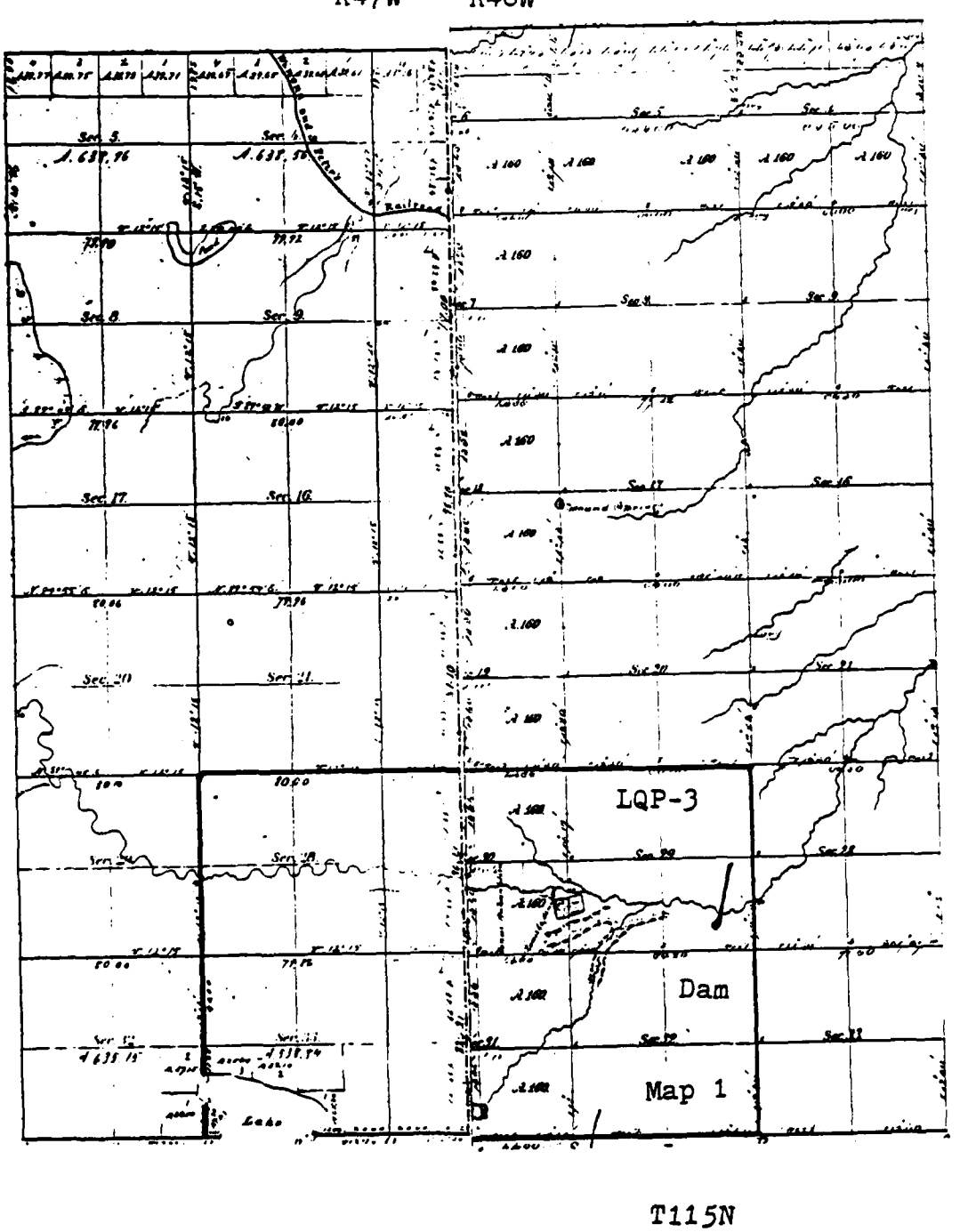


Figure 42. General Land Office map T115N, R46W, ca. 1858; T115N, R47W, ca. 1872. Shows the location of project area LQP-3 (Map 1).

Minnesota side of project area LQP-3 was James M. Jesme, who settled in the N½ of section 32 in 1889. Although his land was in the impact zone of project area LQP-3, his residence was in the NW¼, SE¼, NE¼ of section 32, slightly east of the projected lake (Northwest Publishing Co. 1900:26). Jesme moved from Deuel County where he had lived for several years. He was married in Deuel County to Anna Grinde, who was born November 12, 1857 in Sogn, Norway. She came to the United States in 1882 and lived with a sister in Mower County, and later moved to Deuel County. The Jesmes had seven children. James died January 24, 1901, and Anna on April 21, 1925 (Narvestad and Narvestad 1972::566; Yellow Medicine County Register of Deeds O:341, H:284, H:346, 62:84).

Other early Euro-American settlers in Florida Township on sections affected by project area LQP-3 were James Wilson in section 32, and Lew B. Purinton, Frederick Fitting and Christian B. Jensen in section 30 (Narvestad and Narvestad 1972:561). The Narvestads (1972:562) mention a grist mill operating in 1871-72 on Florida Creek in section 30 on the state line. Local informants gave various locations for the mill, some saying 4.8 to 6.4 kilometers (three to four miles) east of the highway, well outside the impact area. No indications of this mill were found by the present survey.

Narvestad and Narvestad (1972:560) record a road from Sioux Falls to Pembina that followed along the section line between sections 29 and 30. The Narvestads' map also shows an "Indian Trail" near the south bank of Florida Creek in section 29. After a tuberculosis epidemic killed several American Indians residing in the Cobb Creek area, a mass burial was held at which Stephen R. Riggs from Lac qui Parle Mission was present (Stone 1972:5). One burial location is on a bluff top near site 39DE16. Several depressions are discernible where local residents have removed portions of the burials. This site (see site description for 39DE53) is outside the proposed lake area. A second possible burial area is on the river terrace below the above burial site. This location is southeast of site 39DE16, and is also outside the proposed lake project's boundaries. This possible burial location has not been confirmed and the location may not contain any burials.

Two residences on the edge of the impact area deserve mention. Although the buildings themselves are not within the actual projected lake, they are at the edge and warrant some description. These are the present Maas and Reinertson buildings.

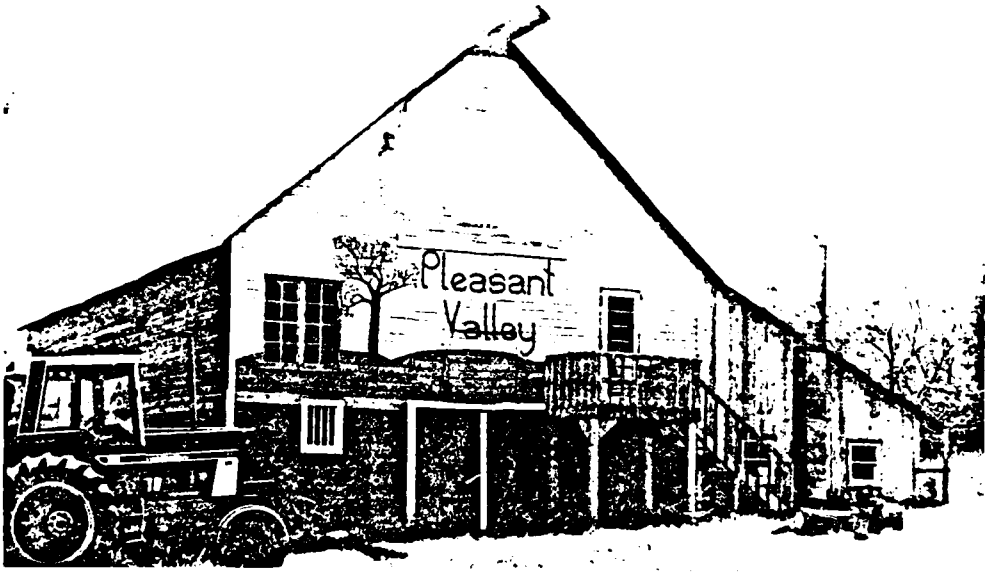
The Maas house and barn (NW¼, SW¼ of section 27, T115N, R47W) were built in the early 1900's. The house was apparently originally a wood frame one-and-one-half story rectangular pen, with a one-and-one-half story addition to the back and a later one-story wing addition used as a garage, that has subsequently been converted into living

quarters (Fig. 43a). The barn is a late variation of an English barn with a shed attached to the south side (Fig. 43b). It is currently painted to advertise the Pleasant Valley Resort. The deeds records for this area are rather complicated, with several subdivisions in the early years. The land apparently was part of the Winona and St. Peter land grant, and was then parceled out to various owners (Deuel County Register of Deeds A:124, A:282, 75:43). The buildings are not historically or architecturally significant and they are not deemed eligible for nomination to the National Register.

The Reinertson house (SE corner of NE¼ of section 28, T115N, R47W) is currently used as a rental property (Fig. 44a). The house appears to be a wood frame two-story rectangular pen style with a two-story gabled front addition as well as a rectangular pen addition. From 1906 to 1942, the house was owned by George and/or Etta Fitzsimmons (Deuel County Register of Deeds Z:276, MR8:458, 49:629; Ogle 1909:35). Local informants stated that Mrs. Fitzsimmons used to own the house, and during that time the property was elaborately landscaped with several fountains and pools. There was possibly a swimming hole dammed up on the creek itself. Mrs. Fitzsimmons was considered a wealthy, eccentric woman who frequently took her dog to town on the running board of her car to buy him ice cream cones. The residence itself is outside the impact area, and is not historically or architecturally significant and is not deemed eligible for nomination to the National Register. Any landscaping features that remain on the creek should be noted, but are also not worthy of National Register nomination. (See site 39DE16 for a second historic occupation on this quarter section). Other historic sites in Florida Township outside the LQP-3 project area are listed in the Minnesota Historical Preservation Office files and Narvestad and Narvestad (1972). These lists are included in the present report as Appendix B.



a



b

Figure 43. a. Maas house, looking west.
b. Maas barn, looking east.

39DE16
Project Area: LQP-3

Legal Location	Section	Township	Range
NE¼ SE¼ SW¼ NE¼ NW¼ SW¼ SE¼ NE¼	28	T11SN	R47W

UTM	E700730 N4957050 E700800 N4957100
Map Quad	Canby NW
Local Name	-
Type of Remains	foundations, barns
Elevation	482 meters, 1580 feet
Vegetation	trees
Estimated Size	100 X 75 meters
Surface Visibility	0 percent
Site Condition	poor
Soil Association	-
Topography	terrace
Postulated Past Vegetation	trees
Distance to Nearest Water	0 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic, pre-1904

This site was reported by Lass (1980a:42-43) and relocated during the present survey.

Description

This is an historic site located in wooded land along Cobb Creek. Site elevation is 482 meters (1580 feet). Remains at the site consist of a partial rock foundation, a square depression, an irregular depression, and some outbuildings (Figs. 44b, 45a). Cleared trees, the presence of lilacs, and the presence of a possible old road along the valley wall behind the site are other indications of historic occupation.

> The south side, east end, and part of the north side of the apparently once rectangular foundaton are present. The rectangle measures 8.0 meters by 6.75 meters. The foundation itself consists of scattered and poorly stacked stones without any remains of mortar visible. Adjacent to the rectangle on the NE is a depression measuring approximately five meters by five meters with a depth of approximately two feet. Slightly northwest of these features is an irregular depression measuring approximately four meters by two meters; it varies in depth being quite deep in the middle and less deep toward the sides. It is conceivably the remains of an outhouse. No historic artifacts were found in association with the features described above. The landowner knew nothing about the history of the site (Lass 1980a:42-43).

Located across the creek from the foundations are farm

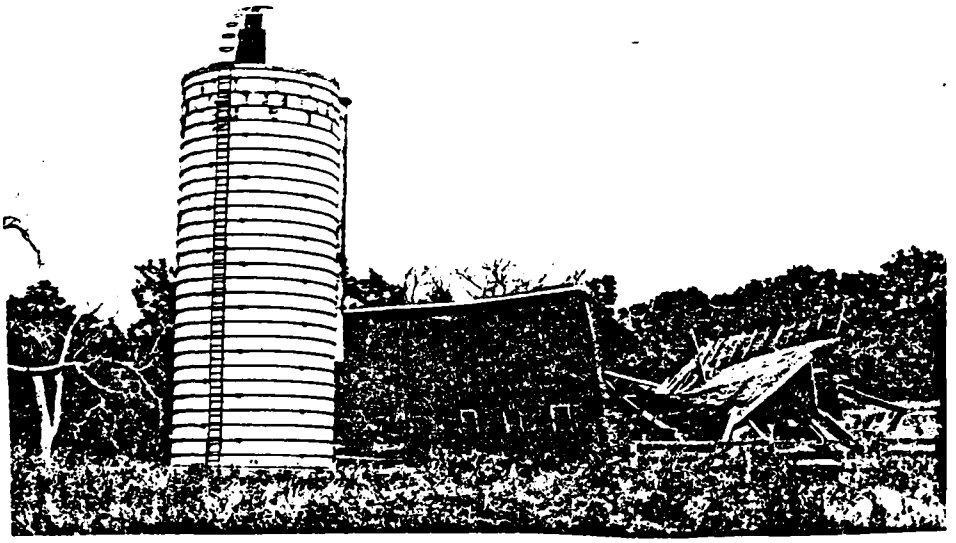


a



b

Figure 44. a. Reinertson house, looking south.
b. Site 39DE16, house foundation.



a



b

Figure 45. a. Site 39DE16, outbuildings.
b. Site 39DE53, looking south on terrace.

outbuildings. A local informant stated that the house from this farmstead was moved to the town of Gary.

Deeds Search (Deuel County Register of Deeds, Clear Lake, South Dakota). The following land ownership includes the Reinertson residence mentioned in the overview.

Y408- Land certificate #6919 grant to Dan N. Bosworth, May 16, 1887.
B318- Bosworth to John N. Tilden, April 7, 1886.
0637- Tilden to Hartwell Bassett, October 13, 1899.
Z68 - Bassett to Daniel Peterson, July 27, 1903.
Z276- Peterson to George Fitzsimmons, February 5, 1906.
Ogle's atlas (1909:35) indicates two residences on the Fitzsimmons' property in the NE¼ of section 28. One is the current Reinertson house mentioned in the overview, and the other is possibly site 39DE16.
MR8:458- As survivor, Etta Fitzsimmons owner, December 13, 1920.
49:629 - Fitzsimmons to Lee and Lillie Volk, March 9, 1942.
63:92- Volk to O. L. Reinertson, present owner.

Significance

Peterson's atlas (1904:34) indicates two residences in the NE¼ of section 28, suggesting that site 39DE16 was probably constructed before that time. This might have been an earlier claim structure built by Bosworth or Tilden, the earliest landowners. It appears to have been a common homestead occupation. The site has no historically important persons associated with it nor is it architecturally significant. Therefore, the authors recommend that the site is not eligible for nomination to the National Register. The site will not be impacted by the proposed lake project.

39DE53
Project Area: LQP-3

Legal Location	Section	Township	Range
S½ SW¼ SE¼ NE¼ SE¼ SE¼ SW¼ NE¼	28	T115N	R47W

UTM	E700740 N4956970 E700850 N4956930
Map Quad	Canby NW
Local Name	-
Type of Remains	burials
Elevation	500 and 479 meters, 1570 feet
Vegetation	trees, grass
Estimated Size	50 X 50 meters and 50 X 50 meters
Surface Visibility	0 percent
Site Condition	fair
Soil Association	-
Topography	hill top, terrace
Postulated Past Vegetation	trees
Distance to Nearest Water	50 meters
Degree of Overview	0 degrees
Cultural Affiliation	late 19th century, American Indian

Description

Site 39DE53 consists of a mass grave of American Indians who died during a tuberculosis epidemic in the latter half of the 19th century (Fig. 45b). Local residents have badly disturbed some of the graves located on a bluff top overlooking Cobb Creek. Burials may also occur on the terrace of the creek, near sites 39DE16 and 39DE56. A local informant, Mr. Will Stone, participated in a grave "looting expedition" in 1962 when he was nine years old. His recollection of the exact location of some of the graves was not clear.

Significance

The mass burials will not be inundated by the proposed lake; however, their location is adjacent to the upper reaches of the proposed lake. Extreme care should be exercised in this area during construction of the lake. Because the site is outside the boundaries of the proposed project, it is probably not in danger. However, since the lake may be used for recreational purposes, the lake will make the site more easily accessible and may increase the likelihood of looting of the graves. Because the site contains human burials associated with an epidemic that occurred during the late 19th century, the skeletal remains potentially contain significant scientific information that may help elucidate the impact of diseases upon American Indians during the 19th century. The site may be potentially significant and should be considered potentially eligible for nomination to the National Register.

39DE54
Project Area: LQP-3

Legal Location	Section	Township	Range
NE¼ SW¼ NE¼ SE¼	27	T11SN	R47W

UTM	E701550 N4956670
Map Quad	Canby NW
Local Name	-
Type of Remains	lithics
Elevation	475 meters, 1560 feet
Vegetation	trees, grass
Estimated Size	10 X 3 meters
Surface Visibility	0 percent
Site Condition	good
Soil Association	-
Topography	terrace
Postulated Past Vegetation	trees
Distance to Nearest Water	100 meters
Degree of Overview	0 degrees
Cultural Affiliation	prehistoric, unknown

Description

Site 39DE54 is situated on a small terrace remnant on the west edge of Cobb Creek (Fig. 46a). The area appeared to be ideally suited for the location of a site. Therefore, a datum was established on the terrace remnant and a 1 X 1 meter test pit was excavated. The datum was placed approximately 113 meters east and 12 meters south of the southeast corner of the Maas barn.

Test Excavations

A 1 X 1 meter test pit was placed approximately two meters north of the datum (Fig. 10). The test pit was excavated in arbitrary 10 cm levels to a depth of 1.09 meters. All soils were sifted through quarter-inch hardware cloth. Chipped stone flakes were recovered from the top 10 cm. Deeper deposits did not contain any cultural remains. No culturally diagnostic artifacts were recovered. A series of auger holes were dug along the top of the terrace and its edges (Fig. 10), but these did not yield any cultural material.

PREHISTORIC ARTIFACTS

Artifact Type	Quantity	Material Type	Provenience
Flake	5	chert	unit 1, 0-10 cm

FAUNAL REMAINS

Taxon	Element	Quantity	Side	Condition	Provenience
cf. *Bison bison*	tibia	1	left	distal	unit 1, 50 cm
rodent	femur	1	left	proximal	unit 1, 50 cm



a



b

Figure 46. a. Site 39DE54, looking east at terrace remnant.
b. Site 39DE55, looking east at cutbank.

Significance

Site 39DE54 is a small prehistoric campsite located on top of a small terrace remnant. No data indicative of temporal placement were recovered. The site is only one of a few prehistoric sites located along the small streams in the region. The recovery of a Bison bison tibia at a depth of 50 cm, while all cultural lithic remains were recovered within the top 10 cm, suggests that the presence of the bison remains may be natural as opposed to cultural. Bison, which were once common in the area, may have sought winter shelter in the creek's wooded valley and one may have died near the site from natural causes, or bison remains from further up the valley may have been deposited in the terrace by the creek. The rodent femur recovered from a depth of 50 cm is probably due to natural agents. Because of the small quantity of cultural remains recovered (five flakes), the negative results of auger tests, and the site's location on a small terrace remnant that has been eroded, it is recommended that the site is not eligible for nomination to the National Register.

39DE55
Project Area: LQP-3

Legal Location	Section	Township	Range
NW¼ SE¼ NE¼ SE¼	27	T11SN	R47W

UTM	E703570 N4956500
Map Quad	Canby NW
Local Name	-
Type of Remains	3 dugouts, lithics
Elevation	472 meters, 1550 feet
Vegetation	trees, grass
Estimated Size	50 X 30 meters
Surface Visibility	0 percent
Site Condition	fair
Soil Association	-
Topography	terrace
Postulated Past Vegetation	trees
Distance to Nearest Water	0 meters
Degree of Overview	0 degrees
Cultural Affiliation	prehistoric, 19th century

Description

Site 39DE55 contains a prehistoric occupation of unknown cultural affiliation and a historic occupation dating to the late 19th century (Fig. 46b). The prehistoric occupation contains a thin scatter of chipped stone and bone within the upper 10 cm of soil. The historic occupation consists of three dugouts facing south. The dugouts measure 10 X 8 meters, 8 X 5 meters, and 10 X 5 meters and all are approximately one meter in depth (Fig. 11). The site is located on a north and east terrace of Cobb Creek.

Test Excavations

A datum was established on a terrace on the north side of Cobb Creek. The datum is located approximately 210 meters east and 30 meters north of the southeast corner of the Maas barn. A single 1 X 1 meter test pit (Fig. 47) was excavated in arbitrary 10 cm levels to a depth of 60 cm. All soils were sifted through quarter-inch hardware cloth. The southwest corner of the test pit was placed three meters west and two meters north of the datum. Two flakes and one bone fragment were recovered from the top 10 cm of the deposit. No cultural remains were recovered from 10 auger tests (Fig. 11).

PREHISTORIC ARTIFACTS

Artifact Type	Quantity	Material Type	Provenience
Flake	1	basalt	cut bank
Flake	2	1 chert, 1 Tongue River silicified sediment	unit 1, 0-10 cm

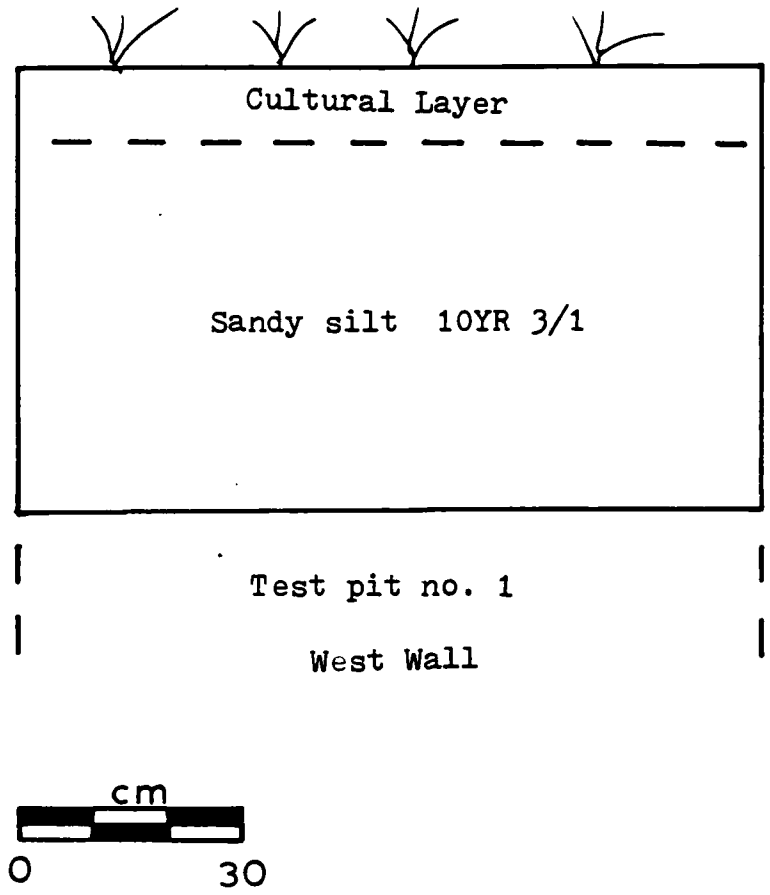


Figure 47. Profile of the west wall of test pit no. 1 at site 39DE55.

FAUNAL REMAINS

Taxon	Element	Quantity	Side	Condition	Provenience
unidentified	bone	1	-	fragment	unit 1, 0-10 cm

Significance

The historic occupation of site 39DE55 may be associated with the "mixed-blood squatters" mentioned by Narvestad and Narvestad (1972:561). B.J. Cochrane, one of the first permanent Euro-American residents of the area, stated that three families of "halfbreeds" and two Euro-American men were living in Cobb Creek Valley when he arrived in 1872 (Stone 1972:5). A log cabin was purchased from "halfbreeds" in Cobb Creek Valley by A. B. Anderson and moved to Fox Lake in 1879 (Stone 1972:15).

Dugouts were a common occurrence in the region, and this set of dugouts is not known to be unusual. However, little archaeological study has been done on dugouts, and in that regard, test excavations might prove informative about early Euro-American settlement of the region. In addition, the widespread or common occurrence of a cultural manifestation should not negate its potential significance, especially if the manifestation is not well-known archaeologically. In other words, the burden of proof is to show that a cultural phenomenon is not potentially significant, not vice versa.

In a recent study on the occurrence of dugouts in Minnesota, Caspers (1980:4-5) notes "a shortage of information, interpretation and understanding of a form of frontier architecture and an era of history, short lived but yet, extremely prevalent during settlement days in Minnesota ... If we knew more about dugouts and soddies we would understand better the occupance patterns of those who settled in Minnesota in the period from the 1850's through to the '80's and the '90's." Although dugouts are common, they were not all built the same. There are two basic types of dugouts: (1) those dug into the side of a hill or bank and (2) those dug into the level ground. (Both types occur in the present project areas.) They usually faced south, southeast, or east. Interior walls were usually dirt plastered with clay and whitewashed with lime, but wooden and stone walls also occurred. Some walls were even constructed of a lattice of willows covered with a mud plaster of manure and wood ashes. Front walls were constructed of dirt, logs chinked with mud, or stones. Some dugouts were built up all the way around with several tiers of logs. Others had stone foundations. Occasionally lofts were installed as sleeping areas. Although the usual roof form consisted of pole rafters covered with brush, a thick thatch of hay, and topped with sod or dirt, some roofs were boards covered with sod. Some dugouts contained a storage cellar dug into a corner of the interior (Caspers 1980:14-15, 58). "For the most part, these

structures were a temporary shelter built to survive the first winter or two on the new claim" (Caspers 1980:15), but some dugouts were occupied much longer. Archaeological investigations of dugouts can determine construction methods, living conditions, and possible lengths of occupation. In addition, dietary data may be obtained. As warned by Caspers (1980:59), man's present capability to swiftly change the landscape poses a real threat to dugout sites; therefore, it is important that some be studied and preserved.

The prehistoric occupation appears to be very diffuse and restricted to the upper 10 cm of soil. The site probably represents a short-term campsite. Further investigations are recommended for the site to determine its significance. Therefore, it is suggested that the site be considered potentially eligible for nomination to the National Register until further investigations are conducted.

39DE56
Project Area: LQP-3

Legal Location	Section	Township	Range
N½ NE¼ NE¼ SE¼	28	T11SN	R47W

UTM	E701060 N4956850
Map Quad	Canby NW
Local Name	-
Type of Remains	lithics, hearth
Elevation	480 meters, 1575 feet
Vegetation	trees, grass
Estimated Size	75 X 100 meters
Surface Visibility	0 percent
Site Condition	good
Soil Association	-
Topography	terrace
Postulated Past Vegetation	trees
Distance to Nearest Water	0 meters
Degree of Overview	0 degrees
Cultural Affiliation	prehistoric, Late Archaic

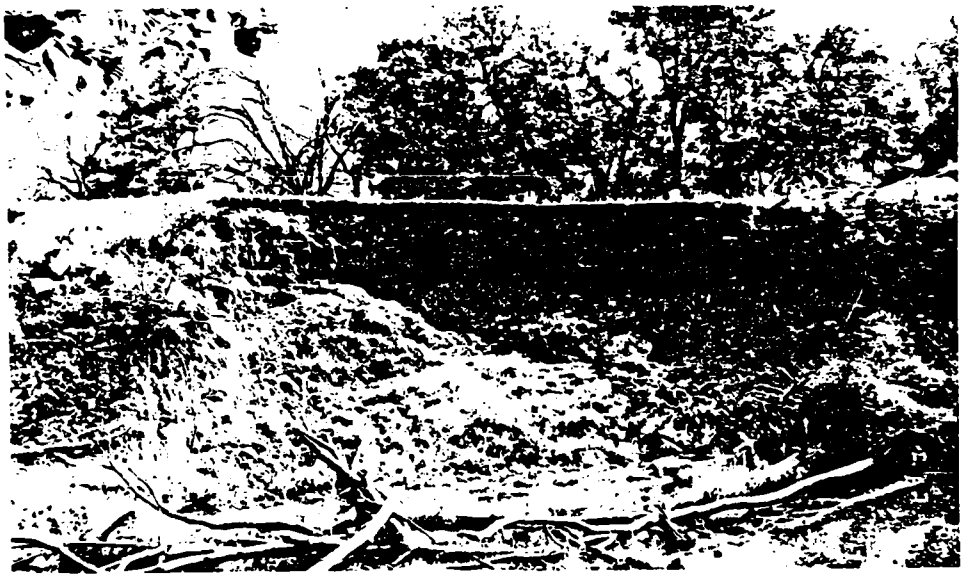
Description

Site 39DE56 is located on a high terrace on the south and east sides of Cobb Creek (Fig. 48). The site was found while examining a deeply eroded, west facing creek bank. Site remains include burned bone, broken bone, pottery sherds, lithics, and a buried hearth. The hearth was observed at a depth of 205 to 215 cm below the surface. Figure 49 describes the soil profile of the cutbank. The site contains several occupations separated stratigraphically. The uppermost component is near the surface, with lithic debris and bone fragments occurring in cattle paths. Bone fragments were observed at depths of 135 cm to 143 cm in the eroded cut-bank.

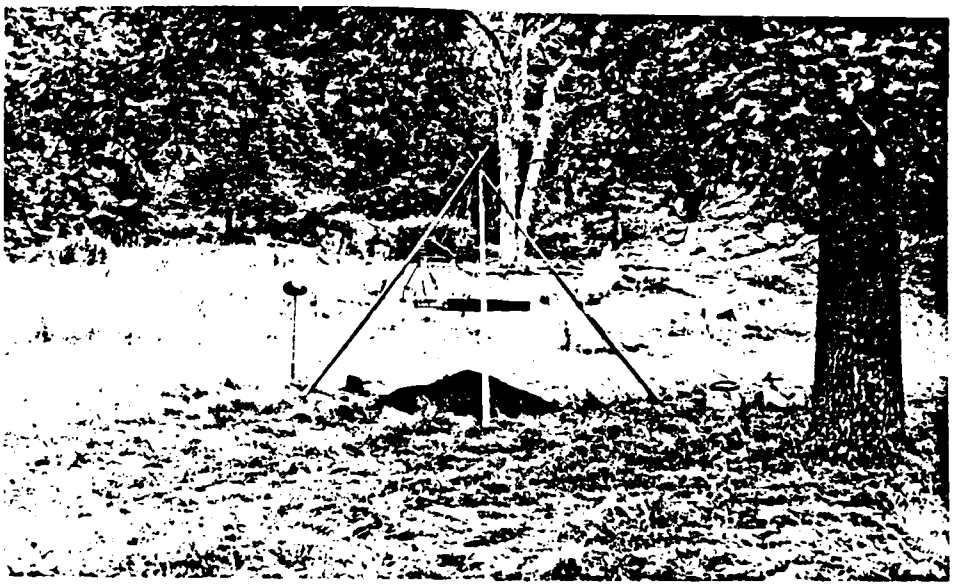
The hearth measured 159 cm in diameter and contained debris 4 to 8 cm thick. A sample of charcoal was recovered from the hearth. Since no culturally diagnostic artifacts were recovered from the hearth area, the charcoal was sent to the Center for Applied Isotope Studies at the University of Georgia to obtain a radiocarbon date associated with the hearth. The charcoal yielded a radiocarbon date of 2605±140 B.P. (UGa-4601), or 655±140 B.C. A second radiocarbon date was obtained from charcoal recovered from test pit 1 at a depth of 40 to 50 cm. The radiocarbon date obtained was 3095±570 B.P. (UGa-4602), or 1145±570 B.C. The radiocarbon dates place the earliest occupation of the site during the Late Archaic period.

Test Excavations

A datum, placed approximately 75 meters west and 95 meters south of a small house, was established on the terrace containing cultural remains. Three 1 X 1 meter test pits were excavated in arbitrary 10 cm levels (Fig. 50). All soils were



a



b

Figure 48. a. Site 39DE56, cutbank, looking east.
b. Site 39DE56, test excavations, looking east.

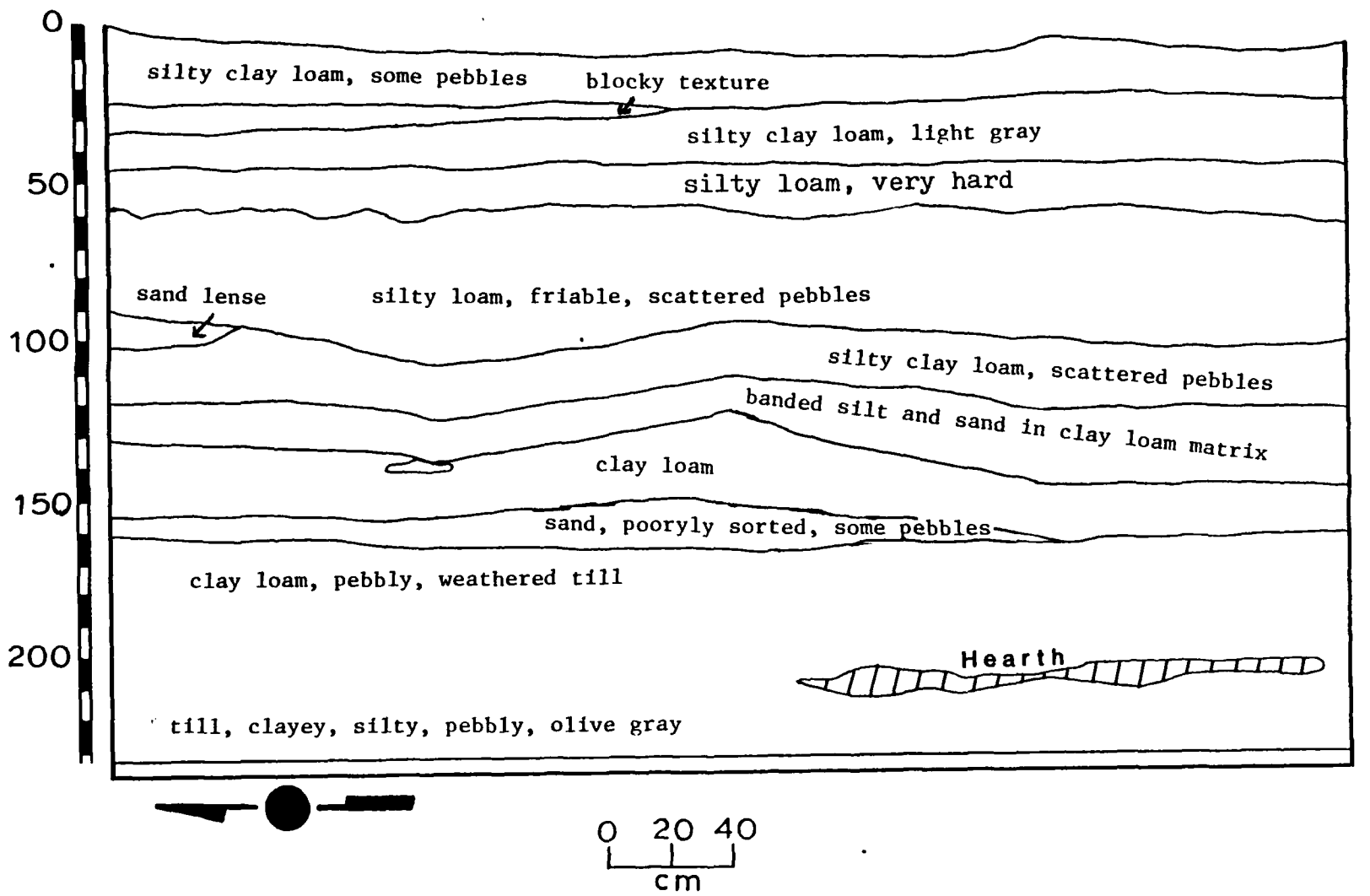


Figure 49. Profile and soil descriptions of the cutbank at site 39DE56.

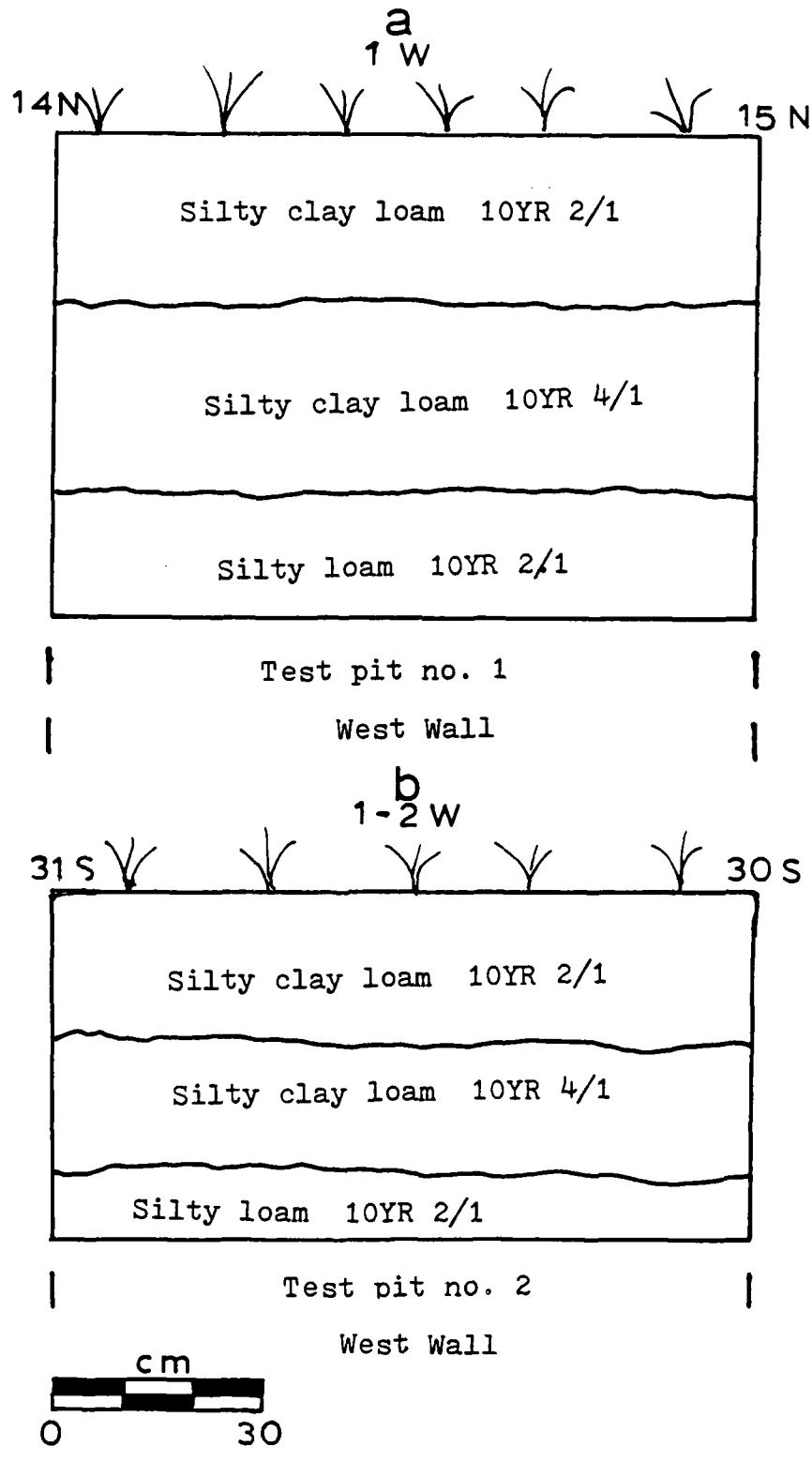


Figure 50. a. Profile of the west wall of test pit no. 1 at site 39DE56.
b. Profile of the west wall of test pit no. 2 at site 39DE56.

sifted through quarter-inch hardware cloth. The southwest corner of test pit 1 was placed one meter west and 14 meters north of the datum. Test pit 2 was placed two meters west and 31 meters south of datum, and test pit 3 was placed 15 meters east and one meter south of datum. Test pit 1 was excavated to a depth of 70 cm, test pit 2 was excavated to a depth of 50 cm and test pit 3 was excavated to a depth of 50 cm. A small quantity of lithics, pottery and bone debris was recovered.

PREHISTORIC ARTIFACTS

Artifact Type	Quantity	Material Type	Provenience
Core	1	chert	surface
Retouched flake	1	chert	surface
Flake	9	8 chert, 1 Tongue River silicified sediment	surface
Shatter	4	3 chert, 1 quartzite	surface
Flake	1	Tongue River silicified sediment	post hole, 2W/30S, 30 cm
Pottery*	1	body sherd	test pit 1, 20-30 cm
Pottery*	5	body sherds	test pit 1, 30-40 cm
Flake	6	4 chert, 2 Tongue River silicified sediment	test pit 1, 30-40 cm
Flake	9	6 chert, 1 Knife River Flint, 1 Tongue River silicified sediment, 1 quartz	test pit 1, 40-50 cm
Shatter	1	chert	test pit 1, 40-50 cm
Flake	5	chert	test pit 1, 50-60 cm
Shatter	3	2 chert, 1 quartz	test pit 1, 50-60 cm
Flake	2	1 chert, 1 quartzite	test pit 3, 10-20 cm

Pottery

The six body sherds are tempered with crushed granite. Two sherds have eroded exterior surfaces. The exterior surfaces of the remaining sherds are cordmarked. The sherds are too fragmentary for determination of specific cultural affiliation, but they appear to be Late Woodland.

FAUNAL REMAINS

Taxon	Element	Quantity	Side	Condition	Provenience
Bos or *Bison*	femur	1	rt.	medial shaft	surface
unidentified	bone	6	-	fragments (1 burned)	surface
unidentified	bone	1	-	fragments	post hole, 2W/30S, 30 cm
Bison-size	pelvis	2	-	fragments	post hole, 15E, 40 cm
Bos or *Bison*	ulna	1	rt.	proximal	post hole, 15N, 20 cm
unidentified	bone	9	-	fragments	post hole, 15N, 20 cm
unidentified	bone	2	-	fragments (1 burned)	post hole, 25N, 50 cm
Bison-size	bone	2	-	fragments	cutbank, above hearth
Deer-size	tooth	1	-	fragment	test pit 2, 0-10 cm
Freshwater mussel	shell	2	-	fragments	test pit 2, 0-10 cm
unidentified	bone	1	-	fragment	test pit 1, 0-10 cm
Bison-size	ulna	1	rt.	proximal	test pit 1, 30-40 cm
	thoracic vertebra	1	axial	fragment	test pit 1, 30-40 cm
unidentified	bone	9	-	fragments (4 burned)	test pit 1, 30-40 cm
Bison-size	tooth	1	-	enamel fragment	test pit 1, 40-50 cm
unidentified	bone	23	-	fragments (7 burned)	test pit 1, 40-50 cm
unidentified	bone	7	-	fragments (1 burned)	test pit 3, 0-10 cm
Bison-size	bone	1	-	fragment	test pit 3, 10-20 cm

Significance

Site 39DE56 will not be inundated by the proposed lake; however, the site is currently being eroded on the west by Cobb Creek and erosion of the site will increase with construction of the lake due to wave-action. The Late Archaic period is poorly understood in eastern South Dakota. Since very few Late Archaic sites have been documented in eastern South Dakota and a large quantity of cultural and faunal remains were recovered from test excavations of the site, site 39DE56 is potentially significant. The presence of a Late Woodland, or more recent, occupation near the surface of the site may also yield significant information and should be further investigated. It is recommended that the site be considered potentially eligible for nomination to the National Register.

(MN1)
GRABOW FARMSTEAD
Project Area: LQP-3

Legal Location	Section	Township	Range
NW¼ SW¼ SE¼	29	T115N	R46W

UTM	E701650 N4956700
Map Quad	Canby NW
Local Name	Grabow Farm
Type of Remains	house, barns
Elevation	463 meters, 1520 feet
Vegetation	trees, grass
Estimated Size	100 X 100 meters
Surface Visibility	0 percent
Site Condition	good
Soil Association	878: Calco-Du Page complex, 904E: Arvilla-Buse Barnes complex, 6 to 12 percent slopes, 969C2: Zell-Rothsay silt loams, 6 to 12 percent slopes, eroded
Topography	terrace
Postulated Past Vegetation	trees
Distance to Nearest Water	0 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic, 20th century

Description

This site is located on the north side of Florida Creek. The farmstead, consisting of a house (Fig. 51a) and outbuildings, is presently used for agricultural operations. All of the buildings will be inundated by project lake LQP-3 (Fig. 41). The present owner thinks the house was built around the turn of the century. A photograph of the house before remodeling (1969) shows it as a wood frame one-and-one-half story rectangular pen with a small one-story cube porch at one gable end, and a one-story room addition at the other gable end. Present additions include one-story wings off the sides. All of the outbuildings are modern.

Deeds Search (Yellow Medicine County Register of Deeds, granite Falls, Minnesota).

F:12 - This property was part of the Winona-St. Peter Railroad land grant and was then sold to Thore K. Barkva, July 12, 1879. The Northwest Publishing Co. atlas (1900:26) shows Barkva's residence on the south side of the creek.
35:371 - Barkva to Frank E. Millard, April 25, 1903.
67:65 - Federal Land Bank mortgage foreclosure, February 10, 1938.
75:459 - Federal Land Bank to Anton W. and Harry E. Walden, October 9, 1947.
98:465 - Walden estate to Don and Nora Grabow, present owners, January 24, 1969.



a



b

Figure 51. a. Farmstead MN1, Grabow house, looking southwest
b. Farmstead MN6, barn, looking southeast.

Significance

No signs were found of Barkva's possible early residence on the south side of the creek. If Barkva did not build the present structure, then it was probably built by Millard ca. 1903. The basic house style is one of the more common architectural styles. There are no significant historical persons associated with the house nor is the house architecturally significant. Therefore, it is suggested that the house is not eligible for nomination to the National Register.

Project Area LQP-8
Canby Quadrangle Map

T114N, R45W, S½ of section 29; most of section 32; part of E½ of section 31. Norman Township, Yellow Medicine County, Minnesota (Fig. 52).

Overview

Lake project area LQP-8 is located on the Lac qui Parle River, eight kilometers (five miles) southwest of Canby, Minnesota, in Norman Township, Yellow Medicine County. The first claim taken in Norman Township was that of A.G. Gulman in June, 1870. His land contained the northern three-quarters of the east half of section 32, including the east branch of proposed lake LQP-8. However, Gulman's residence was located on his land in the west half of section 33, across the section road from the project area (Rose 1914:94; Northwest Publishing Co. 1900:17).

Agil G. Gulman and Annie Lawrence were married in 1867 in Fillmore County. Annie was born in Telemarken, September 28, 1847, and came to Fillmore County at the age of five. Gulman was born in Norway in 1841. He immigrated with his parents to Wisconsin in 1851 and to Fillmore County in 1854. He died in 1905, and Annie in 1927 (Narvestad and Narvestad 1972:655).

Three other Euro-American families settled on the lower branch of the Lac qui Parle, outside the LQP-8 impact area, in 1870. These were the families of Friberg Olson, Syver A. Negaard and John Bryngulsen. These families were all Norwegians from Fillmore County, Minnesota (Narvestad and Narvestad 1972:654). When Norman Township was organized, April 7, 1874, the name was chosen to refer to the Norwegian background of the residents (Upham 1969:595).

Early land claims in sections within project area LQP-8 were: Andreas O. Jacobson, sections 28-33; Maren P. Hundseid, section 32; Christian Anderson, section 32; and Syver A. Negaard, section 32 (Narvestad and Narvestad 1972:654; Rose 1914:94-95). Negaard's land encompassed most of the west half of section 32 where the west leg of the proposed lake would extend. Negaard built the first house in the township, which consisted of a dugout in the bank of a creek (Narvestad and Narvestad 1972:656). No indication of such a dugout was found during the survey, but it may have been located on the west branch of the project area. Negaard's later residence, however, is the present Kontz residence situated on the hill outside of the proposed lake area (SW¼, NW¼ of section 32)(Northwest Publishing Co. 1900:17).

No sites are indicated within project area LQP-8 on the General Land Office (GLO) survey maps or in Andreas' early atlas (1874). Andreas (1874:178) did show the location of the Winona and St. Peter Railroad line through sections 3, 4, 11,

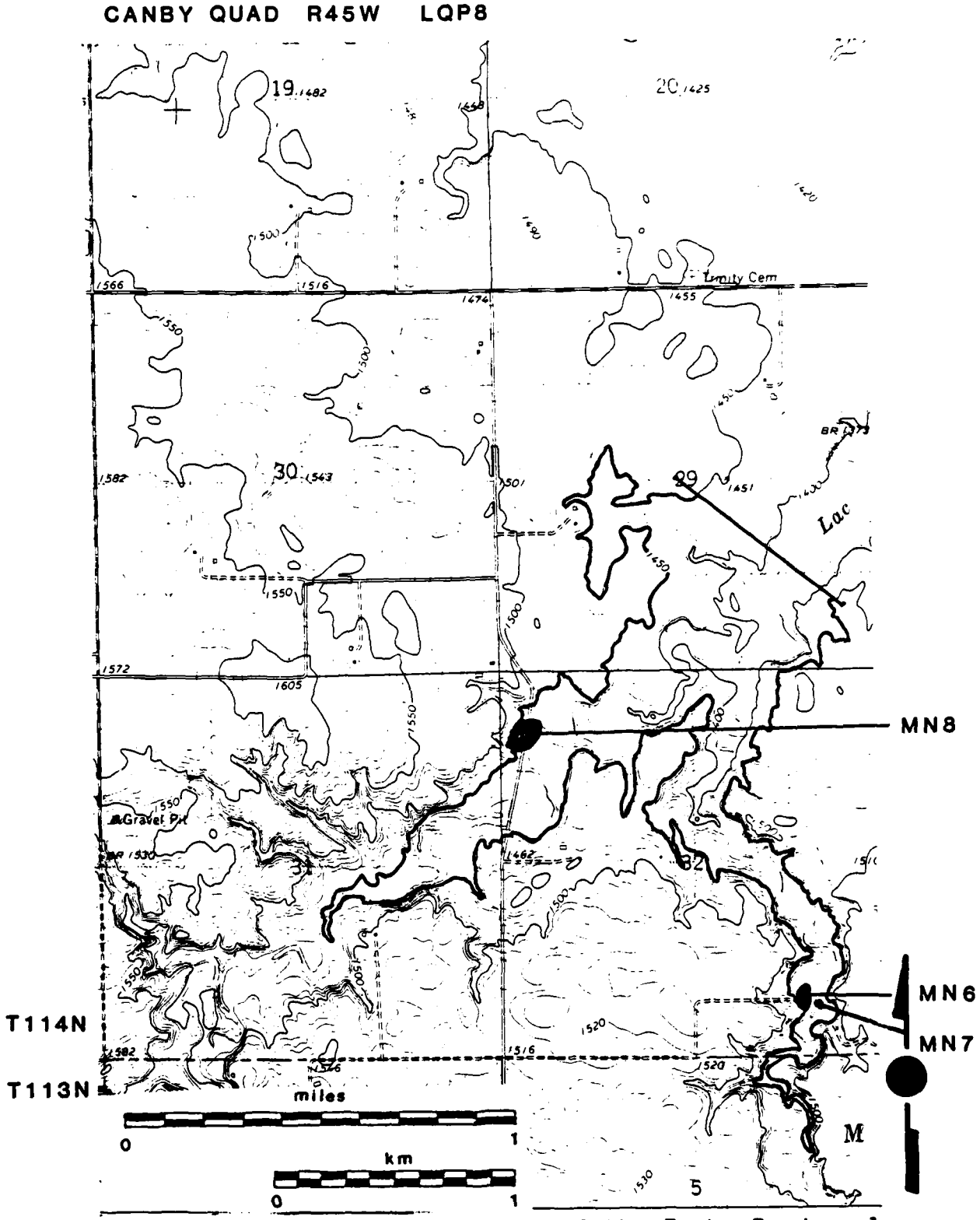


Figure 52. MAP 2. Topographic map of the Canby Quadrangle, T113N, R45W; T114N, R45W, showing the location of project area LQP-8 and associated farmsteads and bridge.

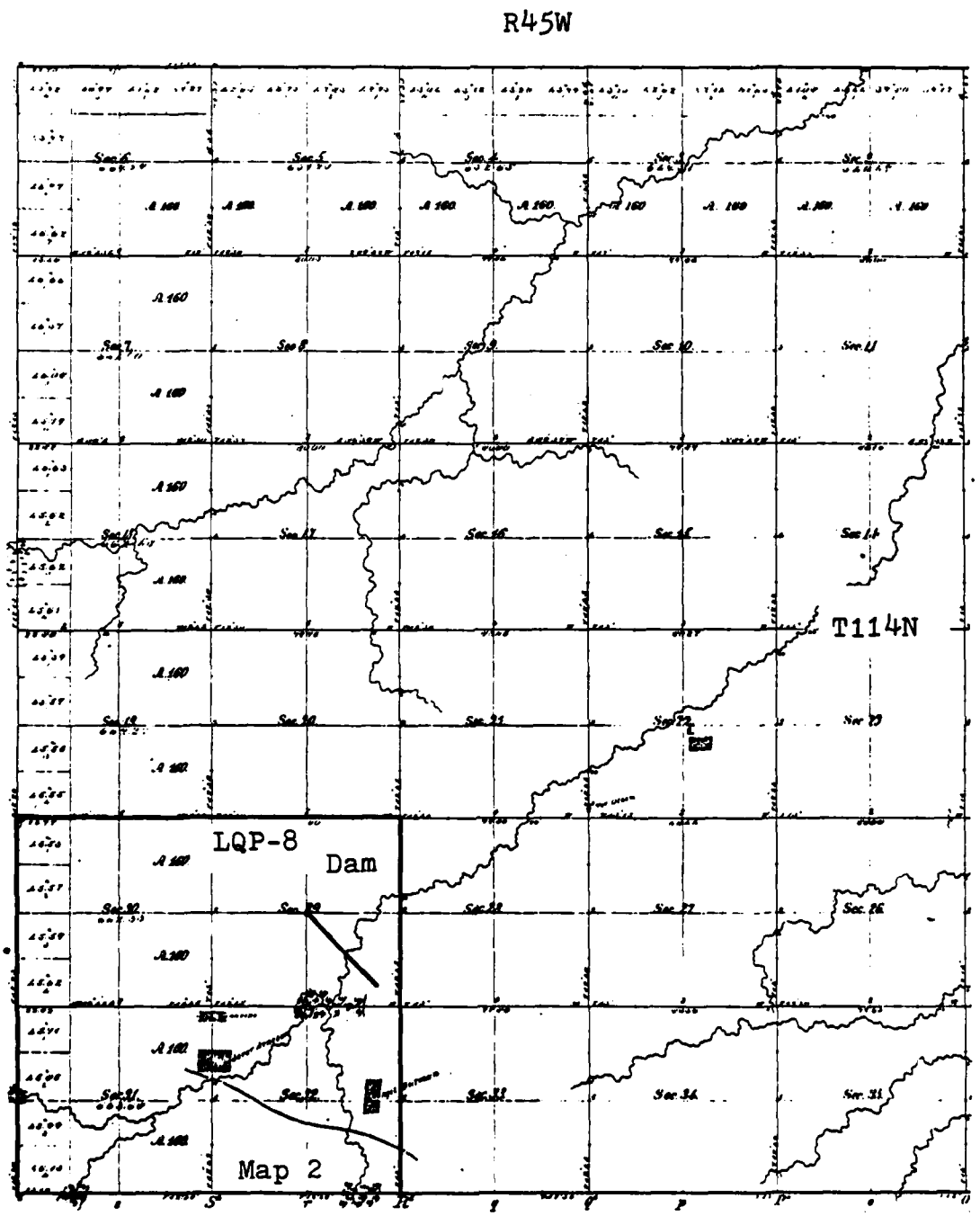


Figure 53. General Land Office map T114N, R45W, ca. 1858. Shows the location of project area LQP-8 (Map 2).

13, 14 and 24, northwest of LQP-8 (the present Chicago and Northwestern line). This railroad obtained a land grant from the U.S. government that included half the acreage in western Yellow Medicine County. In Norman Township, 371 hectares (916 acres) of sections 29, 31 and 33, located near the project area, were included. This line was completed through Norman Township in 1873. None of the recorded sites within project area LQP-8 were part of this railroad land grant (Rose 1914:108).

Other historic sites in Norman Township situated outside project area LQP-8 are listed in the Minnesota Historic Preservation Office files and in Narvestad and Narvestad (1972). These sites are listed in Appendix B, along with National Register sites in Yellow Medicine County.

(MN6)
FARMSTEAD
Project Area: LQP-8

Legal Description	Section	Township	Range
SW¼ NW¼ SE¼ SE¼	32	T114N	R45W

UTM	E714100 N4945500
Map Quad	Canby
Local Name	-
Type of Remains	house foundation, barns
Elevation	439 meters, 1440 feet
Vegetation	trees, grass
Estimated Size	50 X 100 meters
Surface Visibility	0 percent
Site Condition	fair
Soil Association	94B: Terril loam, 2 to 6 percent slopes
Topography	terrace
Postulated Past Vegetation	trees
Distance to Nearest Water	50 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic, early 20th century

Description

The farmstead consists of a house foundation and outbuildings, including a barn, with a gravel road passing through the lot. The barn, which has a gambrel roof, is a plank truss structure with a centered metal ventilator and a roof-height silo at the rear (Fig. 51b). The outbuilding is a wood frame granary with two dormer openings on one of the long sides (Fig. 54a).

Deeds Search (Yellow Medicine County Register of Deeds, Granite Falls, Minnesota).

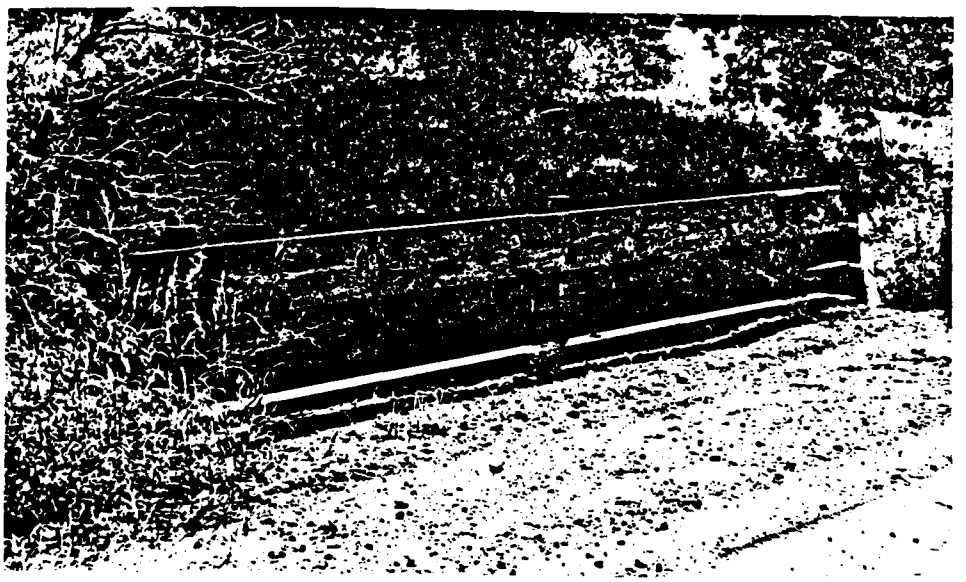
H:241 - Land patent issued to Christian Anderson, May 10, 1882. Christian Anderson is listed by Narvestad and Narvestad (1972:654) as one of the earliest settlers in Norman Township, in section 32. Narvestads' map of section 32 places Anderson's location farther west, outside the LQP-8 impact area (Narvestad and Narvestad 1972:669).
W:577 - To Martin and John Bromberg, December 16, 1897. Bromberg is the owner shown in the Northwest Publishing Co. atlas (1900:17), but no residence is indicated. The road had its present configuration at that time.
W:597 John deeded his share to Martin Bromberg, February 3, 1898.
35:435 - Martin and Anna Bromberg to Gustav Miller, February 28, 1903.
No further search was made, but a recent land map shows ownership by Laura S. Miller.

Significance

This type of barn first appeared in the early years of



a



b

Figure 54. a. Farmstead MN6, outbuilding, looking northeast.
b. Bridge MN7.

the 20th century and was extremely popular between 1915 and 1940. The granary is also a typical style of construction (Torma and Ruple 1982:2-27, 28). The buildings were possibly built by the Brombergs during their ownership of the land in 1897-1903, but were more likely built after 1903 by the Millers. This is suggested by the house foundation which is poured cement. None of the features associated with this site are architecturally significant nor are any significant historical persons associated with the site. Therefore, it is suggested that the site is not eligible for nomination to the National Register.

(MN7)
BRIDGE
Project Area: LQP-8

Legal Location	Section	Township	Range
SE¼ NW¼ SE¼ SE¼	32	T114N	R45W

UTM	E714170 N4945470
Map Quad	Canby
Local Name	-
Type of Remains	Bridge
Elevation	436 meters, 1430 feet
Vegetation	none
Estimated Size	4 X 10 meters
Surface Visibility	100 percent
Site Condition	good
Soil Association	878: Calco-Du Page complex
Topography	stream banks
Postulated Past Vegetation	trees
Distance to Nearest Water	0 meters
Degree of Overview	0 degrees
Cultural Affiliation	Historic, 20th century

Description

This structure is a wood plank bridge, crossing the east branch of project area LQP-8, with wood post and lintel side rails (Fig. 54b).

Significance

This type of bridge construction is not unusual and the bridge does not have any significant historical persons associated with it. Therefore, it is recommended that the bridge is not eligible for nomination to the National Register.

(MN8)
FARMSTEAD
Project Area: LQP-8

Legal Location	Section	Township	Range
N½ SE¼ NW¼ NW¼	32	T114N	R46W

UTM	E712900 N4946580
Map Quad	Canby
Local Name	-
Type of Remains	house, barn
Elevation	433 to 439 meters, 1430 feet
Vegetation	trees, grass
Estimated Size	50 X 100 meters
Surface Visibility	0 percent
Site Condition	excellent
Soil Association	94B: Terril loam, 2 to 6 percent slopes
Topography	terrace
Postulated Past Vegetation	trees
Distance to Nearest Water	100 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic, early 20th century

Description

This farmstead consists of a house and barns. The house is a two-story cube structure with a front facing dormer and a later one-story wing addition. It is constructed of cement imitation stone blocks (Fig. 55a). The barn has a gambrel roof and is of plank truss construction with a cement imitation stone block foundation (Fig. 56b).

Deeds Search (Yellow Medicine County Register of Deeds, Granite Falls, Minnesota).

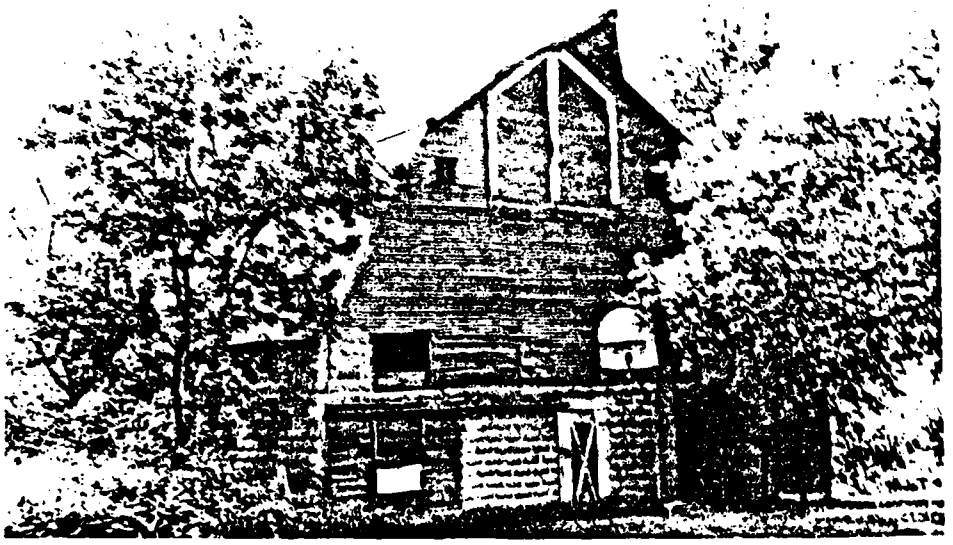
H:210 - Patent issued to Maren P. Hundseid, formerly Soderstrom, in 1878. The Northwest Publishing Co. atlas (1900:17) labels this 40 acres as "Mary Sunsid" but indicates no buildings. Narvestad and Narvestad (1972:656) list Hundseid as one of the earliest settlers in Norman Township, and state that Maren Larson Hundseid was born in Honten, Norway, December 5, 1849 and immigrated to Canby in 1878. She died July 9, 1922.
49:19 - Maren Hundseid to Frank G. Olson, May 11, 1918.
No further search was made. The current owner is Estle Saum.

Significance

Although the house and barn were constructed with cement imitation stone blocks, they are not unique. This type of concrete house was promoted as being fashionable in the early years of the 20th century. The structures are not architecturally significant nor are any significant historical persons associated with them. Therefore, the farmstead is not recommended for nomination to the National Register.



a



b

Figure 55. a. Farmstead MN8, house, looking southwest.
b. Farmstead MN8, barn, looking southeast.

Project Area LQP-40
Clear Lake NE Quadrangle Map

T117N, R48W, section 3, Lowe Township, Deuel County, South Dakota (Fig. 56).

Overview

This proposed lake is located in Lowe Township, 6.4 kilometers (four miles) south of Revillo, South Dakota. Revillo, in Grant County, was built by the Minneapolis and St. Louis Railroad as a market town for area wheat. The railroad originally planned to locate the town 0.8 kilometers (one-half mile) east, but was unable to procure that land. They purchased the Revillo townsite from John Hillstrom. The town was surveyed in January, 1885. The settlement around Revillo was described as "one-third Scandinavian, one-third German, and one-third English, Irish and Scotch" (Anonymous n.d.).

Lowe Township was formed as part of Deuel County on November 13, 1883. It was named after one of the early settlers in the area, Charles Lowe who homesteaded the northeast quarter of section 20 in 1878 (Deuel Co. 1977:42). The literature search for LQP-40 yielded no record of specific events, activities or buildings associated with this project area. No sites are shown on the General Land Office (GLO) survey maps or Andreas atlas (1884:16).

Near the project impact area in the northeast quarter of section 10, farm buildings are present that are shown in Peterson's 1904 atlas. This residence, also shown in Ogle's atlas (1909), was owned by W.P. Martius. In 1909, School No. 37 was located 0.8 kilometers (one-half mile) east of the proposed dam site in the southeast quarter of the southwest quarter of section 2 on land owned by Mary Underwood (Ogle 1909).

Another farmstead near the project area is located in the southwest corner of the southwest quarter of section 3. These buildings were constructed before 1909 because they appear on George Eck's property in Ogle's atlas (1909). The southeast quarter was then owned by W.G.W. Geiger, but no buildings are shown.

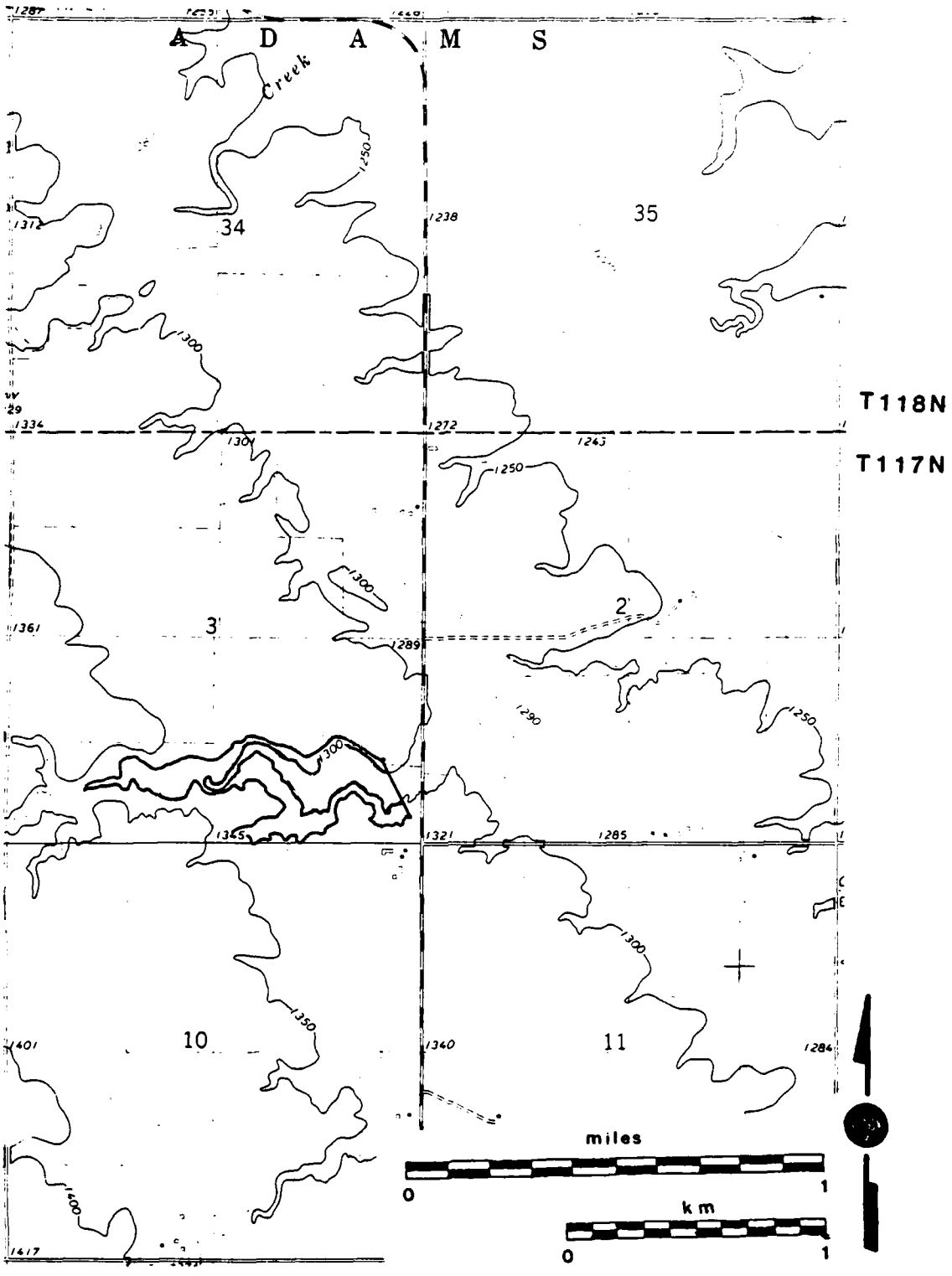


Figure 56. MAP 3. Topographic map of the Clear Lake NE Quadrangle, T117N, R48W; T118N, R48W, showing the location of project area LQP-40.

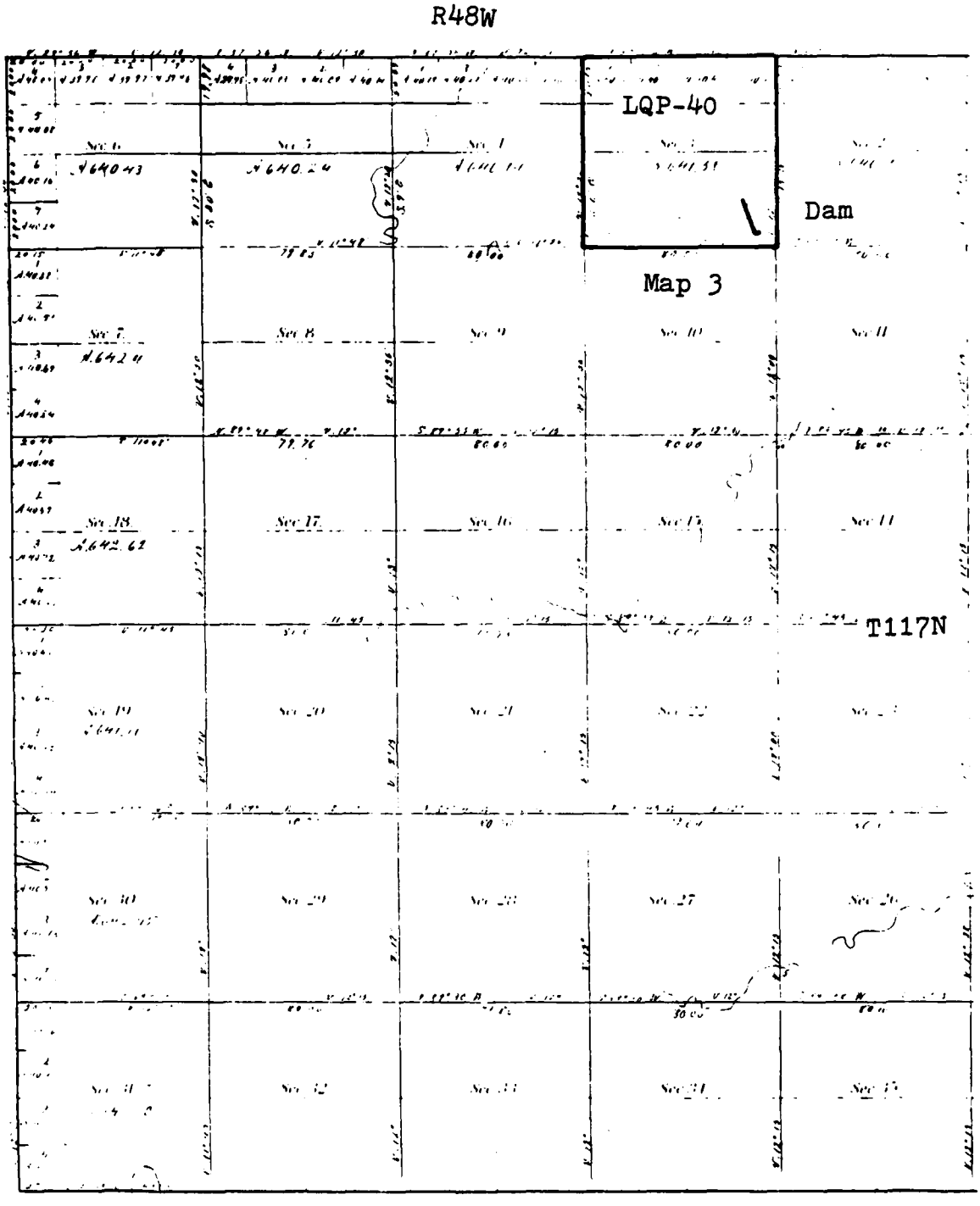


Figure 57. General Land Office map T117N, R48W, ca. 1872. Shows project area LQP-40 (Map 3).

T119N, R50W, mostly in SE¼ of section 24, and into NE¼ of section 25. Stockholm Township, Grant County, South Dakota (Fig. 58).

Overview

This proposed lake is located in the heart of the Scandinavian settlement in Grant County. Approximately 3.2 kilometers (two miles) west of the project area is the Swedish community, Stockholm, on the old Winona-St. Peter Railroad line (presently the Burlington-Northern). Approximately 4.8 kilometers (three miles) south of the project area is another Swedish town, Strandburg, which became a station on the Minneapolis-St. Louis Railroad line in 1898 (presently the "old railroad grade" on the Stockholm quad topographic map)(Grant County Historical Society 1979:4; Black 1939:24).

In 1877, a Santee Dakota settlement was established in Stockholm Township under the leadership of Daniel Renville. Fifty-two Sisseton families, who were sponsored by the Presbyterian Mission, took advantage of an 1875 act of Congress that allowed American Indians to homestead. They settled mainly near the Yellow Bank River north of the YB-6 project area. In 1877, they erected a church, the first in Grant County, in the SE¼ SW¼ of section 12, T119N, R50W, about 2.4 kilomters (one and one-half miles) north of YB-6. This church, known as the Brown Earth Indian Church, with its accompanying cemetery, still stands in its original location. In 1886, these Sisseton moved to the Sisseton-Wahpeton Reservation after learning that the homesteading privilege was not intended for their band (Brevet 1974:55; Grant County Historical Society 1979:41; Black 1939:21; South Dakota Historical Preservation files).

In 1879, the last bison hunt in Grant County took place in this area. On June 19, several bison came over the hills just west of the present town of Twin Brooks, in the township north of Stockholm. Joseph LeBlanc sited them and reported their location to Renville who set out with a party of Santee to hunt them. They overtook the animals on the south branch of the Yellow Bank River southwest of the present town of Strandburg. The meat was eaten at that year's July 4th celebration (Black 1939:87).

One of the earliest Euro-American families to arrive in Stockholm Township was the Fritz family. They reported only one Euro-American neighbor, Mr. Chase, who was a preacher and farmed by hand. At that time there were "Indian log houses along the creeks about every mile. As long as there was a supply of wood to sell, and the trapping was good, they lived well, but when the wood was sold they lived by begging from the [white] homesteaders" (Grant Co. Review 1955:9). The

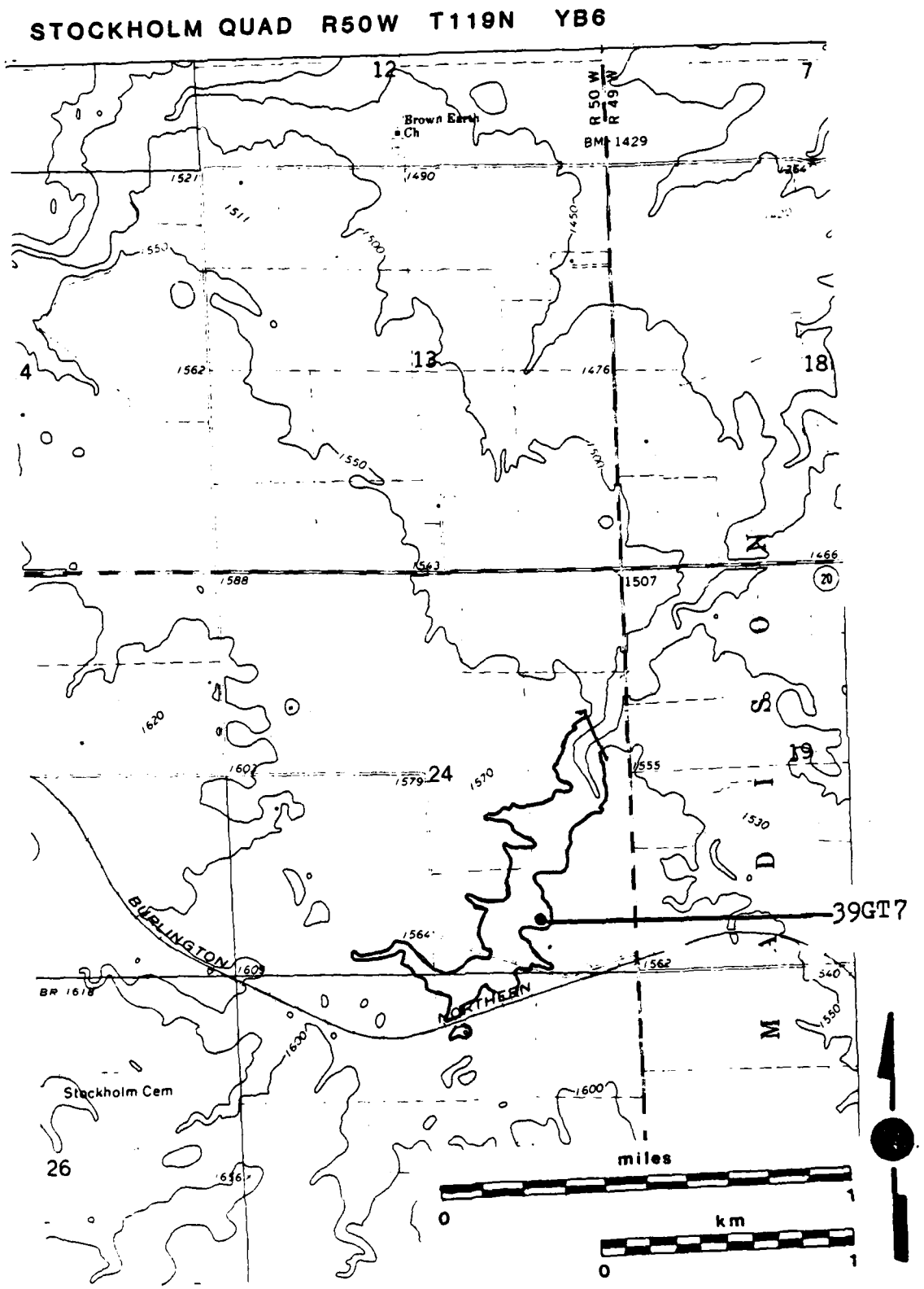


Figure 58. MAP 4. Topographic map of the Stockholm Quadrangle, T119N, R50W, showing the location of project area YB-6 and associated site.

Fritz residence, a dugout, was typical of early homes in the county. It was a two-room house dug partly into the side of a hill, with a barn made of prairie sod covered by a hay roof (Grant Co. Review 1955:9).

Other early Euro-American settlers in Stockholm Township were James Winch, O.B. Fornell, Andrew Berg, Gus Berg, O.S. Cass, O.P. Johnson, William and John Hallden, Nels Bergren, and C. Berg (Black 1939:22,32). Just outside the eastern edge of project area YB-6 (in the SE¼ SE¼ SE¼ of section 24) is a farmstead with several buildings that will not be affected by the project. This farmhouse was present as early as 1904 (Peterson 1904:38) on property owned at that time by Lars M. Larson. The deeds record for this property is presented with the site report for site 39GT7, a dugout.

39GT7
Project Area: YB-6

Legal Location	Section	Township	Range
SW¼ NW¼ SE¼ SE¼	24	T119N	R50W

UTM	E675800 N4995580
Map Quad	Stockholm
Local Name	-
Type of Remains	dugout
Elevation	469 meters, 1540 feet
Vegetation	trees
Estimated Size	3 X 5 meters
Surface Visibility	0 percent
Site Condition	fair
Soil Association	BeF: Buse-Forman loams, 20 to 40 percent slopes
Topography	terrace
Postulated Past Vegetation	trees
Distance to Nearest Water	0 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic, 19th century

Description

Site 39GT7 consists of a single, shallow dugout in the west bank of a terrace along a creek (Fig. 59a). The dugout measures 3 X 5 meters. A records search did not yield any information regarding the dugout. This site may have functioned as a residence or farm outbuilding.

Deeds Search (Grant County Register of Deeds, Milbank, South Dakota)

P2:585 - Homestead certificate No. 7146 to Louis B. Wedin, December 12, 1891.
8:140 - Right-of-way from Wedin to St. Paul, Minneapolis, and Manitoba Railroad, November 9, 1886.
25:145 - Wedin to George Bergren, October 30, 1901.
28:112 - George Bergren to Nels Bergren, May 14, 1902.
26:307 - Nels and Carolina Bergren to L.M. Larson, February 21, 1903.
28:622 - Lars M. Larson right-of-way to St. Paul, Minneapolis and Manitoba Railway, November 5, 1906.
45:453 - Larson to Erick G. Skoglund, February 27, 1919.
47:638 - Skoglund to Egner E. Berg, June 30, 1920.
44:222 - Sheriff's mortgage default sale to State of South Dakota, January 9, 1929.
61:541 - State of South Dakota to Anton Larsen, October 7, 1944.
65:351 - Anton and Helga Larsen to Harold H. and Agnes R. Nelson, October 26, 1946.
No further search done.

Significance

This dugout was probably built and used by the first



a



b

Figure 59. a. Site 39GT7, dugout, looking west.
b. Site 39GT8, silver mine, looking east.

landowner, Louis B. Wedin, who owned the property from 1891 to 1901. By 1904 (Peterson 1904) a more permanent residence had been built on the property in the SW¼ SE¼ SE¼, the location of the present Burkner house. Since little archaeological research has been conducted on dugouts in South Dakota, test excavations might prove informative (Woolworth and Woolworth 1980b:3). The widespread or common occurrence of a cultural manifestation should not negate its potential significance, especially if the manifestation is not well-known archaeologically. In other words, the burden of proof is to show that a cultural phenomenon is not potentially significant, not vice versa. Therefore, it is recommended that further investigations be conducted at this site to determine its significance and eligibility for nomination to the National Register.

Project Area YB-15
La Bolt and Tunerville Quadrangle Maps

T118N, R49W, W½ of section 25; most of section 26; NE¼ of section 35. Georgia Township, Grant County, South Dakota (Fig. 60).

Overview

This proposed lake will dam the South Fork of the Yellow Bank River, known locally as "Wilson Creek". The area around this proposed lake has several interesting historical sites, as does the project area itself.

The old townsite of Wilson, a railroad town on the Minneapolis and St. Louis line (the "old railroad grade" on current topographic maps) was located approximately 1.6 kilometers (one mile) east and 1.6 kilometers (one mile) north of project area YB-15. A railroad survey crew was sent out in 1884 to plan the best route for the new railroad. From the bottomlands at Revillo to the high point at Strandburg, the rail line had to climb 250 meters (800 feet) in 14.5 kilometers (nine miles). Within that 14.5 kilometers (nine miles) was the crossing of the South Fork of the Yellow Bank River. The surveyors determined that the best place to cross the creek was in the southwest quarter of section 18, T118N, R48W, Adams Township. (Weber et al. [n.d.:1] locate the crossing in the SE¼, but current topographic maps of the La Bolt quad indicate the crossing in the SW¼).

This crossing became known officially as "Railroad Bridge No. 95", but to local residents it was known as the "Wilson Bridge". The completed bridge was a large trestle structure measuring 23 meters by 366 meters (68 by 1200 feet), the largest trestle bridge between Minneapolis and Watertown. It was built of cedar pilings with fir cross ties. The grade fill for the bridge was constructed by using horse and ox-drawn scrapers. The tracks and bridge were completed by October 31, 1884, when the first train (Train No. 80) made its first run to Watertown where the line met the Chicago Northwestern (Weber et al. n.d.:2-3, including photographs).

During the construction of the railroad bridge, families came from miles around on Sundays to check the progress of the bridge. After its completion, the site continued to be a recreational area for picnics and other social gatherings (Weber et al. n.d.:2; Weber, personal communication).

The town of Wilson began as a double section house about one kilometer (one-half mile) west of the bridge in Georgia Township. The railroad crew also built homes, stables and storage buildings. Enterprising merchants joined the settlement. Businesses in the town included a hotel, blacksmith shoo, lumber yard and coal shed. The post office was established on January 7, 1885. One of the first schools in Georgia Township was built in Wilson in July, 1885. This

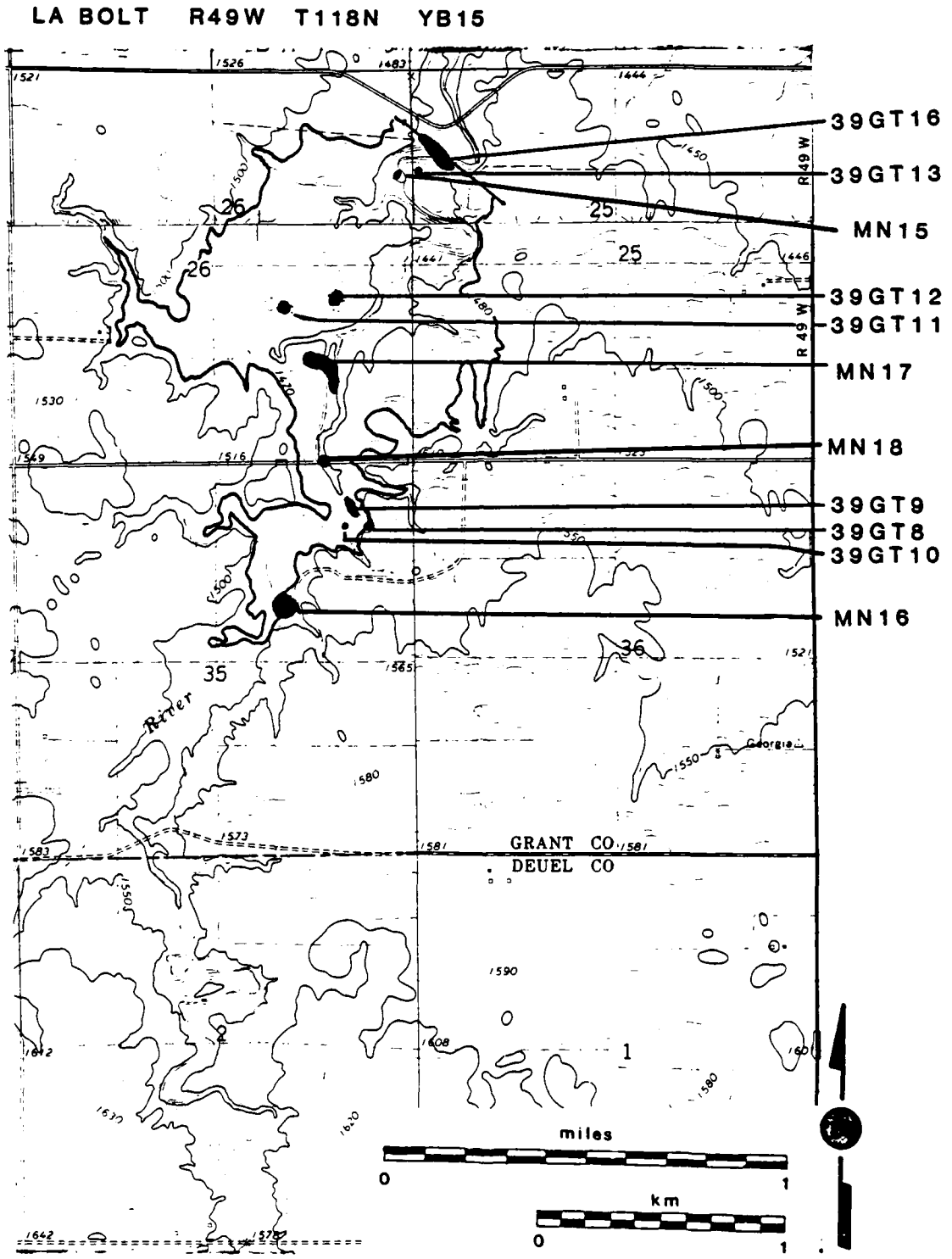


Figure 60. MAP 5. Topographic map of the La Bolt and Tunerville Quadrangles, T118N, R49W, showing the location of project area YB-15 and associated sites, farmsteads and bridge.

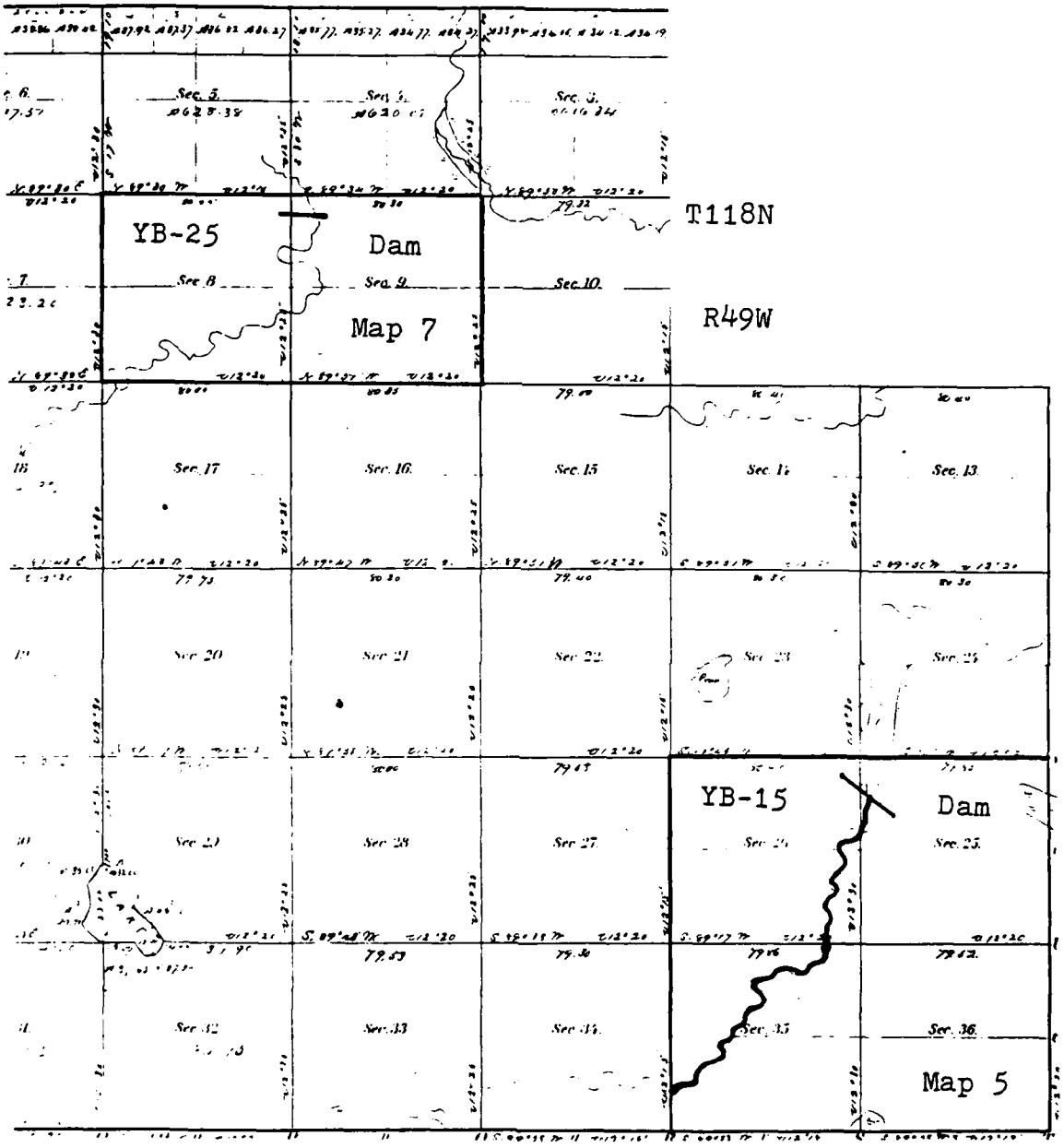


Figure 61. General Land Office map T118N, R49W, ca. 1872. Shows project areas YB-15 (Map 5) and YB-25 (Map 7).

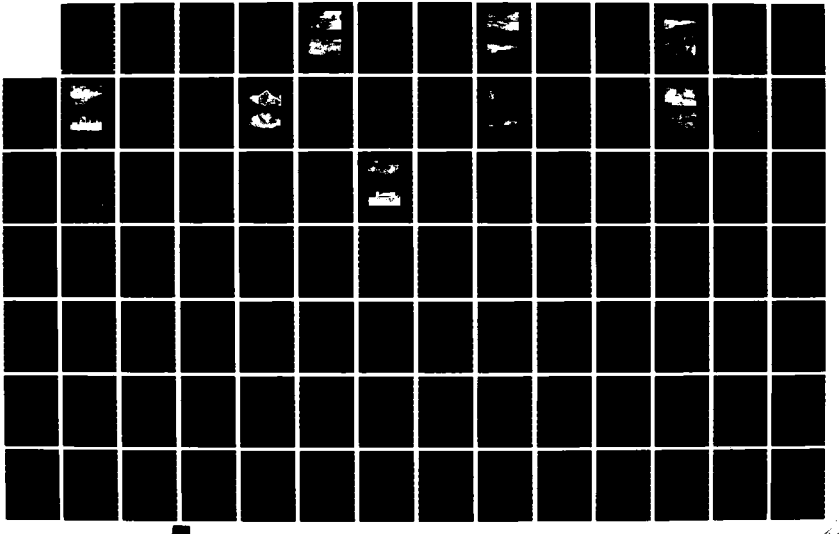
building, School District No. 1, was located in lots 11 and 12 of Block 20, approximately where a current residence is located on the topographic map (SW¼ SE¼ SE¼ SE¼ of section 13, T118N, R49W) (Weber et al. n.d.:3-4).

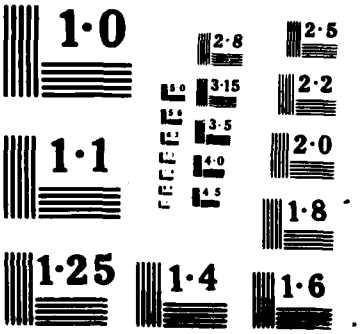
Competition from surrounding towns led to the demise of Wilson. The post office functions were transferred to Revillo in November, 1901. The Wilson school had been moved to section 11 near La Bolt, by 1905. The last business closed on March 9, 1916, and the last lot left within the platted town of Wilson was sold at that time (Weber et al. n.d.:4-5).

A local resident, Ambrose Weber, has relocated most of the structures of the Wilson townsite and has compiled a collection of documents, including newspaper clippings, photographs and oral interviews, associated with the history of the Wilson area. It is recommended that the site of the trestle bridge crossing the South Fork of the Yellow Bank River and the townsite of Wilson be further investigated for possible significance and eligibility for nomination to the National Register. However, the Wilson townsite and the trestle bridge crossing are outside the boundaries of project area YB-15.

AD-A172 332 CULTURAL RESOURCES INVESTIGATIONS OF THE UPPER MINNESOTA RIVER (639) PROJ..(U) SOUTH DAKOTA UNIV VERMILLION ARCHAEOLOGY LAB D BEISSEL ET AL. SEP 84 3/4

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39GT8
SILVER MINE
Project Area: YB-15

Legal Location	Section	Township	Range
E½ SW¼ NE¼ NE¼ W½ SE¼ NE¼ NE¼	35	T118N	R49W

UTM	E684370 N4984130
Map Quad	Tunerville
Local Name	Silver Mine
Type of Remains	Shaft
Elevation	454 meters, 1490 feet
Vegetation	trees
Estimated Size	10 X 10 meters
Surface Visibility	0 percent
Site Condition	poor
Soil Association	BeF: Buse-Forman loams, 20 to 40 percent slopes
Topography	bluff slope
Postulated Past Vegetation	trees
Distance to Nearest Water	3 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic, late 19th century

Description

Site 39GT8 is an abandoned silver mine. A man by the name of Johnson chanced upon a few pieces of silver and started a mine during subsequent prospecting. He is reported to have purchased a 16-hectare (40 acre) tract of land for the mine, but this was not verified by a deeds search (Grant County Historical Society 1979:61).

There is presently a 10 X 10 meter area that has slumped in over the mine's entrance which faces west. A local informant, Mr. Seefeldt, claimed that the mine had once been reinforced with timbers. He did not know how large the mine was. There is a fairly large pile of glacial till 10 meters downstream from the entrance which is blocked by a young tree (Fig. 59b). A datum was established, by the archaeological field crew, at the entrance to the mine. The datum is approximately 150 meters east and 60 meters south of a fence corner.

Deeds Search (Grant County Register of Deeds, Milbank, South Dakota)

The deed records for this site are the same as for the Seefeldt farmstead (MN16), except for a series of quiet claim deeds to Robert D. Jones, Shad L. Fuller and Frank Roberts (see citation for Brock and Co. 1929 below).

Peterson (1899) indicates this 16 hectares (40 acres) was separate from the land around it, but the owner's name is illegible. The surrounding land in most of the section was

owned by the railroad. Peterson's later map (1904:38) again shows separate ownership (no name given), but no residence is shown. Ogle (1910) shows this 16 hectares (40 acres) owned separately from the land around it by J.N. Brown, and still no residence is indicated. By 1929 (Brock and Co. 1929) the land was part of the 65 hectare (160 acre) quarter section owned by F.C. Roberts.

Significance

Although no information is known about the site at this time, the silver mine is unusual for eastern South Dakota and it is recommended that further investigations be conducted at the site to determine its potential significance and eligibility for nomination to the National Register. A further deeds search might yield a clearer record of the ownership of the mine, but due to complicated records, no further search was conducted at this time.

39GT9
Project Area: YB-15

Legal Location	Section	Township	Range
S½ NW¼ NE¼ NE¼ N½ SW¼ NE¼ NE¼	35	T118N	R49W

UTM	E684250 N4984200
Map Quad	Tunerville
Local Name	-
Type of Remains	5 dugouts
Elevation	448 meters, 1470 feet
Vegetation	grass, trees
Estimated Size	30 X 100 meters
Surface Visibility	0 percent
Site Condition	good
Soil Association	FbA: Forman-Aastad loams, 0 to 2 percent slopes; FgC: Forman-Buse loams, 6 to 9 percent slopes; LB: LaDelle silt loam, channeled
Topography	terrace
Postulated Past Vegetation	trees
Distance to Nearest Water	30 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic, late 19th century

Description

Site 39GT9 consists of five depressions that are possible dugout foundations. They are on land presently owned by Harold Seefeldt and are located on a terrace on the west side of the South Fork of the Yellow Bank River, directly opposite the entrance to the silver mine (39GT8).

A datum was established exactly 10 meters east of the corner post of the fence line that runs north-south, then east-west. Dugout number 1 is rectangular and measures 9 X 5.6 meters and is approximately 1.2 meters deep. Glacial till is scattered about the floor of the dug-out. The entrance is on the east side and is filled with large pieces of till. There is one exceptionally large specimen (50 cm in diameter) located exactly in the northeast corner. A line of till occurs on the surface along the edge of the dugout (Fig. 62a).

Dugout number 2 is fairly shallow (65 cm deep) and measures 4.2 X 3.3 meters. Smaller pieces of till (15 to 30 cm in diameter) occur on the floor. The entrance is on the east side. The northeast corner has several large pieces of till (40 to 45 cm diameter)(Fig. 62b). Dugout number 3 measures 4.6 X 4.0 meters and is 60 cm deep. Till is concentrated near the south corner of the narrow entrance. The till consists of pieces 20 to 25 cm in diameter, with one large piece measuring 60 cm. Dugout number 4 is the largest



a



b

Figure 62. a. Site 39GT9, dugout no. 1, looking west.
b. Site 39GT9, dugout no. 2, looking west.

depression. It is 80 cm deep and measures 15.2 X 6.0 meters. This dugout is almost directly west of the silver mine (39GT8) entrance. No till is observable on the floor or along the edges. The backdirt has been piled along the edges of the depression giving it a mound-like appearance from a distance. Dugout number 5, measuring 15.0 X 4 meters, is located in the field across the fence and west of the other depressions. It is filled with cultural debris, including but not limited to, tires, bottles, cans, etc. The depth of the dugout is difficult to determine due to the large quantity of cultural debris that has been deposited within it. Several small trees are also growing in the depression.

Deeds Search (Grant County Register of Deeds, Milbank, South Dakota)

The deed records of land ownership are the same as for the silver mine, site 39GT8.

Significance

Dugouts were a common occurrence in this area, and this set of dugouts is not known to be unusual. These were probably used as a residence, barn and other outbuildings, possibly associated with the silver mine (39GT8) that is located on the same property. Little archaeological study has been done on dugouts, and in that regard, test excavations might prove informative about early Euro-American settlement of the region (Woolworth and Woolworth 1980b:3). The wide-spread or common occurrence of a cultural manifestation should not negate its potential significance, especially if the manifestation is not well-known archaeologically. In other words, the burden of proof is to show that a cultural phenomenon is not potentially significant, not vice versa. It is suggested that further investigations be conducted at this site to determine its significance and eligibility for nomination to the National Register.

39GT10
Project Area: YB-15

Legal Location	Section	Township	Range
NE¼ SW¼ NE¼ NE¼	35	T118N	R49W

UTM	E684260 N4984140
Map Quad	Tunerville
Local Name	-
Type of Remains	lithics
Elevation	446 meters, 1460 feet
Vegetation	grass
Estimated Size	unknown
Surface Visibility	5 percent
Site Condition	good
Soil Association	FgC: Forman-Buse loams, 6 to 9 percent slopes
Topography	terrace
Postulated Past Vegetation	grass
Distance to Nearest Water	50 meters
Degree of Overview	0 degrees
Cultural Affiliation	prehistoric (unknown)

Description

Site 39GT10 is situated on the highest terrace on the west side of the South Fork of the Yellow Bank River (Fig. 63a). The area is southwest of site 39GT9, the five dugouts. A single chert flake was recovered from a cattle path. A series of test holes were dug with a post hole digger. The soils were sifted through quarter-inch hardware cloth, but no additional cultural materials were recovered.

Significance

The isolated chert flake may be natural, as opposed to cultural, since extensive test holes did not yield additional cultural remains. Additional test excavations may reveal a more extensive cultural component, but it is not likely based upon the results of extensive shovel and auger testing. Therefore, it is suggested that the site does not warrant further investigation.



a



b

Figure 63. a. Site 39GT10, looking south.
b. Site 39GT11, looking south.

39GT11
Project Area: YB-15

Legal Location	Section	Township	Range
SW¼ NE¼ NW¼ SE¼	26	T118N	R49W

UTM	E684000 N4985050
Map Quad	Tunerville
Local Name	-
Type of Remains	lithics
Elevation	448 meters, 1470 feet
Vegetation	none, plowed
Estimated Size	50 X 100 meters
Surface Visibility	100 percent
Site Condition	poor
Soil Association	FdC: Forman-Aastad loams, 3 to 9 percent slopes
Topography	hill top
Postulated Past Vegetation	grass
Distance to Nearest Water	250 meters
Degree of Overview	360 degrees
Cultural Affiliation	prehistoric (unknown)

Description

Site 39GT11 is located on a hill top on the west side of the South Fork of the Yellow Bank River (Fig. 63b). A thin scatter of chert flakes delineates the site location. Glacial till is evident everywhere. The site has been subjected to erosion due to modern agricultural practices. No culturally diagnostic artifacts were recovered. Five shovel tests, one in the center of the site area and one oriented toward each of the four cardinal directions (east, west, north, south) near the edge of the site area, indicate post-Pleistocene deposits have been removed. Therefore, it is very unlikely that in situ cultural remains are present.

PREHISTORIC ARTIFACTS

Artifact Type	Quantity	Material Type	Provenience
Flake	2	1 chert, 1 quartzite	surface

Significance

The site will be periodically inundated by impounded floodwaters. Modern agricultural practices have caused extensive erosion of the site. Glacial till is evident everywhere. Shovel tests indicate the site has been destroyed by agricultural practices. Therefore, it is suggested that the site does not warrant further investigation and is not eligible for nomination to the National Register.

39GT12
Project Area: YB-15

Legal Location	Section	Township	Range
S½ NW¼ NE¼ SE¼	26	T118N	R49W

UTM	E684250 N4985100
Map Quad	Tunerville
Local Name	-
Type of Remains	lithics
Elevation	448 meters, 1470 feet
Vegetation	none, plowed
Estimated Size	50 X 75 meters
Surface Visibility	100 percent
Site Condition	poor
Soil Association	FdC: Forman-Aastad loams, 3 to 9 percent slopes
Topography	hill top
Postulated Past Vegetation	grass
Distance to Nearest Water	150 meters
Degree of Overview	360 degrees
Cultural Affiliation	prehistoric (unknown)

Description

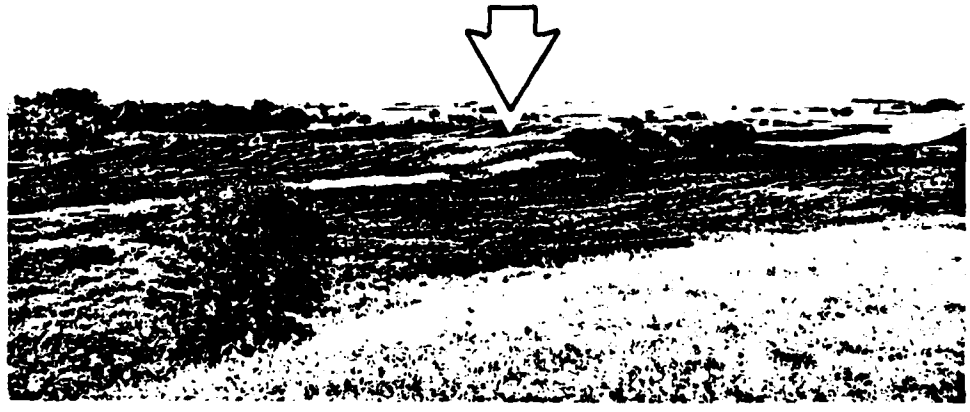
Site 39GT12 is located on a hill top on the west side of the South Fork of the Yellow Bank River (Fig. 64a). The site has an excellent view of the surrounding terrain. A slough is located northwest of the site. The site area has been severely eroded due to modern agricultural practices. A dense scatter of glacial till occurs over the entire site area. A thin scatter of chert flakes and shatter delineates the site location. No culturally diagnostic artifacts were recovered.

PREHISTORIC ARTIFACTS

Artifact Type	Quantity	Material Type	Provenience
Flake	13	12 chert, 1 Tongue River silicified sediment	surface
Shatter	5	3 chert, 2 Tongue River silicified sediment	surface

Significance

The site will be inundated by the proposed lake. Modern agricultural practices have caused extensive erosion of the site. Glacial till is evident everywhere, indicating the absence of post-Pleistocene sediments or soils. Five shovel tests, one in the center of the site area and one oriented toward each of the four cardinal directions (east, west, north, south) near the edge of the site area, did not yield any cultural material. It is very unlikely that in situ cultural remains are present. Therefore, it is suggesed that



a



b

Figure 64. a. Site 39GT12, looking south.
b. Site 39GT13, looking west.

the site does not warrant further investigation and is not eligible for nomination to the National Register.

39GT13
Project Area: YB-15

Legal Location	Section	Township	Range
NW¼ NW¼ SW¼ NW¼	25	T118N	R49W

UTM	E684570 N4985620
Map Quad	La Bolt
Local Name	-
Type of Remains	dugout
Elevation	442 meters, 1450 feet
Vegetation	grass, trees
Estimated Size	4 X 6 meters
Surface Visibility	0 percent
Site Condition	good
Soil Association	BeF: Buse-Forman loams, 20 to 40 percent slopes
Topography	ridge top
Postulated Past Vegetation	trees
Distance to Nearest Water	60 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic, late 19th century

Description

Site 39GT13 is a single, stone-lined dugout (Fig. 64b) that measures approximately 4 X 6 meters and is one meter deep. No artifacts were observed or collected from the site.

Significance

This dugout may have been associated with the nearby Wilson Flour Mill (39GT16). The dugout itself is not unusual for the area, but excavations may yield information that may help elucidate early Euro-American settlement of the area (Woolworth and Woolworth 1980b:3). The widespread or common occurrence of a cultural manifestation, such as dugouts, should not negate its potential significance, especially if the manifestation is not well-known archaeologically. In other words, the burden of proof is to show that a cultural phenomenon is not potentially significant, not vice versa. Therefore, it is recommended that further investigations be conducted at the site to determine its significance nd eligibility for nomination to the National Register.

39GT16
WILSON FLOUR MILL
Project Area: YB-15

Legal Location	Section	Township	Range
S½ SW¼ NW¼ NW¼	25	T118N	R49W

UTM	E684670 N4985690
Map Quad	La Bolt
Local Name	Wilson Flour Mill
Type of Remains	foundations, dam, road
Elevation	430 meters, 1410 feet
Vegetation	trees
Estimated Size	25 X 100 meters
Surface Visibility	0 percent
Site Condition	fair
Soil Association	Lb: LaDelle silt loam, channeled
Topography	stream bank, terrace
Postulated Past Vegetation	trees
Distance to Nearest Water	0 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic, 1885

Historic Description

Site 39GT16 is a historic flour mill. After the Minneapolis and St. Louis Railroad had crossed the South Fork of the Yellow Bank and the town of Wilson had sprouted on the prairie, Ervin L. Chubb of Silver Creek, Minnesota, established a grist mill about 2.4 kilometers (one and one-half miles) upstream from Railroad Bridge No. 95, in the exact location of the proposed dam for project area YB-15. On May 11, 1885, Chubb purchased a parcel of land measuring 30 X 80 rods in the southwest corner of the northwest quarter of section 25. He then acquired the water rights from John and Annie Johnson's land in section 26, since the mill's dam would cut off the water from their land.

The flour mill, located on the south side of the creek, was constructed in 1885. The foundation measured 12 X 8 meters (40 X 26 feet)(Fig. 21). As the water came off the water wheel, it ran on down the creek. A dam was erected to hold the water at a higher level so it could be piped to the water wheel during low creek levels (Fig. 65a). The dam was built using oxen and horses, shovels and slipscrapers. It was 210 meters (700 feet) long and 12 meters (40 feet) wide. Ditches were dug to carry water from sloughs and potholes as much as eight kilometers (five miles) upstream. A road crossing the creek was built at the mill and became a well-traveled trail.

The flour mill had a capacity of 75 barrels per day. Sam Ellis was the miller. Others employed at the mill included the Wilson brothers: Frank, Eugene, Willard, Joe, Fred, Emmett, and Edmond (Weber et al. n.d.:1). The mill was



a



b

Figure 65. a. Site 39GT16, looking west.
b. Site 39GT17, looking west.

abandoned in 1904 when a new mill was built at Revillo. The milling equipment was moved to South Shore, South Dakota, by Lewis Shanstrom and his sons, John and Eric. A datum was established, by the archaeology field crew, on the south side of the river, approximately 250 meters south of a bend in an east-west section road.

Significance

This site has been previously examined by the staff of the South Dakota Historical Preservation Office and deemed eligible for nomination to the National Register. Nomination forms were filled out in 1978, but were not submitted because the landowner, Lee Mills, refused to give permission. (Nomination forms are attached in Appendix B.)

39GT17
FARMSTEAD
Project Area: YB-15

Legal Location	Section	Township	Range
NW¼ NW¼ SE¼ SE¼ SW¼ SW¼ NE¼ SE¼ SE¼ SE¼ NW¼ SE¼	26	T118N	R49W

UTM	E684200 N4984800
Map Quad	Tunerville
Local Name	-
Type of Remains	barn, house, two possible dugouts
Elevation	445 meters, 1460 feet
Vegetation	grass
Estimated Size	50 X 100 meters
Surface Visibility	0 percent
Site Condition	fair
Soil Association	FdC: Forman-Aastad loams, 3 to 9 percent slopes La: LaDelle silt loam
Topography	terrace
Postulated Past Vegetation	grass, trees
Distance to Nearest Water	30 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic

Description

Site 39GT17 contains two depressions that could either be dugouts or caused by cattle. One curves along the fence line in the terrace southeast of the farm buildings. Two gravel quarries are located on an eroded hill east of the buildings. The house is a small wood frame one-story rectangular pen with a one-story "T" addition. This house is unoccupied and in poor condition. It contains oak woodwork with circle designs (Fig. 65b). The barn is a small plank frame structure with a shed attachment and a silo to the side. The silo is round with diamond patterns around the top (Fig. 66a). The three outbuildings are wood frame one-story rectangular structures.

A fence bisects one of the possible dugouts. Fifteen shovel tests were dug in the vicinity of the dugouts. Only a cultivator part was recovered.

Deeds Search (Grant County Register of Deeds, Milbank, South Dakota)

P4:55 - Homestead certificate number 2386 to Oliver Johnson, June 30, 1888.
16:568 - Oliver Johnson to A. G. Markham, March 14, 1895.
20:406 - Adam G. Markham to Caroline N. Markham, January 6, 1899.
22:558 - Caroline Markham to John Aarli, September 4, 1900.



a



b

Figure 66. a. Site 39GT17, looking northeast.
b. Site 39GT18, looking north.

Peterson (1899) shows ownership of this 65 hectare (160 acre) quarter section by John Aarle, but no residence is indicated. In addition, no residence is shown in a 1904 atlas (Peterson 1904). Ogle (1910) shows John Aarlie as owner of the entire 65 hectare (160 acre) tract in 1910. A residence is shown in its present location, suggesting that Aarli built the house between 1904 and 1910.
50:551 - Aarli estate to Frank Shaffer, March 10, 1928. Shown in Brock and Co. (1929) as Frank Schaffer. The residence is shown at the same location.
56:473 - Shaffer default to Federal Farm Mortgage Corporation, May 19, 1937.
61:9 - Federal Farm Mortgage Corporation to John E. and Ethel L. Hilbrands, March 16, 1942.
69:414 - Hilbrands to Katherine P. Godberson, June 18, 1951.
70:135 - Godberson to Kendrick C. Rise, March 26, 1953.
No further search done.

Significance

All of the structures will be periodically inundated by impounded floodwaters. The 20th century wood frame farmstead structures do not have any significant historical persons associated with them nor are any of the buildings architecturally significant. However, the two possible dugouts may be potentially significant. The widespread or common occurrence of a cultural manifestation, such as dugouts, should not negate its potential significance, especially if the manifestation is not well-known archaeologically. In other words, the burden of proof is to show that a cultural phenomenon is not potentially significant, not vice versa. Therefore, it is suggested that the standing structures are not eligible for nomination to the National Register, but that further investigations should be conducted at the two possible dugouts to determine their potential significance and eligibility for nomination to the National Register.

39GT18
HUNGRY HOME
Project Area: YB-15

Legal Location	Section	Township	Range
SE¼ SE¼ NE¼ NE¼	26	T118N	R49W

UTM	E684430 N4985650
Map Quad	La Bolt
Local Name	Hungry Home
Type of Remains	clapboard building
Elevation	433 meters, 1420 feet
Vegetation	trees
Estimated Size	5 X 10 meters
Surface Visibility	0 percent
Site Condition	fair
Soil Association	La: LaDelle silt loam
Topography	terrace
Postulated Past Vegetation	trees
Distance to Nearest Water	30 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic

Description

Site 39GT18 is a clapboard structure located near the Wilson Flour Mill (39GT16)(Fig. 66b). This is possibly "Hungry Home" described by local informant Ambrose Weber who stated that there was a dilapidated building on Street's property where he wintered his cattle. Weber thought it was called "Hungry Home" because an earlier owner had such "hungry-looking" cattle. No building is indicated on this land on Peterson's map (1904:38), in Ogle's 1910 atlas, or in Brock and Co.'s 1929 atlas. In 1910, the land was owned by Henry Anderson and in 1929, by Olivia Storlie.

Significance

Little is known about this structure. It does not have any significant historical persons associated with it nor is it architecturally significant. Further record searches may yield information concerning its time of construction. However, the site does not appear worthy of National Register status based upon present information.

(MN16)
SEEFELDT FARMSTEAD
Project Area: YB-15

Legal Location	Section	Township	Range
S½ NE¼ SW¼ NE¼ N½ SE¼ SW¼ NE¼	35	T118N	R49W

UTM	E684100 N4983800
Map Quad	Tunerville
Local Name	Seefeldt Farm
Type of Remains	house, barns
Elevation	451 meters, 1480 feet
Vegetation	grass, trees
Estimated Size	75 X 100 meters
Surface Visibility	0 percent
Site Condition	good
Soil Association	La: LaDelle silt loam
Topography	terrace
Postulated Past Vegetation	trees
Distance to Nearest Water	50 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic

Description

The farmstead consists of a house and outbuildings, all on the southern edge of project area YB-15, currently used by Harold Seefeldt. The house is two one-and-one-half story rectangular pens arranged in an L-shape, with a small one-story square addition (Fig. 67a). The barn is a plank truss structure with a gambrel roof (Fig. 67b). The three sheds are wood frame structures.

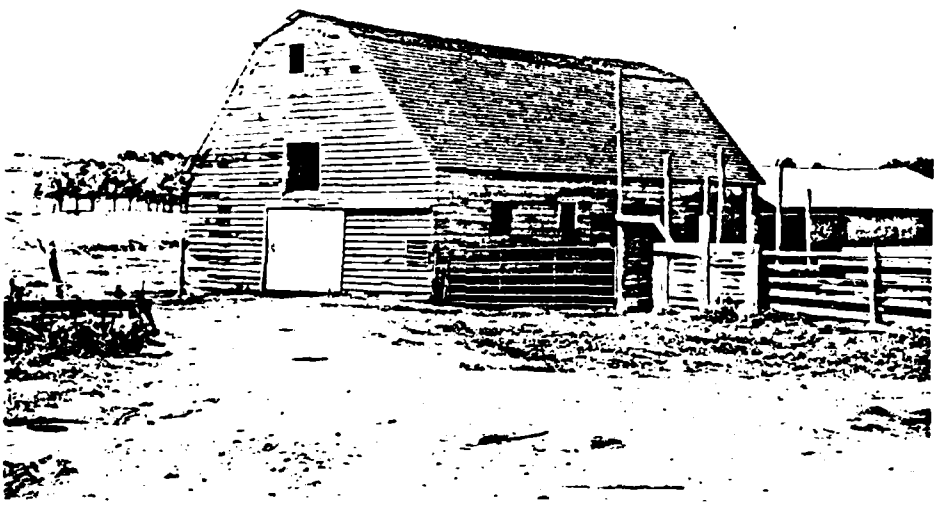
County Deeds (Grant County Register of Deeds, Milbank, South Dakota)

A records search was conducted for this property to determine the probable builder and age of the farmstead.

30:10 - Winona-St. Peter Railroad to J.M. Howard, October 15, 1906. Both Peterson maps (1899,1904) show this as railroad land.
33:512 - J.M. Howard to Daniel Straus, January 8, 1909. This agrees with Ogle's atlas (1910) which shows 16 hectares (40 acres), but does not indicate a residence.
40:435 - Jane, Lizzie, Elijah and Elihu Straus to Frank Roberts, July 20, 1914. Brock and Co. (1929) shows Roberts owning the entire northeast quarter section(160 acres).
54:568 - Mortgage default sheriff's auction. Sold to Farmers and Merchants Bank, March 21, 1933.
39-361 - First National Bank of Aberdeen (formerly Farmers and Merchants Bank) to Lockhart Land Corporation, May 5, 1939.
61:277 - Lockhart Land Corporation to Frank H. Myers, September 1, 1943.
No further search done.



a



b

Figure 67. a. Farmstead MN16, house, looking southeast.
b. Farmstead MN16, barn, looking northwest.

Significance

Although no residences are shown in either atlas, (Peterson 1904; Ogle 1910) the house and barn were probably constructed by either Howard or Straus. The Seefeldts claim the house had been built "around the turn of the century". This suggests that the first owner, Howard, probably built it. Based on present information, this site does not have any significant historical persons associated with it nor are any of the structures architecturally significant. Therefore, it is recommended that the farmstead is not significant or potentially eligible for nomination to the National Register.

(MN18)
BRIDGE
Project Area: YB-15

Legal Location	Section	Township	Range
NW¼ NW¼ NE¼ NE¼	35	T118N	R49W
SW¼ SW¼ SE¼ SE¼	26		

UTM	E684220 N4984410
Map Quad	Tunerville
Local Name	-
Type of Remains	bridge
Elevation	442 meters, 1450 feet
Vegetation	trees
Estimated Size	4 X 20 meters
Surface Visibility	100 percent
Site Condition	good
Soil Association	Lb: LaDelle silt loams, channeled
Topography	stream bank
Postulated Past Vegetation	trees
Distance to Nearest Water	0 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic

Description

This is a modern style wood plank bridge with wood posts and lintel construction (Fig. 68a).

Significance

This is a common style of rural bridge and is not historically or architecturally significant.



a



b

Figure 68. a. Bridge MN18, looking southeast.
b. Site 39GT14, looking southwest.

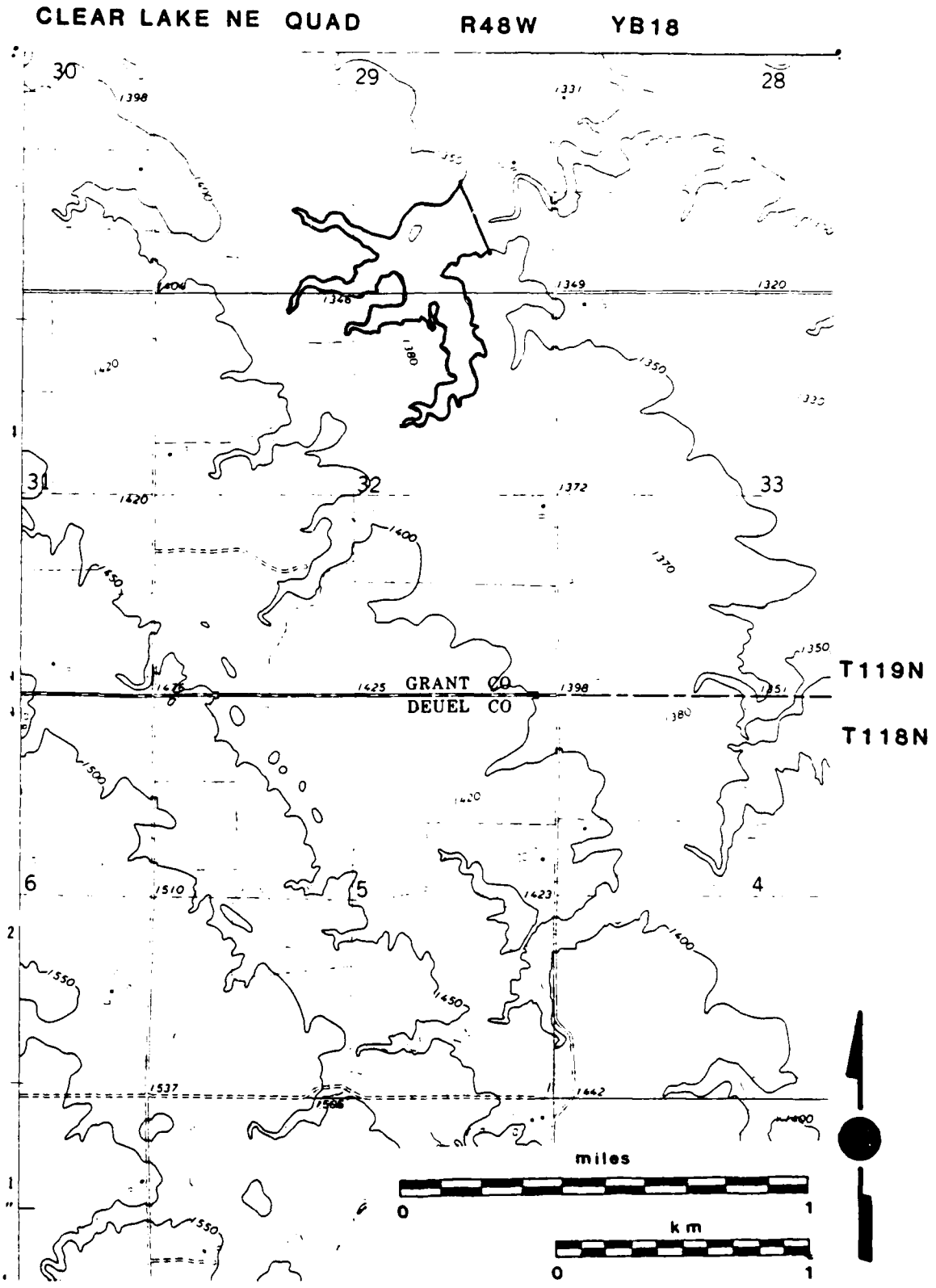


Figure 69. MAP 6. Topographic map of the Clear Lake NE Quadrangle, T118N, R48W; T119N, R48W, showing the location of project area YB-18.

Project Area YB-18
Clear Lake NE Quadrangle Map

T118N, R48W, SE¼ of section 29; NE¼ of section 32. Adams Township, Grant County, South Dakota (Fig. 69).

Overview

This project area is located in the southwest corner of Adams Township about 3.25 kilometers (two miles) southwest of Revillo, a railroad town established by the Minneapolis and St. Louis line in 1885 as its wheat market. The Revillo area was settled by Scandinavians, Germans and British in approximately equal proportions (Anonymous n.d.).

No historic sites were discovered during the literature search or field reconnaissance. Neither General Land Office (GLO) survey maps (Fig. 38) nor Andreas' atlas (1884:38) show any buildings within the project area. Approximately 0.8 kilometers (one-half mile) north of the proposed lake, in the very southeast corner of the northwest quarter of section 29, Peterson (1899) shows "School No. 4" on land owned by Mary R. Joslyn. The school also appears in Peterson's 1904 atlas. Neither of Peterson's maps (1899, 1904) indicates sites within project area YB-18.

No residences are shown in Ogle's atlas (1909) within the project area. Land ownerships were as follows: SE¼ of section 29 was owned by Will Snyder Land Co.; NE¼ of section 32 was owned by E.W. Morrison; SW¼ of section 29 was owned by A.E. Gibson; and the NW¼ of section 32 was owned by J.F. Dedrick. The house presently located near the proposed dam in the SE¼ of section 29 is shown in the Brock and Co. atlas (1929) as having been owned by Albert Krause, Jr.

Project Area YB-25
La Bolt Quadrangle Map

T118N, R49W, E½ of section 8; NW¼ of section 9. Georgia Township, Grant County, South Dakota (Figs. 61 and 70).

Overview

The "old railroad grade" on the topographic map (La Bolt Quad) is the route of the former Minneapolis and St. Louis line. This grade curves around project area YB-25, probably to avoid crossing the steep valley. This proposed lake is 3.2 kilometers (two miles) west of La Bolt, a town on the competing Winona and St. Peter (presently Burlington Northern) line. The railroad purchased land for La Bolt from John Bergquist, and named the town for Alfred La Bolt, a French pioneer and horse trader who lived in the area (Seim n.d.). La Bolt grew into a rural Scandinavian community serving the area around project area YB-25.

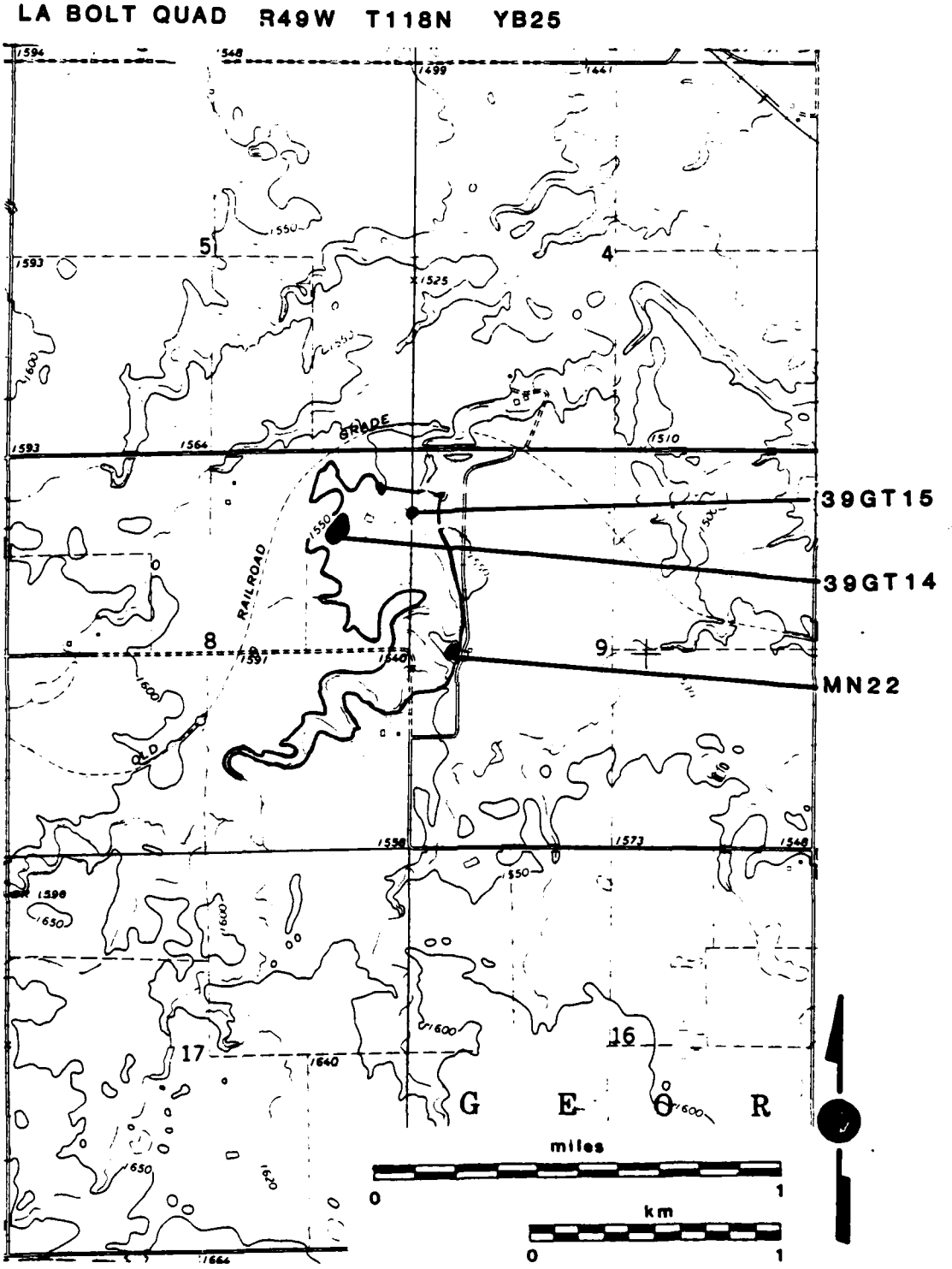


Figure 70. MAP 7. Topographic map of the La Bolt Quadrangle, T118N, R49W, showing the location of project area YB-25 and associated sites and farmstead.

39GT14
HOLSTEN HOMESTEAD
Project Area: YB-25

Legal Location	Section	Township	Range
SW¼ NE¼ NE¼	8	T118N	R49W

UTM	E679200 N4990340
Map Quad	La Bolt
Local Name	Holsten Homestead
Type of Remains	dugout, foundations, well
Elevation	472 meters, 1550 feet
Vegetation	grass
Estimated Size	50 X 100 meters
Surface Visibility	0 percent
Site Condition	fair
Soil Association	BfD: Buse-Forman-Aastad loams, 4 to 15 percent slopes
Topography	hill top
Postulated Past Vegetation	grass
Distance to Nearest Water	350 meters
Degree of Overview	180 degrees
Cultural Affiliation	historic

Historical Description

Site 39GT14 is a historic farmstead. The archaeological field crew's interview with Lily Bergman of Strandburg, South Dakota, yielded the following information: Mrs. Bergman's mother, Mrs. Julius Johnson, presently in her eighties, was born there. She referred to the site as the "Holsten Homestead". The house burned in 1906 and was rebuilt. The latter house was moved to the SW¼ NE¼ SE¼ of section 8, T118N, R49W (currently owned by Paul Peterson). Carl Granquist, the present owner of site 39GT14, stated that during the 1930's cattle were killed and buried in the abandoned foundations. This was part of a government recovery program implemented by Congress during the Depression. For further discussion, see the historical overview section of this report (Chapter 3).

Site Description

The foundations appear to be constructed of glacial till without use of mortar. No wooden materials were observed, only the foundations and depressions. The house depression contains historical debris and cattle carcasses, including skeletal material and hides. Some of the carcasses appear to be fairly recent. A South Dakota license plate dated "1933" was noted. The site was mapped (Fig. 25) and photographed (Fig. 68b). A datum was placed approximately in the middle of the cluster of structures.

Structure 1 is a small, square foundation. Three walls are indicated by a foundation built of glacial till. The fourth side, facing east, has just a small scatter of till. This side appears to be the entrance. The depth of the

depression is approximately 30 to 35 cm. Structure 2 is a large, rectangular foundation. The east half is a cellar. The foundation is constructed of large pieces of till (50 to 80 cm in diameter). The west half is about 30 cm above ground level. The cellar is about two meters deep, and is full of dead cattle remains, as well as some small trees. This is the largest structure and may have been the house. Some glass was observed near the foundation.

Structure 3 is an L-shaped pattern of till ranging in size from 20 to 60 cm in diameter. No depression is present. Structure 4 is a small dugout. It is 25 to 30 cm deep. Ceramic and glass fragments were observed. Structure 5 is a small, square depression about 60 cm deep. About 30 large pieces of till, as well as bovine skeletal remains, are present on the floor. Structure 6 is a long, narrow rectangular depression about 60 cm deep. Remnants of a till foundation are visible on the east side. Large pieces of till (greater than 60 cm in diameter) occur on the floor. Other pieces of till are scattered about two to three meters northeast of this structure. A square well is present. It was filled in by Granquist after his tractor had gotten stuck in it.

Deeds Search (Grant County Register of Deeds, Milbank, South Dakota)

P5:286 - Homestead certificate No. 4432 to Lars Norling, August 16, 1889.
13:572 - Norling to John Holsten, November 9, 1905. This concurs with information given by a local informant.
29:188 - Holsten to C.W. Grant, December 6, 1904.
28:437 - Grant to Mary Weidenfeller, February 4, 1905.
28:466 - Weidenfeller to W. G. Bolser, April 12, 1905.
31:36 - Another recording of Weidenfeller to Bolser, April 13, 1908.
31:131 - Fred Cross to German American Savings Bank, November 29, 1909.
30:462 - German American Savings Bank to W.G. Bolser, November 15, 1909.
44:132 - Bolser to August E. and Joseph Eliason, November 16, 1909. The Eliasons are shown as owners in Ogle's 1910 atlas and Brock and Co.'s 1929 atlas, but no buildings are indicated.
55:409 - Past-due taxes, December 21, 1931. Grant County bid off the property, but no one could afford to pay the back taxes.
56:18 - Eliason mortgage default. Property transferred to estate of W.G. Bolser, September 27, 1933.
61:337 - Grant County to Ada Linngren, January 5, 1944.
67:351 - Linngren to Albert G. Granquist, October 5, 1948.

Significance

The history of this farmstead is an interesting study of the financial struggle experienced by many South Dakotans who

lived through the Depression years. The owners of the property had no money for property taxes and mortgage payments or to buy feed for their cattle. The history of this farm is certainly not unique; it is representative of many other rural histories in the state. In addition, the foundations remaining from the farm buildings are not unusual or significant historically or architecturally. Therefore, it is recommended that no further investigations are warranted for this site.

39GT15
BRIDGE FOUNDATION
Project Area: YB-25

Legal Location	Section	Township	Range
NE¼ SE¼ NE¼ NE¼ NW¼ SW¼ NW¼ NW¼	8	T118N	R49W

UTM	E679500 N4990460
Map Quad	La Bolt
Local Name	-
Type of Remains	bridge foundation
Elevation	457 meters, 1500 feet
Vegetation	grass
Estimated Size	3 X 15 meters
Surface Visibility	0 percent
Site Condition	fair
Soil Association	FdD: Forman-Aastad loams, 4 to 15 percent slopes
Topography	stream bank
Postulated Past Vegetation	grass
Distance to Nearest Water	0 meters
Degree of Overview	0 degrees
Cultural Affiliation	historic

Description

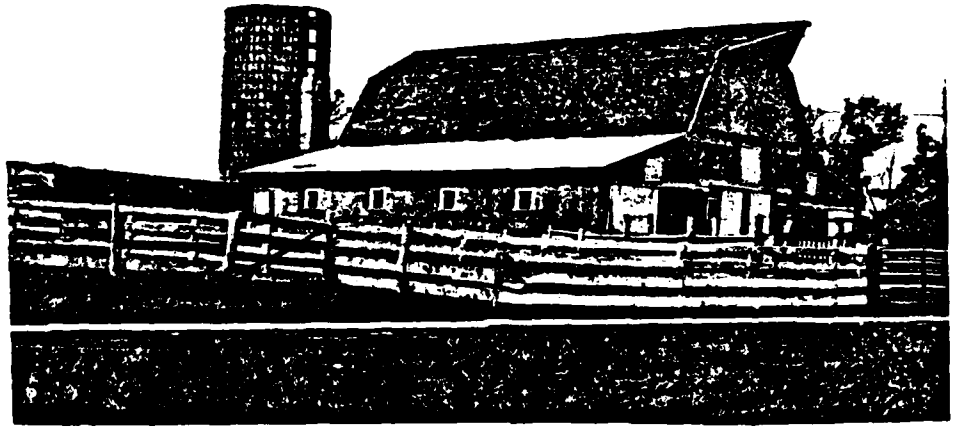
Site 39GT15 is a historic bridge foundation that is constructed of cobble stones. This early road appears on Peterson's maps of 1899 and 1904 (p. 38) but is not shown in Ogle's 1910 atlas. By 1929, the current road through the west half of section 9 had been constructed (Brock and Co. 1929). Records of the Grant County Register of Deeds (59:344) document the sale of right-of-way property by the Bergquists to Georgia Township (Fig. 71a).

Significance

The bridge foundation does not have any significant historical events or persons associated with it and it does not have a unique architectural design. Therefore, it is suggested that the site does not warrant further investigation.



a



b

Figure 71. a. Site 39GT15, bridge, looking east.
b. Farmstead MN22, barn, looking southwest.

(MN22)
BERG'S BARN
Project Area: YB-25

Legal Location	Section	Township	Range
SE¼ SW¼ SW¼ NW¼	9	T118N	R49W

UTM	E679680 N4989880
Map Quad	La Bolt
Local Name	Berg's Barn
Type of Remains	barn
Elevation	472 meters, 1550 feet
Vegetation	grass
Estimated Size	20 X 30 meters
Surface Visibility	0 percent
Site Condition	good
Soil Association	FdB: Forman-Aastad loams, 1 to 6 percent slopes
Topography	hill top
Postulated Past Vegetation	grass
Distance to Nearest Water	75 meters
Degree of Overview	360 degrees
Cultural Affiliation	historic

Description

This structure is a plank truss barn with a gambrel roof and lateral shed additions. A silo, sheds, and fences are also present. The barn is located on the eastern edge of the proposed lake, within the possible floodpool (Fig. 71b).

Deeds Search (Grant County Register of Deeds, Milbank, South Dakota)

14:388 - Winona and St. Peter Railroad to Edmond W. Dwight, August 16, 1884. (This is the railroad grade still shown on the current topographic map.)
22:440 - E.E. Dwight to Erick Bergquist, March 6, 1900. This agrees with Ogle's atlas (1910) which shows 312.61 acres in the W½ of section 9, including a residence, were owned by Erick Bergquist.
59:344 - Erick M. and Sigfrid A. Bergquist to Georgia Township, right-of-way for new road. This road, shown in Brock and Co.'s atlas (1929), is still visible today.

Significance

This is a style of barn that first appeared in the early years of the 20th century and was extremely popular between 1915 and 1940 (Torma and Ruple 1982:2-27). It was probably built by either Dwight or Bergquist. The barn does not have any significant historic persons associated with it nor is it architecturally significant. No further investigations are recommended for this barn and it is not considered eligibile for nomination to the National Register.

CHAPTER 6

Site Locational Patterns

Introduction

The 639 project recorded 16 sites containing seven prehistoric components and 11 historic components. In addition, seven standing structures that were not assigned site numbers were recorded. Two sites contain more than one component. Site 39DE55 contains both a prehistoric and historic component and site 39DE56 contains at least two prehistoric components (Table 11). This accounts for a total of 18 components at 16 sites. Too few artifactual remains were recovered from these sites to conduct a meaningful analysis of this data.

An examination of the sites with respect to their soil associations, as defined by the Soil Conservation Service, would have been informative for developing a predictive model for site locations. Unfortunately, most of the recorded sites in the state site files are within Deuel County, South Dakota, which at this time has not been completely mapped by the Soil Conservation Service.

In contrast, Grant County has been completely mapped by the Soil Conservation Service. However, since most of the prehistoric sites recorded are located within Deuel County, any attempt to correlate site types with soil associations would be very incomplete and meaningless. Therefore, an attempt to correlate site types with topography was conducted, since the topographic situation of each site was available, making the interpretations and conclusions more meaningful.

With the exception of three historic farmsteads with standing structures, all sites recorded during this project are within Grant and Deuel counties, South Dakota. All of these sites are within the Coteau des Prairies. An examination of the South Dakota Site Files for all recorded sites within Grant and Deuel counties yielded a total of only 44 sites (Table 12), most of which are located within the Coteau des Prairies.

All of the site forms recorded for Grant and Deuel counties were examined. Five variables were recorded for each site:

(1) Site occurrance
    a. C - Coteau des Prairies
    b. M - Minnesota Valley
(2) Site type
    a. village - a relatively dense artifact scatter
    b. camp - a light artifact scatter
    c. mound - artificial mounds
    d. tipi rings - stone circles
    e. stone lined pit

Table 11

Recommendations for Sites Recorded

Site	Occupations	Project Area	Recommendations
39DE16**	historic	LQP-3	no action
39DE53**	historic, burials	LQP-3	avoidance
39DE54	prehistoric	LQP-3	no action
39DE55	prehistoric, historic	LQP-3	test
39DE56*	prehistoric	LQP-3	avoidance
MN1	historic	LQP-3	no action
MN6	historic	LQP-8	no action
MN7	historic, bridge	LQP-8	no action
MN8	historic	LQP-8	no action
39GT7	historic, dugouts	YB-6	test
39GT8	historic, silver mine	YB-15	test
39GT9	historic, dugouts	YB-15	test
39GT10	prehistoric	YB-15	no action
39GT11	prehistoric	YB-15	no action
39GT12	prehistoric	YB-15	no action
39GT13	historic, dugout	YB-15	test
39GT16*	historic, grist mill	YB-15	avoidance
39GT17	historic, and dugouts	YB-15	test
39GT18	historic	YB-15	no action
MN16	historic	YB-15	no action
MN18	historic, bridge	YB-15	no action
39GT14	historic	YB-25	no action
39GT15	historic, bridge	YB-25	no action
MN22	historic	YB-25	no action

** outside project area
* recommended for eligibility for nomination to the National Register

Table 12

Site Locational Pattern Data

Site	Occurrence	Type	Topography	Drainage	Elevation (ft)
39GT2	M	village	terrace	major	1100-1110
39GT5	M	village	terrace	minor	1250
39DE2	C	village	lake	lake	1770
39DE5	C	village	lake	lake	1850
39DE6	C	village	lake	lake	1840
39DE7	C	village	hill slope	minor	1960-2100
39DE11	C	village	lake	lake	1770-1780
39DE12	C	village	lake	lake	1770-1780
39DE29	C	village	hill top	major	1750
39DE38	C	village	hill slope	minor	1860-1890
39GT3	M	camp	hill slope	major	1130
39GT4	M	camp	hill slope	minor	1400
39GT10*	C	camp	terrace	major	1465
39GT11*	C	camp	hill top	major	1470
39GT12*	C	camp	hill top	major	1470
39DE3	C	camp	hill top	minor	1990
39DE4	C	camp	hill slope	minor	1980
39DE8	C	camp	hill slope	minor	1740
39DE9	C	camp	hill top	minor NL	1780
39DE17	C	camp	lake	lake	1860
39DE30	C	camp	hill top	major	1830
39DE31	C	camp	hill top	minor NL	1810-1820
39DE32	C	camp	hill slope	minor	1870-1880
39DE34	C	camp	hill slope	minor	1890
39DE35	C	camp	hill slope	minor	1970-2000
39DE36	C	camp	hill slope	minor	2015
39DE37	C	camp	hill slope	minor	1960-1970
39DE39	C	camp	hill slope	minor	1860-1885
39DE40	C	camp	terrace	minor	1820-1830
39DE43	C	camp	lake	lake	1800
39DE54*	C	camp	terrace	major	1570
39DE55*	C	camp	terrace	major	1550
39DE56*	C	camp	terrace	major	1575
39GT1	M	mounds	?	lake	?
39DE1	C	mounds	hill top	major	1880
39DE24	C	mound	hill top	minor	1860
39DE10	C	tipi rings	hill top	minor NL	1920
39DE22	M	tipi rings	hill slope	minor	1310
39DE26	C	tipi rings	hill top	minor NL	1800-1850
39DE28	C	tipi rings	hill top	minor NL	1840
39DE33	C	tipi rings	hill slope	minor	1840
39DE27	C	stone pit	hill top	major	1880

Site	Occurrence	Type	Topography	Drainage	Elevation (ft)
39DE55*	C	dugouts	terrace	major	1550
39GT7*	C	dugout	terrace	minor	1540
39GT9*	C	dugouts	terrace	major	1470
39GT13*	C	dugout	terrace	major	1450
39GT17*	C	dugouts and farm	terrace	major	1420
39DE53*	C	burials	terrace hill top	major	1575, 1640
MN7*	C	bridge	terrace	major	1430
MN18*	C	bridge	terrace	major	1450
39GT15*	C	bridge	terrace	minor	1500
39DE19	C	rock carving	lake	lake	1870
39GT8*	C	silver mine	terrace, hill slope	major	1490
39GT16*	C	grist mill	terrace	major	1415
39DE14	C	farm	hill top	minor	1950
39DE15	C	farm	terrace	major	1690
39DE16	C	farm	terrace	major	1580
39DE20	C	farm	lake	lake	1870
39DE21	C	farm	lake	lake	1700
39DE25	C	farm	hill top	minor	1860
39DE42	C	farm	hill slope	minor	1800
39GT14*	C	farm	hill top	minor	1550
39GT18*	C	farm	terrace	major	1420
MN1*	C	farm	terrace	major	1520
MN6*	C	farm	terrace	major	1440
MN8*	C	farm	terrace	major	1420-1440
MN16*	C	farm	terrace	major	1480
MN22	C	farm	hill top	minor	1550

* Sites recorded during this project

M = Minnesota Valley
C = Coteau des Prairies
NL= Near a lake

f. dugouts - historic dugouts
g. farm - historic farmsteads
h. burials
i. bridge - historic bridges
j. flour mill
k. silver mine

(3) Topographic situation
a. terrace
b. lake edge
c. hill slope
d. hill top

(4) Nearest type of water
a. major - a large stream or river
b. minor - a small stream
c. lake

(5) Elevation above mean sea level (msl) - in feet

Examination of Table 12 indicates some associations between site types and topographic situations and between site types and type of nearest water source:

(1) Few sites have been recorded on the Minnesota Valley, most have been recorded in the Coteau des Prairies.

(2) Village sites tend to be found most frequently along major drainages and/or large lakes where there is a dependable supply of water.

(3) Camp sites tend to be found most frequently along minor drainages and on hill tops and/or hill slopes. Some occur on terraces of major drainages.

(4) Village sites tend to be found in all topographic situations.

(5) Mounds tend to be found on prominent hill tops.

(6) Tipi rings tend to be found most frequently on hill tops and/or hill slopes along minor drainages, sometimes in close proximity to a lake.

(7) Historic dugouts are most frequently found in terraces of major drainages.

(8) Historic farmsteads tend to occur on terraces or hill tops along major drainages.

Few sites have been recorded in the Minnesota Valley. This may be due to several factors including, but not limited to:

(1) A bias in areas surveyed resulting in more sites reported in the Coteau des Prairies.

(2) The flat land was subject to frequent flooding in the

past; and consequently, was not very attractive for establishing large, permanent or semi-permanent habitations. The lakes in the Coteau des Prairies and the nearby Traverse and Big Stone lakes provided better drainage, water supply and vegetation for establishing large and/or small habitations (Johnson 1975:6).

(3) Because the flat lands have been subjected to frequent flooding in the past, prehistoric sites are more deeply buried due to rapid alluviation.

In the Coteau des Prairies, village sites were probably located along major drainages and/or lakes due to the availability of a dependable water supply, vegetation and food resources, and good drainage. A local amateur, Betty Sterner of Watertown, stated that most of the sites with which she is familiar are located in the Coteau des Prairies near large lakes.

Camp sites were probably located along minor drainages in order to exploit the more tenuous food resources located along these drainages without jeopardizing the whole social unit by placing their villages there. It is postulated that the campsites located on hill tops and/or hill slopes were used during the spring, summer and autumn months for observing the movement of game animals, while camp sites located on terraces were used in the winter months. The narrow valleys in the Coteau des Prairies would have provided protection from winter winds and storms, whereas hill top sites would have been too exposed to the elements.

It is postulated that village sites occur in all topographic situations due to the seasonal movements of social groups in search of resources and food. Villages located on lakes and terraces are postulated to have been most suitable for winter habitation, while hill top and hill slope villages would have been most suitable for spring, summer and fall occupations. Terraces along the narrow valleys in the Coteau des Prairies would have afforded protection during the winter months.

Mounds are unique social phenomena. They generally occur on prominent hill tops and oftentimes were used to inter the dead. Their placement upon prominent topographic features undoubtedly has a social and religious connotation.

It is postulated that tipi rings are located on hill tops and/or hill slopes along minor drainages, oftentimes near a lake, because tipis usually served as spring, summer and fall shelters, while more substantial dwellings were constructed for winter use. Therefore, tipi ring sites may represent small groups of nomadic hunters and gatherers who were exploiting resources in areas not usually heavily utilized, i.e. small streams and the upland prairies.

It is postulated that historic dugouts are found along terraces of major drainages because many were constructed and occupied by the region's first Euro-American settlers, who had moved west from the eastern woodlands of the United States. Therefore, these Euro-American settlers built their houses in environments with which they were most familiar, the wooded river and stream banks of the Coteau des Prairies.

The minor drainages in the region would not have supported substantial stands of trees; therefore, minor drainages, hill tops, and probably coteau lakes were not seen as desirable areas in which to live by the first settlers. Due to frequent flooding, the low terraces of major drainages did not prove to be ideal locations for farmsteads.

Historic farmsteads, which tend to occur on either terraces of major drainages or on hill tops, are seen as an adaptive settlement system on the part of the Euro-American settlers. A settlement pattern emerges in which early farmsteads (i.e., wooden and stone buildings), were built on terraces of the major drainages, near the earlier and probably contemporaneous dugouts, while more recent farmsteads were built on hill tops. The settlers, having learned the folly of building along flood prone areas, began building in areas least susceptible to flooding. This same Euro-American settlement pattern has been recognized in southeastern Kansas, where the first settlers had moved from the eastern woodlands into an unfamiliar region and settled in those areas most familiar to them, i.e., on low terraces along major drainages that were forested but were also prone to flooding (Roberts 1981:559).

Summary

Understanding the people who have lived within eastern South Dakota and southwestern Minnesota is a complex task. The recovery of a miniscule amount of cultural remains did not allow any analysis of the artifactual data. However, the recording of 23 sites and standing structures representing a variety of prehistoric and historic occupations, in addition to previously recorded sites in the counties, did allow examination of site placement with respect to topographic features. Use of all recorded sites in Deuel and Grant counties, South Dakota, has permitted the development of some initial hypotheses concerning site locational patterns of both the prehistoric and historic inhabitants that can be expanded upon in the next phase of research.

CHAPTER 7

Cultural Resource Evaluations and Recommendations

National Register of Historic Places

The Antiquities Act of 1906 (Public Law 59-209) was the first legislation enacted by Congress for the protection of historic and prehistoric archaeological sites situated on lands owned or controlled by the United States Government. The Historic Sites Act of 1935 (Public Law 74-292) was enacted "to preserve for public use historic sites, buildings and objects of national significance for the inspiration and benefit of the people of the United States." The National Historic Preservation Act of 1966 (Public Law 89-665) created the National Register of Historic Places as a list of properties "significant in American history, architecture, archaeology, and culture" (Sec. 101 (a)(1)). Criteria for evaluation and determination of eligibility for nomination to the National Register of Historic Places are set forth in 36 CFR 800.10 (a):

> The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> a) That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> b) That are associated with the lives of persons significant in our past; or
>
> c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> d) That have yielded, or may be likely to yield, information important in prehistory or history.

The National Environmental Policy Act (NEPA) of 1969 (Public Law 91-190) requires federal agencies to consider the environmental impacts of planned projects. As a result, since cultural resources are parts of the environment, federal agencies are required to identify and plan for the protection of cultural resources, both prehistoric and historic, during their project-planning and land management programs. Executive Order 11593 requires federal agencies to identify historic properties under their control or jurisdiction that might qualify for the National Register. The Archaeological

and Historic Preservation Act of 1974 (Public Law 93-291) specifically provides for the preservation of archaeological and historical data "which might otherwise be irreparably lost or destroyed" as the result of federally constructed dams or as the result of any federally funded or assisted construction project, activity, or program.

Archaeological Research and
Determination of Site Significance

In accordance with the aforementioned cultural resource management regulations, federal agencies are required to determine the National Register eligibility of archaeological resources under their control. This is accomplished by assessing information and recommendations provided by archaeologists. Raab and Klinger (1977:632) suggest that "the best approach to assessing archaeological significance is in relation to explicit, problem-oriented research designs". Sharrock and Grayson (1979:327) agree that although significance determined in this way is "an excellent reason to ascribe significance in the National Register sense", the converse may not necessarily be true. In other words, just because an archaeological resource is found to be insignificant in terms of a current problem-oriented research design, it does not necessarily follow that the site is, in fact, insignificant. "The 'significance' of a site is clearly subject to change through time, increasing or decreasing as both knowledge and research orientation change" (Sharrock and Grayson 1979:327). This potential problem is anticipated in the National Register criteria. Archaeological resources are significant when they "have yielded, or may be likely to yield, information important in prehistory or history" (36 CFR 800.10). As a result, federal agencies bear the burden of proving that sites within their domain are neither significant nor potentially significant. As stated earlier, this is accomplished by acting upon information and recommendations provided by the contracting archaeologists. "The importance of the contracting archaeologist's assessments of significance cannot be overemphasized" (Klinger and Raab 1980:556).

Once a site has been determined not to be significant, it is excluded from further federally funded research and does not receive protective management consideration. Therefore, it is important that the potential significance of an archaeological resource be carefully considered. The full archaeological potential of a site may be difficult to realize if its significance is poorly documented.

The widespread or common occurrence of a cultural manifestation should not negate its potential significance, especially if the manifestation is not well-known archaeologically. In other words, the burden of proof is to show that a cultural phenomenon is not potentially significant, not vice versa. In a recent study on the occurrence of dugouts in Minnesota, Caspers (1980:4-5) notes

"a shortage of information, interpretation and understanding of a form of frontier architecture and an era of history, short lived but yet, extremely prevalent during settlement days in Minnesota ... If we knew more about dugouts and soddies we would understand better the occupance patterns of those who settled in Minnesota in the period from the 1850's through to the '80's and the '90's." Although dugouts are common, they were not all built the same. There are two basic types of dugouts: (1) those dug into the side of a hill or bank and (2) those dug into the level ground. (Both types occur in the present project areas.) They usually faced south, southeast, or east. Interior walls were usually dirt plastered with clay and whitewashed with lime, but wooden and stone walls also occurred. Some walls were even constructed of a lattice of willows covered with a mud plaster of manure and wood ashes. Front walls were constructed of dirt, logs chinked with mud, or stones. Some dugouts were built up all the way around with several tiers of logs. Others had stone foundations. Occasionally lofts were installed as sleeping areas. Although the usual roof form consisted of pole rafters covered with brush, a thick thatch of hay, and topped with sod or dirt, some roofs were boards covered with sod. Some dugouts contained a storage cellar dug into a corner of the interior (Caspers 1980:14-15). "For the most part, these structures were a temporary shelter built to survive the first winter or two on the new claim" (Caspers 1980:15), but some dugouts were occupied much longer. Archaeological investigations of dugouts can determine construction methods, living conditions, and possible lengths of occupation. In addition, dietary data may be obtained. As warned by Caspers (1980:59), man's present capability to swiftly change the landscape poses a real threat to dugout sites; therefore, it is important that some be studied and preserved.

Summary of Survey Results

The field reconnaissance, testing and interviews with local informants resulted in recording 16 new sites. In addition, seven standing structures that were not assigned site numbers were recorded. The 16 new sites contain seven prehistoric and 11 historic components. The prehistoric components are represented by probable Late Archaic and Woodland occupations determined from radiocarbon dates yielded from charcoal and from the presence of pottery types. The historic components are represented by a wide variety of forms including dugouts, a silver mine, bridges, a grist mill, and farmsteads. The 639 project, which includes seven proposed structural alternatives and a channel clearing program, will likely have future adverse impacts upon cultural resources (Table 13). Three sites were systematically tested with the excavation of 1 X 1 meter pits and three sites were tested by means of shovel tests and augering. All soils were sifted through quarter-inch hardware cloth. The following is a summary of the evaluations of the 23 sites and standing structures recorded during this

Table 13

Project Areas and Site Impacts

Lake Project Sites	1	2	3	4	5	6	7	8
	All elevations are in feet							
LQP-3	-	1567	1559	1508	1508	-	-	-
39DE16	1580	-	-	-	-	-	x	-
39DE53	1570	-	-	-	-	-	-	x
39DE54	1560	x	-	-	-	-	-	-
39DE55	1550	x	x	-	-	-	-	-
39DE56	1575	-	-	-	-	-	-	x
MN1	1520	x	x	-	-	-	-	-
LQP-8	-	1447	1439	1402	1402	-	-	-
MN6	1440	x	-	-	-	-	-	-
MN7	1430	x	x	-	-	-	-	-
MN8	1420	x	x	-	-	-	-	-
LQP-40	-	1311	1308	1299	1292	-	-	-
YB-6	-	1552	1549	1533	1516	-	-	-
39GT7	1540	x	x	-	-	-	-	-
YB-15	-	1495	1485	1499	1499	-	-	-
39GT8	1490	x	-	-	-	-	-	-
39GT9	1470	x	x	-	-	-	-	-
39GT10	1460	x	x	-	-	-	-	-
39GT11	1470	x	x	-	-	-	-	-
39GT12	1470	x	x	-	-	-	-	-
39GT13	1450	x	x	-	-	x	-	-
39GT16	1410	x	x	x	x	x	-	-
39GT17	1460	x	x	-	-	-	-	-
39GT18	1420	x	x	x	x	x	-	-
MN16	1480	x	x	-	-	-	-	-
MN18	1450	x	x	-	-	-	-	-
YB-18	-	1350	1347	1336	1326	-	-	-
YB-25	-	1550	1548	1534	1517	-	-	-
39GT14	1550	x	-	-	-	-	-	-
39GT15	1500	x	x	x	x	x	-	-
MN22	1550	x	-	-	-	-	-	-

Key: 1 = Elevation
2 = Maximum Water Surface
3 = Emergency Spillway
4 = High Stage Crest
5 = Sediment Pool Elevation
6 = Dam Construction
7 = No Direct Impact
8 = Indirect Impact

project. Recommendations made concerning standing structures in Minnesota have been confirmed by the Minnesota State Historic Preservation Office.

Project Area LQP-3

Field reconnaissance recorded three sites (including a standing structure) that will be periodically inundated and three sites adjacent to the project that will or may have indirect impacts (Table 13). The three sites that will be periodically inundated include a farmstead dating to the 20th century (MN1), a site containing both a prehistoric occupation of unknown cultural affiliation and a historic, late 19th century occupation as evidenced by the presence of three dugouts (39DE55), and a site with a prehistoric occupation of unknown cultural affiliation (39DE54). These three sites, being periodically inundated, are likely to be destroyed by fluctuating shorelines.

The three sites adjacent to the proposed lake include a late 19th century farmstead (39DE16), a prehistoric site containing buried Late Archaic (based upon two radiocarbon dates) and Woodland occupations (39DE56), and a historic site containing a mass burial of American Indians (39DE53). Sites 39DE16 and 39DE53 will not be eroded by impounded floodwaters, but site 39DE56 will eventually be destroyed by shoreline erosion caused by a fluctuating lake level.

Site 39DE16

Site 39DE16, a historic farmstead, is located at the headwaters of the proposed lake project. The site will not be impacted by construction of the proposed lake.

Site 39DE53

Site 39DE53 is a mass burial located adjacent to the upper reaches of project area LQP-3. The site is the locus of a mass burial of American Indians who died during a tuberculosis epidemic in the late 19th century. The burials are outside, but adjacent to, the proposed lake. Extreme care should be taken during construction of the lake. Any potential disturbance of the burials should be reported and appropriate action taken to avoid and protect the site. Construction will make the site more easily accessible by people using recreational facilities at the lake. Therefore, if the lake is constructed, it is suggested that a fence be built around the site to protect it from potential vandalism.

Site 39DE54

Site 39DE54, a prehistoric occupation situated on a small terrace remnant, will be periodically inundated by impounded floodwaters. No culturally diagnostic artifacts were recovered from a 1 X 1 meter test pit or a series of auger holes dug over the terrace remnant. Because of the small quantity of cultural remains recovered (five flakes), and the location of the site on a terrace remnant that has

been badly eroded, it is recommended that the site does not warrant further research.

Site 39DE55

Site 39DE55 is a multicomponent site with a possible prehistoric occupation of unknown affiliation and a late 19th century historic occupation consisting of three dugouts. The prehistoric occupation, based upon the recovery of three flakes and a chopping tool, appears to be no more than 10 cm in depth, based upon test excavations. No culturally diagnostic artifacts were recovered from a 1 X 1 meter test pit. The three dugouts probably date to the 1870's and are not unusual for this region. However, very little research has been conducted with dugouts and they potentially contain significant information concerning early Euro-American settlement of the region (Woolworth and Woolworth 1980b:3). The site will be periodically inundated by impounded floodwaters. It is recommended that further test excavations be conducted on both the prehistoric and historic components at this site to determine its significance.

Site 39DE56

Site 39DE56, located on a high terrace, is in the upper reaches of the proposed lake and will not be inundated by the impoundment of floodwaters. However, the terrace upon which the site is located is currently being badly eroded by the meandering of Cobb Creek. Construction of the lake will further enhance the erosion of the terrace, eventually destroying the site.

This is a stratified site with at least two prehistoric components: a Late Archaic occupation and a Woodland occupation. Two radiocarbon dates were obtained from charcoal recovered from a buried hearth and from a 1 X 1 meter test pit. The radiocarbon dates place the early occupation at approximately between 1145 B.C. and 650 B.C. No culturally diagnostic artifacts were recovered from this probable Late Archaic occupation.

A Woodland occupation is discerned on the basis of several fragmentary potsherds recovered from a 1 X 1 meter test pit. Both prehistoric components are buried and are believed to be in situ. The presence of a buried hearth eroding out of the creek bank confirms this assessment. Few stratified Archaic and Woodland sites have been found, much less systematically investigated, in eastern South Dakota or southwestern Minnesota. The prehistoric occupations at site 39DE56 potentially contain significant scientific and cultural remains that may help elucidate the culture history and prehistoric life-ways in the region. It is recommended that site 39DE56 be considered significant and potentially eligible for nomination to the National Register.

MN1, Grabow Farmstead

This 20th century farmstead will be periodically

inundated by impounded floodwaters. The architecture is one of the more common styles. There are no significant historical persons associated with the farmstead. Therefore, it is recommended that the farmstead is not eligible for nomination to the National Register.

Project Area LQP-8

Field reconnaissance recorded three standing structure loci that will be periodically inundated by impounded floodwaters (Table 13). These structures consist of two historic, 20th century farmsteads (MN6 and MN8) and a historic, 20th century bridge (MN7).

MN6, Farmstead

This 20th century farmstead has several wood frame structures that are in poor repair. The house has burned, leaving only a remnant foundation. None of the buildings are architecturally unique and no significant historical persons are associated with the farmstead. Although the farmstead will be periodically inundated by impounded floodwaters, it is recommended that the farmstead is not eligible for nomination to the National Register.

MN7, Bridge

This 20th century wood plank bridge will be periodically inundated by impounded floodwaters. However, this type of bridge construction is not unusual and it does not have any significant historical persons associated with it. Therefore, it is recommended that it is not eligible for nomination to the National Register.

MN8, Farmstead

This 20th century farmstead, which has structures constructed of cement imitation stone blocks, will be periodically inundated by impounded floodwaters. The structures are not architecturally unusual and no significant historical persons are associated with them. Therefore, it is recommended that the farmstead is not eligible for nomination to the National Register.

Project Area LQP-40

No sites were found within this proposed lake project area.

Project Area YB-6

Field reconnaissance recorded one site that will be periodically inundated by impounded floodwaters (Table 13). Site 39GT7, a dugout, will likely by destroyed by this periodic inundation.

Site 39GT7

Site 39GT7, which is a dugout, is not unusual for the

area but very little research has been conducted on dugouts from the 19th century, early Euro-American settlement of the region (Woolworth and Woolworth 1980b:3). The site will be periodically inundated by impounded floodwaters. Further test excavations are recommended to determine the potential significance of the site and its eligibility for nomination to the National Register.

Project Area YB-15

Field reconnaissance recorded 11 sites and standing structures that will be periodically inundated and likely destroyed by impounded floodwaters (Table 13). The 11 sites consist of a historic grist mill (39GT16), a historic silver mine (39GT8), a historic site containing five dugouts (39GT9), a historic site containing one dugout (39GT13), two historic, 20th century farmsteads (39GT18 and MN16), one historic 20th century farmstead that also has two possible dugouts (39GT17), a historic section road bridge (MN18), and three prehistoric sites of undetermined cultural affiliation (39GT10, 39GT11 and 39GT12). The grist mill has been determined, by personnel from the South Dakota Historical Preservation Office, to be eligible for nomination to the National Register.

Site 39GT8, Silver Mine

Site 39GT8 is a silver mine. A man named Johnson found a few pieces of silver along the South Fork of the Yellow Bank River and started a mine for further prospecting. The site is unusual for eastern South Dakota and southwestern Minnesota, although apparently the mine did not yield any silver. The site will be periodically inundated by impounded floodwaters and will likely be eventually destroyed. Further test excavations are recommended to determine its significance.

Site 39GT9

Site 39GT9 consists of five dugouts located across the creek from the silver mine (39GT8). The site will be periodically inundated by impounded floodwaters. Although the dugouts are not unusual for this region, little archaeological research has been conducted on dugouts and it is believed these may contain information that may help elucidate the early Euro-American settlement of the region (Woolworth and Woolworth 1980b:3). Since the five dugouts are directly across from the silver mine, they may be associated with it. Therefore, further test excavations are suggested to determine the site's significance.

Site 39GT10

Site 39GT10 is the loci of a single chert flake. The site will be periodically inundated by impounded floodwaters. The isolated chert flake may be natural as opposed to cultural, since extensive auger and shovel testing did not yield additional cultural remains. Therefore, it is recommended that the site does not warrant further

investigation and is not potentially eligible for nomination to the National Register.

Site 39GT11

Site 39GT11, a small lithic scatter, will be periodically inundated by impounded floodwaters. Shovel tests indicate there is no depth to the cultural remains, with the presence of glacial till throughout the plowzone and below the plowzone. Due to extensive disturbance of the site by agricultural practices, it is suggested that the site is not eligible for nomination to the National Register.

Site 39GT12

Site 39GT12, a small lithic scatter, will be periodically inundated by impounded floodwaters. Shovel tests suggest there is no depth to the cultural remains, with the presence of glacial till througout the plowzone and below the plowzone. Due to extensive disturbance by agricultural practices, it is suggested that the site is not eligible for nomination to the National Register.

Site 39GT13

Site 39GT13 consists of a single dugout. The site will be periodically inundated by impounded floodwaters. Although the dugout is not unusual for the region, its close proximity to the Wilson Flour Mill (39GT16) suggests it may be associated with that potential National Register site. Not much archaeological research has been conducted on dugouts, and it is recommended this dugout should be further tested to determine its potential significance.

Site 39GT16, Wilson Flour Mill

The Wilson Flour Mill was constructed in 1885 by Ervin L. Chubb of Silver Creek, Minnesota. The grist mill facilities included a dam measuring 210 meters (700 feet) long and 12 meters (40 feet) wide. A road was constructed across the South Fork of the Yellow Bank River at the site of the grist mill. The mill was abandoned in 1904. The site has been previously examined by the staff of the South Dakota Historical Preservation Office and deemed eligible for nomination to the National Register. Nomination forms were filled out in 1978 (See Appendix B), but were not submitted because the landowner, Lee Mills, refused to give permission. Preservation by avoidance is recommended for this site. If the proposed lake project is constructed, the dam will destroy the site. If avoidance is not a feasible alternative, it is recommended that extensive excavations be conducted at the site to acquire scientific and historic information.

Site 39GT17, Dugouts and Farmstead

Site 39GT17, consisting of two possible dugouts and a 20th century farmstead with wood frame structures, will be periodically inundated by impounded floodwaters. The standing structures are not architecturally unusual and no significant historical persons are associated with them. However, it is

recommended that further investigations be conducted at the dugouts to determine their potential significance and eligibility for nomination to the National Register.

Site 39GT18, Hungry Home

Site 39GT18, a 20th century wood frame structure, will be periodically inundated by impounded floodwaters and may be destroyed during construction of the proposed earthen dam. The structure is not architecturally unusual and no significant historical persons are associated with it. Therefore, it is recommended that the site is not eligible for nomination to the National Register.

MN16, Seefeldt Farmstead

This farmstead, which consists of a wood frame house and outbuildings, will have some of the outbuildings periodically inundated by impounded floodwaters. The structures are not architecturally unusual and no significant historical persons are associated with the farmstead. Therefore, it is recommended that the farmstead is not eligible for nomination to the National Register.

MN18, Bridge

This wood plank bridge is not architecturally unusual and no significant historical persons are associated with it. It will be periodically inundated by impounded floodwaters. Therefore, it is recommended that the bridge is not eligible for nomination to the National Register.

Project Area YB-18

No sites were recorded within this proposed lake area.

Project Area YB-25

Field reconnaissance recorded three sites that will be periodically inundated and eventually destroyed by impounded floodwaters (Table 13). The three sites consist of a historic barn (MN22), a historic section road bridge foundation (39GT15), and a historic farmstead (39GT14).

Site 39GT14, Holsten Homestead

Site 39GT14, which consists of remains of six structures and a well, will be periodically inundated by impounded floodwaters. The structural remains, consisting of foundations and depressions, are not architecturally unusual and no significant historical persons are associated with them. Therefore, it is recommended that the site is not eligible for nomination to the National Register.

Site 39GT15, Bridge Foundation

This bridge foundation, which will be periodically inundated by impounded floodwaters and may also be destroyed during construction of the earthen dam, does not have a unique architectural design and no significant historical

persons are associated with it. Therefore, it is recommended that the bridge foundation is not eligible for nomination to the National Register.

MN22, Berg's Barn

This 20th century barn, which may be periodically inundated by impounded floodwaters, is not architecturally unique and no significant events or historical persons are associated with it. Therefore, it is recommended that the barn is not eligible for nomination to the National Register.

Channel Clearing

A 10 percent field reconnaissance of the proposed channel clearing project did not yield any recorded prehistoric or historic sites. The flat lands east of the Coteau des Prairies appear not to have been densely settled by prehistoric peoples (Johnson 1975:6). A literature and records search indicate the South Fork of the Yellow Bank River and many of its tributaries on the lowlands have changed their courses and/or have been largely channelized or ditched for agricultural purposes (Waters 1977:293; General Land Office Survey Maps (GLO), ca. 1858 and 1872). Channel clearing activities are not likely to adversely affect cultural resources.

Phase III Recommendations

Two different approaches to mitigating the adverse impact of the 639 project on the region's prehistoric and historic resources are presented below. The two approaches are: (1) test excavation and (2) avoidance/contiguous excavation. Test excavation is defined as systematic digging of several pits to recover a sufficient quantity of artifactual material to ascertain the potential scientific significance of a site. Avoidance/contiguous excavation consists of two approaches to site preservation. Avoidance is preservation of a site by abandoning a proposed project or by altering the plans of a proposed project in such a manner that a site is not adversely affected by its construction and use. Contiguous excavation is defined as the excavation of contiguous 1 X 1 meter pits to obtain a detailed understanding of the architecture, function, and time of use or occupation of a site before it is adversely impacted by construction or use of a proposed project. Contiguous excavation is recommended as a last resort to preserve a portion of a site by means of excavation if preservation by avoidance is not feasible.

Test Excavation

Five sites containing dugouts and a silver mine are recommended for additional test excavations to determine their significance. The dugout sites are 39DE55, located in project area LOP-3; 39GT7, located in project area YB-6; and 39GT9, 39GT13 and 39GT17 located in project area YB-15. The

silver mine, 39GT8, is also located in project area YB-15. The recommended test excavation procedures are similar for all of the above sites. Test excavations should minimally consist of one meter wide trenches through the center of each dugout and across the opening of the silver mine. Since the sites appear to be surficial, it is recommended that a single excavation level be manually dug to sufficient depth to determine the floors and/or foundations of the structures. Soil samples should be kept for water flotation in order to obtain micro-faunal and micro-floral data. All soils should be sifted through quarter-inch hardware cloth. It is recommended that artifacts be mapped three-dimensionally. A metal detector may be useful for locating buried metal artifacts in other areas of the dugouts and at the silver mine.

Site 39GT9 contains five dugouts and is the most complex of the four dugout sites. It is estimated that test excavations will cover approximately 35 square meters at site 39GT9, 20 square meters at site 39DE55, seven square meters at each of sites 39GT7 and 39GT17, 10 square meters at site 39GT8 and six square meters at site 39GT13. It is estimated that 85 person-days will be required to conduct the above test excavations and 170 person-days will be required for analysis and report writing.

On the basis of individual sites, estimated costs for conducting test excavations are: $10,500 for site 39GT9, $6,000 for site 39DE55, $2,100 for site 39GT7, $2,100 for site 39GT17, $3,000 for site 39GT8, and $1,800 for site 39GT13, for a total of $25,500.

Avoidance/Contiguous Excavation

Based upon available information three sites are recommended for avoidance/excavation. The sites include a mass human burial, 39DE53, located adjacent to project area LQP-3; a grist mill, 39GT16, located in project area YB-15, and a multicomponent prehistoric site, 39DE56, located in project area LQP-3.

The mass human burial, 39DE53, is located adjacent to the upper reaches of proposed lake LQP-3. Because the site will not be inundated by the proposed lake or destroyed during construction activities, it is unlikely that construction of the lake will have direct adverse impacts upon the site. However, the lake will increase accessibility to the site by people using the lake's recreational facilities, there-by increasing the likelihood of site vandalism. It is recommended that, if the lake is built, a fence should be built around the site to help protect it from potential vandalism.

The Wilson grist mill, 39GT16, is located in project area YB-15. The site, an important early Euro-American economic enterprise, consists of remains of a dam, road, and

at least two stone foundations. The site is recommended for preservation because personnel from the South Dakota Historical Preservation Office have previously examined the site and have determined that it is worthy of nomination to the National Register. National Register nomination forms have been completed for the site; however, the present landowner has refused permission to allow its nomination. Because the location of the site and the proposed lake dam is the same, construction of the lake, as it is now planned, will destroy the entire grist mill. Due to these circumstances, preservation of the site, preferably thru avoidance, is recommended.

If avoidance is not feasible, it is recommended that contiguous excavations be conducted to obtain as much information about the site as possible within time and money constraints. Excavations, consisting of contiguous 1 X 1 meter pits, should be conducted at the dam, the road and at the two stone foundations in order to delineate structural characteristics and determine their functions. Since the site appears to be surficial, excavations can be conducted in a single depth unit sufficiently deep to ascertain the floor and base of the foundations, dam and road. All soils should be sifted through quarter-inch hardware cloth. Soil samples should be taken for water flotation, which may yield micro-floral data indicative of the types of grain processed at the mill. It is estimated that 200 person-days will be required to excavate the site. An additional 400 person-days will be required for analysis and report writing. Therefore, it is estimated that excavations at the site may cost $50,000. Because of the site's significance and the high cost of excavation, avoidance is the recommended alternative for the site's preservation.

The prehistoric site, 39DE56, contains at least two components, an earlier Late Archaic occupation and a more recent Woodland occupation. The site is located in project area LQP-3. The site will not be inundated or directly impacted by construction of the lake, but will eventually be destroyed by shoreline erosion. The site occurs at the upper reaches of the proposed lake where fluctuating water levels and erosion will be the greatest. Test excavations were conducted at the site during this project. Pottery recovered from near the ground surface indicates a Woodland occupation. No culturally diagnostic artifacts were recovered from the earlier, more deeply buried, Late Archaic occupation. However, charcoal recovered from a test pit and a buried hearth yielded radiocarbon dates of 3095±570 B.P. and 2605±140 B.P., respectively. This is one of the few stratified sites containing both Woodland and Archaic occupations in eastern South Dakota. Other multicomponent sites in eastern South Dakota tend to be located at the edges of lakes on the Coteau des Prairies as opposed to small streams such as site 39DE56.

It is recommended that the site be preserved by avoidance. However, if avoidance is not a feasible alternative and the lake is constructed, it is suggested that a large contiguous excavation be conducted at the site to obtain scientific information concerning the Archaic and Woodland occupations of the site as well as geomorphological data that may be useful for locating additional sites in similar topographic settings in the Coteau des Prairies.

At least 100 square meters should be manually dug, with all soils being sifted through quarter-inch hardware cloth and a systematic sample of soils being processed by water flotation for purposes of recovering micro-faunal and micro-floral data. Because the site is complex geomorphologically, excavation levels should correspond to natural stratigraphy. Also, because the site has a depth of over two meters, the use of mechanized power equipment may be deemed necessary to remove culturally sterile overburden in order to gain easier access to more deeply buried cultural deposits. It is estimated that 500 person-days will be required to adequately excavate at least 100 square meters of the site. An additional 1000 person-days will be required for analyses and report writing. In total, approximately 1500 person-days will be required. Estimated cost for this large-scale excavation exceeds $100,000. Due to the significance of the site and estimated cost for its excavation, it is suggested that avoidance may be the most appropriate alternative.

Summary

The mitigation of adverse impacts upon prehistoric and historic cultural resources within the 639 project will require a substantial amount of time and monies. Table 14 summarizes estimated testing and excavations costs. All cost estimates are in 1984 dollars. Of the seven proposed lakes, four (LQP-8, LQP-40, YB-18, and YB-25) have no costs for mitigating adverse impacts upon cultural resources, while one project area (YB-6) has an estimated cost of only $2,100. The two expensive project areas are LQP-3, for $106,000-plus and YB-15, for $65,300.

Project area LQP-3 is expensive because of the proposed test excavation and large contiguous excavation of sites. The major cost is the excavation of site 39DE56, which has a depth of cultural material exceeding 2.3 meters. If 100 square meters are manually excavated, this computes to 250 cubic meters of soil. Project area YB-15 is expensive because of the many sites with potential historical significance located within the lake's impact area. No sites were recorded along the 10 percent sample of the channel clearing project; therefore, there are no costs associated with mitigating adverse impacts upon cultural resources for this part of the 639 project.

Table 14

Recommendations for Further Work

Project Area	Site	Recommendations	Cost
LQP-3	39DE53	Avoidance/Excavate	?
	39DE55	Test Excavations	$ 6,000
	39DE56	Avoidance/Excavate	$100,000
LQP-8	No Sites		
LQP-40	No Sites		
YB-6	39GT7	Test Excavations	$ 2,100
YB-15	39GT8	Test Excavations	$ 3,000
	39GT9	Test Excavations	$ 10,500
	39GT13	Test Excavations	$ 1,800
	39GT16	Avoidance/Excavate	$ 50,000
	39GT17	Test Excavations	$ 2,100
YB-18	No Sites		
YB-25	No Sites		
Channel Clearing	No Sites		

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APPENDIX A

Scope of Work

Budget

Vitae

SCOPE OF WORK
CULTURAL RESOURCES INVESTIGATION OF THE
YELLOW BANK AND LAC QUI PARLE SUBBASINS FOR THE
UPPER MINNESOTA RIVER SUBBASINS (639) STUDY,
MINNESOTA AND SOUTH DAKOTA

1.00 INTRODUCTION

1.01 The Contractor will undertake a cultural resources investigation involving an updated literature search and records review plus reconnaissance and intensive studies of the Yellow Bank and Lac qui Parle subbasins for the Upper Minnesota River Subbasins (639) study, Minnesota and South Dakota (see Maps 1 and 2).

1.02 This cultural resources inventory is in partial fulfillment of the obligations of the Corps of Engineers (Corps) and Soil Conservation Service (SCS) regarding cultural resources, as set forth in the National Historic Preservation Act of 1966 (Public Law (P.L.) 89-665), as amended; the National Environmental Policy Act of 1969 (P.L. 91-190); Executive Order (E.O.) 11593 for the"Protection and Enhancement of the Cultural Environment" (Federal Register, 13 May 1971); the Archaeological and Historical Preservation Act of 1974 (P.L. 93-291); the Advisory Council on Historic Preservation "Regulations for the Protection of Historic and Cultural Properties (36 CFR Part 800); the Department of the Interior guidelines concerning cultural resources (36 CFR Part 60); the Corps of Engineers regulations (ER 1105-2-5 "Environmental Resources," Chapter 3, "Historic Preservation"; and the Soil Conservation Service regulations "Procedures for the Protection of Archaeological and Historic Properties Encountered in SCS-Assisted Programs" (7 CFR Part 656).

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 P.L. 93-291 and E.O. 11593, are being taken by the Corps and SCS ". . . 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 archaeological 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 Executive Orders 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 and SCS are directed to administer their policies, plans, and programs so that federally and non-federally owned sites, structures, and objects of historical, architectural, or archaeological significance are preserved and maintained for the inspiration and benefit of the people.

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

2.00 639 STUDY BACKGROUND

2.01 The entire study area includes the drainage areas of the Yellow Bank, Lac qui Parle, Yellow Medicine, Redwood, and Cottonwood Rivers (Figure 1). These rivers are principal tributaries for drainage from the southwest to the Minnesota River. All or part of nine counties in Minnesota and four counties in South Dakota are included in the study area.

2.02 In 1972, the Upper Mississippi River Comprehensive Basin Study was completed. This report recommended further study of water quality, flood and sediment damage, water supply, commercial navigation, recreation opportunity, and environmental preservation in the Minnesota River basin.

2.03 In response to the 1972 study's recommendation, the Southern Minnesota Rivers Basin Board (SMRBB), in conjunction with the SCS, conducted a river basin Type IV study under the authority of Section 6 of Public Law 83-566. The Minnesota River Basin Study Report (1977) included a recommendation for joint Corps-SCS study under the authority of Public Law 87-639.

2.04 In September 1978, the joint study produced a reconnaissance stage report (plan of study). This report reviews the available data for each alternative identified during the public involvement program in fiscal year 1979. The alternatives were screened for their effectiveness in reducing flood damage and achieving other planning objectives, and for the impacts that their implementation would cause. The reconnaissance stage report concluded Stage 1 of the study.

2.05 A citizens' participation committee conducted a public workshop in March 1979 to identify and to rank problems and needs and to indicate the social acceptability of various alternative measures. This workshop identified 22 problems and needs plus 22 alternatives. In April 1979, the committee met to screen the problems, needs, and alternatives. Nine problems and needs, and fourteen alternatives were considered sufficiently significant for future analysis.

2.06 The nine significant problems and needs include:

a. Flooding: Flooding is identified as the major problem in the study area. Unique to this area is "crossover flooding": because of the flatness of the lower plains, floodwaters from one watershed often cross over into neighboring watersheds. More than 200,000 acres, primarily farmland, are subject to flooding (Figure 2).

b. Erosion and Sedimentation: Sheet and rill erosion caused by wind and/or water runoff are dominant hazards on nearly 45 percent of the agricultural land in the study area. About one-third of the cropland with an erosion hazard is adequately protected. Soil loss on the remaining hazard cropland exceeds the tolerable annual level of 5 tons per acre. Sedimentation is a problem wherever the soils are deposited.

c. Need to Improve Water Quality: Water pollution in surface waters of the study area is a moderate to severe problem. High nutrient levels in lakes and streams result from overland runoff across erodible soils. Of particular concern are fishing lakes. The Minnesota Pollution Control Agency found that pollution potential from livestock feedlot operations in the study area is also high.

d. Inadequate Fish and Wildlife Habitat: Loss of natural habitat due to land-use change and the deteriorating quality of remaining habitat are serious problems for wildlife values in the study area. Fishing waters are subject to the problems noted previously for water quality. The general categories of sedimentation, rough fish invasion, and accelerated eutrophication problems are caused by overland flooding and resulting erosion of soil particles which contain pesticides and nutrients. The erosion of streambank and shoreline vegetation and the deposition of sediment on the floodplain and in streams and water bodies further reduce habitat values.

e. Excess Water on Agricultural Land: Excess water is the dominant problem for about 1,844,300 acres in the study area (over 70 percent of its agricultural land). Actual drainage needs depend on the desired use and potential economic return of the land to the owner.

f. Need for Additional Recreation Opportunities: Existing water and land recreation facilities are not sufficient to meet demand, either in number or distribution within the study area.

g. Water Supply Need: The study area has no existing municipal water shortage, although there is a projected need for 140,000 acre-feet of water for irrigation by 2020. The U.S. Geological Survey is conducting groundwater studies to determine irrigation potential in the study area. Water conservation will be a first consideration in developing measures to alleviate future water supply problems.

h. Conservation of Water For Future Use.

i. Need to Develop Hydroelectric Power: Hydroelectric power is a nationwide need recently investigated by the Corps and the Hydrologic Engineering Center, Davis, California. The only potential for hydroelectric power production in the study area identified by that study is on the Cottonwood River at New Ulm, Minnesota. The potential is defined as 6,500 kilowatts capacity and 15,200 megawatt-hours average annual energy output.

2.07 Flooding was identified as the major problem in the study area. All of the alternatives under study by the Corps address flood damage reduction. During spring thaw and heavy rains, normally dry channels overflow, spilling water down the slopes of the Coteau des Prairies onto the lower plain. The drainage system in the lower plain is poorly developed. Many existing channels, clogged with sediments and debris, are incapable of handling the heavy and sudden flows of water. Crossover flooding complicates flood control efforts. Runoff from the higher area must be controlled to protect the lower plains from resultant flooding, erosion, and pollution.

2.08 Presently, the Corps study is in Stage 2 of the feasibility study, which includes development and evaluation of preliminary alternatives for the Yellow Bank and Lac qui Parle subbasins, including an impact assessment. This stage will conclude with a Stage 2 documentation report and environmental assessment, scheduled for submittal in December 1984. Reconnaissance level information is needed by September 1982, however, so that the Corps can evaluate alternative plans.

2.09 Stage 3 is the development of detailed alternatives, with a final review and definition of problems and needs. By Stage 3, a selected plan will be chosen. A draft feasibility report and draft environmental impact statement (EIS) will be completed in June 1987.

2.10 The Stage 2 study for the Yellow Medicine, Redwood, and Cottonwood subbasins will begin in June 1986 and will overlap with the conclusion of Stage 3 study for the Yellow Bank and Lac qui Parle subbasins.

3.00 PREVIOUS CORPS OF ENGINEERS CULTURAL RESOURCES WORK IN THE AREA

3.01 Specific Project Area: A cultural resources literature search and records review for all five subbasins was completed in May 1980 by Archaeological Field Services, Inc. (Corps of Engineers Contract Number DACW37-79-C-0199). This two-volume report, entitled Cultural Resources Literature Search and Records Review of the Upper Minnesota River Subbasin, Southwestern Minnesota and Northeastern South Dakota, includes an overview of the area's environmental setting, regional prehistory and history, and descriptions of all the recorded sites in the subbasins.

3.02 Surrounding Area: Other cultural resources contracts within the surrounding area include:

a. Archaeological Survey in the Big Stone Refuge Area, Minnesota, National Park Service Contract CX-4000-3-0033, by Christy A.H. Caine, May 1974.

b. Archaeological Survey and Testing for the Upstream Work, Big Stone Lake - Whetstone River Project Area, by Elden Johnson, Corps of Engineers Contract DACW37-75-C-0198, September 1975.

c. An Archaeological Reconnaissance Survey of the Proposed Channel Realignment Area at Big Stone - Whetstone Flood Control Project, Big Stone and Lac qui Parle Counties, Minnesota, Kathleen A. Roetzel, Principal Investigator, Corps of Engineers Contract DACW37-80-M-1545, August 1980.

4.00 DEFINITIONS

4.01 This contract will include an updated literature and records search and review, plus Phase I and II reconnaissance, and intensive studies in the project area. Phase III testing and research will not be conducted.

4.02 "Cultural resources" are defined to include any building, site, district, structure, object, data, or other material relating to the history, architecture, archaeology, or culture of an area.

4.03 "Literature and records search" is defined as a search for and examination of written reports, books, articles, files, records, etc., published and unpublished (found in private, local, State, and Federal depositories), which are pertinent to the cultural resources investigation to be carried out for a particular project. The purposes of the literature and records search are: to familiarize the Contractor with the culture history of the study area and past investigations which have been carried out in the area; to document the location and condition of known sites within the project area, the extent of past work undertaken at the site, and any other information that may be relevant in assessing the significance of the site; and to provide this information in a summarized form to the agency requesting the search. Although existing data may be extensive, the literature and records search should be as comprehensive as possible in providing a usable body of data for the purposes outlined above.

4.04 "Literature and records review" is defined as the review and evaluation of the pertinent literature and records defined in section 4.03. The purpose of the literature and records review is to provide the sponsoring agency with the

Contractor's professional opinion on the nature, extent, and quality of the sources identified in the literature and records search (see section 6.11).

4.05 "Phase I Reconnaissance Study" will include a field survey based on probability sampling of the project area and a complete or updated literature and records search and review. The percentage and type of sampling required are defined in the survey specifications sections (5.00-5.02) of this scope of work. The purpose of the reconnaissance study (based on literature, records, field, and laboratory research) is to provide data sufficient to develop a predictive model of the archaeological, historic, and architectural sites in the project area. The reconnaissance study will also develop a complete and detailed Phase II intensive study program, including the survey needs and plan, staff, and person-days/hours necessary to complete all aspects of the program. The survey field methods will follow those outlined in sections 6.13-6.16 and 7.03k of this scope of work. The reconnaissance study will also provide data sufficient to determine the site size, density, depth, elevation, cultural affiliation, geographic relationship to the proposed project features, potential or probable scientific significance, potential or probable eligibility for the National Register, and an assessment of the direct, indirect, and varying levels of impact (e.g., changes in pool level) of all proposed project features on each of the area's cultural resource sites (archaeological, historic, and architectural) and data base. (See other scope of work sections for complete study and report requirements.)

4.06 "Phase II Intensive Study" differs from the reconnaissance study in the percentage of the project area surveyed and in some of the tasks required during the study. This study will involve summarizing and updating previous reports, records, and literature. It will also include a 100-percent field survey of all project areas not previously surveyed. It will use data collection methods (e.g., literature and records search and review, surface collections and informal subsurface testing) sufficient to determine the site size, density, depth, elevation, cultural affiliation, and geographic relationship to the proposed project features. It will assess the direct, indirect, and varying levels of impact (e.g., changes in pool level) of all proposed project features on all the area's cultural resource sites (archaeological, historic, and architectural) and on data base. The intensive study will also determine each site's potential or probable scientific significance and potential or probable National Register eligibility; it will determine which sites qualify for Phase III testing; and it will develop a complete and detailed Phase III testing and research program, including the testing needs and plan, staff, and person-days/hours necessary to complete all aspects of the program. The survey field methods will follow those outlined in sections 6.13-6.16 and 7.03k of this scope of work. (See other scope of work sections for complete study and report requirements.)

4.07 "Phase III Testing and Research" will involve formal testing or research of all the cultural resource sites (archaeological, historic, and architectural) that are identified in the Phase I reconnaissance study and the Phase II intensive study as potentially able to provide cultural/behavioral/scientific information to answer important research questions, and that are potentially or probably eligible for the National Register. The testing and research study will require intensive collection of field and/or literature/archival data; evaluation and analysis of the data; completion of any other necessary associated studies; detailed description of each site; evaluation of significance; determination and preparation of forms for the National Register eligibility of all sites, assessment of the direct, indirect, and varying levels of impact of the proposed project features on all the area's cultural resource sites and data base; and development of a complete and detailed mitigation plan, including the mitigation

needs and plans, plus alternative approaches with priorities identified for reducing or avoiding adverse impacts, staff, and person-days/hours necessary to complete all aspects of the program.

5.00 SURVEY SPECIFICATIONS

5.01 Literature and Records Search and Review: Because a literature search and records review for the entire study area was completed in May 1980, the Contractor will conduct an updated literature and records search and review on all pertinent cultural resources work, literature, and records dating from January 1980 to the present for the Yellow Bank and Lac qui Parle subbasins.

5.02 Phase I and II Studies: Structural alternatives for the Yellow Bank and Lac qui Parle subbasins include small reservoirs, large reservoirs, and channel alternatives. The Contractor will conduct a Phase II intensive study on all the reservoir project areas and a Phase I reconnaissance study on all the channel alternative project areas.

5.03 Phase II Intensive Study of the Reservoir Alternatives: The preliminary design of potential reservoir sites with a drainage area 20 square miles or less will be the responsibility of SCS, and sites greater than 20 square miles will be a Corps responsibility. As the study progresses, the SCS and Corps reservoirs will be studied according to each agency's cultural resources regulations. At this Phase II intensive study level, the regulations and study requirements do not differ. However, a Phase III testing and research study for SCS alternatives will be necessary by the end of Stage III (feasibility study). For Corps alternatives, this work will not be completed until the Phase II General Design Memorandum.

5.04 Each reservoir will have an earth-fill dam, a permanent conservation/sediment pool (50-year sediment accumulation), and a flood pool. The top of the flood pool elevation can be equated with the elevation provided for the emergency spillway crest. The water will be held during flooding for approximately 10 days. Individual data sheets containing elevations, acre information, and reservoir outlines on U.S. Geological Survey (USGS) quadrangle maps are provided in Appendix A.

5.05 Seven reservoirs will be surveyed under this contract. The Contractor will survey 100 percent of the maximum elevation and acres provided for each reservoir below and in Appendix A. A Phase II intensive study will be conducted by the Contractor with surface survey and shovel testing (or some other appropriate form of informal subsurface testing) when the ground surface visibility is limited or obscured. All subsurface tests will be recorded on testing forms (included in the report appendix) and will be screened through ¼-inch mesh hardware cloth. (See also sections 4.06, 6.13-6.16, and 7.03k, m of the scope of work.) If field methodology varies from this method, the Contractor must describe and justify it in the report. The Phase II intensive study will complete all the other study requirements discussed in section 4.06 of the scope of work.

5.06 For the Yellow Bank and Lac qui Parle subbasins, the following reservoirs will be surveyed:

Yellow Bank Subbasin Reservoirs (See Figure 3, Map 1, and Appendix A)

Reservoir Number	Responsible Agency	# of Acres to Be Surveyed	Maximum Survey Elev.	Quad Name
YB6	SCS	106 ½	1560	Stockh[illegible] SD
YB15	Corps	599 ½	1500	Labolt, SD
YB18	SCS	97 ½	1360	Clear Lake NE, SD
YB25	SCS	161 ½	1560	Labolt, SD

Lac qui Parle Subbasin Reservoirs (See Figure 4, Map 2, and Appendix A)

Reservoir Number	Responsible Agency	# of Acres to Be Surveyed	Maximum Survey Elev.	Quad Name
LQP3	Corps	315* ½	1570*	Canby NW, M
LQP8	Corps	345* ½	1450*	Canby, MN
LQP40	Corps	57 ½	1320	Clear Lake SD

*These figures are based upon "top of dam" data rather than "maximum potential of site" data (see individual reservoir data sheets in Appendix A).

5.07 Phase I Reconnaissance Study of the Channel Alternatives: Channel alternatives may include structural works such as channel enlargement, channel cutoffs, and snagging and clearing. Channel investigations for the main stem of the subbasins will be done by the Corps and for the remaining areas by SCS. The following sections present channel measures that are being considered on the South Fork of the Yellow Bank River in the Yellow Bank subbasin.

a. Channel Work: This alternative would provide increased channel capacity through channel excavation. Channels will be designed to remain stable, probably by aligning the channels to prevent cutting on bends and grade by providing stabilization structures to reduce velocity on excessive grades. Channel enlargement often involves replacement or underpinning of bridges.

b. Snagging and Clearing: This channel alternative emphasizes removal of obstructions and blockages in the present channel with minimal or no excavation. Excessive vegetation, log jams, or sediment blockages that form backwaters and cause flooding are removed from the channel. Trees and other streambank vegetation are removed only in the stream channel. In some cases, vegetation is removed from only one side of the channel. Snagging and clearing benefits are derived from increased hydraulic efficiency which reduces the frequency and degree of flooding.

c. Channel Cutoffs: Channel cutoffs may be used to reduce flooding along a long reach of channel by diverting the flow through a shorter reach. Cutoffs are often used to reduce the number of bridges required or are used for bridge alignment.

5.08 The type of channel alternative that might be undertaken within each channel reach has not been defined. The Contractor must assume that any of the three alternatives described previously may be undertaken within all the reaches. Evaluation of channel alternative impacts on the area's cultural resources will address all three channel alternatives for each channel reach.

5.09 The Phase I Reconnaissance Study will involve a 10-percent random sample field survey of each of the identified channel reaches. For each river segment surveyed, 200 feet from the riverbank edge outward on both sides of the river will be surveyed. Field methods must be those described in scope of work sections 5.03-5.10, 6.13-6.16, and 7.03k, m. If field methodology varies from these requirements, the Contractor must describe and justify the methodology in the report. The Phase I Reconnaissance Study will complete all the other study requirements discussed in section 4.05 of this scope of work.

5.10 Channel alternatives are presently being investigated along the South Fork of the Yellow Bank River in the Yellow Bank subbasin. The following reaches will be surveyed:

Yellow Bank Subbasin Channel Reaches (See Figure 3 and Map 1)

Channel Reach Number	Responsible Agency	Total Estimated # of Miles	Percent To Survey	Quad Names
Q2208	Corps	3.4	10	Marietta, MN-SD
Q2209	Corps	2.6	10	Marietta, MN-SD
Q2211	Corps	5.9	10	Marietta, MN-SD
Q2212	Corps	3.2	10	Marietta, MN-SD
G2212	SCS	2.1	10	Marietta, MN-SD
G2001	SCS	8.6	10	Marietta, MN-SD Revillo, SD
G2202	SCS	17.7	10	Marietta, MN-SD Revillo, SD
G2201	SCS	9.6	10	Marietta, MN-SD Revillo, SD

6.00 PERFORMANCE SPECIFICATIONS

6.01 The Contractor will utilize a systematic, interdisciplinary approach in conducting the study. The Contractor will provide specialized knowledge and skills during the course of the study to include expertise in archaeology, history, architectural history, and other social and natural sciences as required.

6.02 The extent and character of the work to be accomplished by the Contractor will be subject to the general supervision, direction, control, review and approval of the Contracting Officer.

6.03 Techniques and methodologies that the Contractor uses during the investigation shall be representative of the current state of knowledge for the respective disciplines.

6.04 The Contractor shall keep standard records which shall include, but not be limited to, field notebooks, site survey forms, field maps, and photographs.

6.05 The tested areas will be returned as closely as practical to presurvey conditions by the Contractor.

6.06 The recommended professional treatment of recovered materials is curation and storage of the artifacts at an institution that can properly insure their preservation and that will make them available for research and public view. If such materials are not in Federal ownership, the Contractor must obtain consent of the owner, in accordance with applicable law, concerning the disposition of the materials after completion of the report. The Contractor will be responsible for making curatorial arrangements for any collections which are obtained. Such arrangements must be coordinated with the appropriate officials of Minnesota and South Dakota and approved by the Contracting Officer.

6.07 When sites are not wholly contained within the right-of-way, the Contractor shall survey an area outside the right-of-way limits large enough to include the entire site within the survey area. This procedure shall be done in an effort to delineate site boundaries and to determine the degree to which the site will be impacted.

6.08 The Contractor shall provide all materials and equipment necessary to expeditiously perform all services required of the study.

6.09 Right of Entry:

a. If it becomes necessary in the performance of the work and services, the Contractor shall, at no cost to the Government, secure the rights of ingress and egress on properties not owned or controlled by the Government. The Contractor shall secure the consent of the owner, his 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 shall immediately notify the Contracting Officer and shall describe the extent of the property to be excluded from the survey.

b. Survey work to be performed under this scope of work may require entry upon land not under the jurisdiction of the U.S. Government. The Contractor shall contact the SCS District Conservationist for the counties in the work area for assistance in contacting the landowners that are involved. It shall be the responsibility of the Contractor to obtain right-of-entry from the owners. The Contractor shall be responsible for any damage to property caused by his operations. In the event that the Contractor is denied access to property essential to the survey, he shall contact the Contracting Officer for a determination of an appropriate course of action. No additional payment for lost or stand-by time due to right-of-entry will be allowed. (See Appendix B for a list of Soil Conservation Service District Representatives.)

6.10 Literature and Records Search and Review (see sections 4.03 and 4.04 for definitions): The Contractor will obtain information and data for the literature and records search from, but will not be limited to, the following sources:

a. Published and unpublished reports and documents such as books, journals, theses, dissertations, manuscripts, newspapers, and other private, city, State, or Federal documents.

b. Site files and other information held at the Minnesota and South Dakota State Historical Societies Libraries, Archives, and Archaeology Department; the State Archaeologist Offices; the Universities of Minnesota and South Dakota Departments of Anthropology and libraries; and materials available from all the local county historical societies.

c. The Contractor will obtain from the Minnesota and South Dakota State Historic Preservation Offices information regarding any cultural resources in the project area that have been nominated or are being considered for nomination to the National Register of Historic Places, and will report the results in the contract report.

d. Consultation with other professionals familiar with cultural resources in the area.

e. Consultations with amateur archaeologists, historians, and individuals concerned with local archaeology and history in order to locate sites and to identify and define local interests and resources perceived to be locally significant.

6.11 A review and evaluation of previous archaeological and historical studies of the study area and region (including who conducted the work and the date, extent, and adequacy of the past work as it reflects on the interpretation of what has been done in the area) should be undertaken and summarized in the Contractor's report.

6.12 The literature and records search and review shall include all the sites (historic and prehistoric) identified during the course of the study and an evaluation of the direct and indirect impact upon them of all the proposed project alternatives and features.

6.13 Phase I Reconnaissance and Phase II Intensive Study Field Methods (see also sections 4.05 and 4.06): The on-the-ground examination will involve a sample survey or 100-percent survey and subsurface informal testing of the area to determine the total number and extent of cultural resources present (see sections 4.05 and 4.06 for other goals and requirements). These resources include standing architectural structures as well as historic and prehistoric archaeological sites.

6.14 The Contractor will relocate all previously recorded cultural resources known to exist in the project area, report their condition, evaluate the impact of project impacts upon them, and update the State site forms on National Register forms. All relocated sites will be investigated and reported in the same fashion as newly discovered sites.

6.15 The Contractor's survey will include surface inspection in areas where surface visibility permits adequate recovery of cultural materials and subsurface testing in all areas where surface visibility is limited or obscured. Sursurface investigation will include shovel testing, coring, soil borings, cut bank profiling or some other appropriate testing method. If field methods vary from those required, they must be described and justified in the report.

6.16 The recommended survey grid or transect interval is 15 meters (50 feet) and testing interval is 15 meters (50 feet). However, this interval may vary depending upon field or site density/size conditions. If the recommended interval is not used, justification should be presented for selection of an alternate interval. All subsurface tests will be screened through 1/4-inch mesh hardware cloth and will be recorded on appropriate testing forms. All subsurface testing forms will be included in the appendix to the Contractor's report. The Contractor will also indicate the locations of all subsurface tests on USGS and/or project maps and key these with the testing forms in the appendix.

6.17 When a cultural resource site is relocated or discovered, the Contractor will collect sufficient data (topographic, soil, cultural, etc.) to complete the appropriate study and report requirements. (See appropriate scope of work sections for details.)

7.00 GENERAL REPORT REQUIREMENTS

7.01 The Contractor will submit the following types of reports, which are described in this section and in section 9.00: field notes, progress reports, draft contract report, final contract report, and a popular report.

7.02 For each reference discussed in the technical contract report, the Contractor must cite the author, date, and page numbers.

7.03 The Contractor's technical report shall include, but shall not necessarily be limited to, the following information:

a. Title Page: Note the type of investigation undertaken, the cultural resources assessed (archaeological, historical, and 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 agencies for which the report is being prepared.

b. Abstract: An abstract of findings, conclusions, and recommendations. This should not be an annotation.

c. Management Summary: Concisely summarize the study, which will contain all essential data for using the document in the Corps/SCS management of the project. This information will minimally include who the sponsor is and why the work was undertaken, a summary of the study (literature and records search and review, including the National Register of Historic Places, dates checked, and results; field work; lab analysis), study limitations, study results, significance, recommendations, and identification of the repository of all pertinent records and artifacts.

d. Table of Contents.

e. List of Figures.

f. List of Plates.

g. Introduction: Identify the sponsors (Corps of Engineers and SCS) and the sponsors' reason for the study; provide an overview of the sponsors' project and the alternatives, with the alternatives located on USGS quad maps and/or Corps/SCS project maps; define the location and boundaries of the study area (with regional or State and area-specific maps); reference this scope of work (to be included in the appendix to the Contractor's report); identify the institute that did the work, the number of people involved in the study, the number of person-days/hours spent during the study; identify the dates when the various types of work were conducted; and identify the repository of records and artifacts.

h. Previous Archaeological and Historical Studies: Provide a summary and evaluation of previous archaeological and historical studies of the project area and region since January 1980, including the researchers, date, extent, adequacy of the past work, study results, and cultural/behavioral inferences derived from each study.

i. Theoretical and Methodological Overview: Describe or state the goals of the Corps/SCS and the study researcher, the theoretical and methodological orientation of the study, and the research strategies applied to achieve the stated goals.

j. Literature and Records Search and Review: Describe, in detail, the methodology and sources used for the literature and records search and review as well as a description and evaluation of all information and data recovered. Include bibliographic information at the end of the report. (See sections 4.03, 4.04, 6.10, 6.11, and 6.12.)

k. Field Methods: Describe specific archaeological, historical, and architectural activities undertaken to achieve the stated theoretical and methodological goals. Include all field methods, techniques, strategies, and a rationale or justification for specific methods or decisions. The description of the field methods shall minimally include: a description of the areas surveyed, survey conditions, topographic/physiographic features, vegetation conditions, soil types, informal testing, stratigraphy results, survey limitations, survey testing results with all appropriate testing forms to be included as an appendix (e.g., shovel tests, coring, cut bank profiles, etc.), degree of surface visibility, whether or not the survey resulted in the location of any cultural resources, the methods used to survey the area (pedestrian reconnaissance, subsurface test, etc.), the justification and rationale for eliminating uninvestigated areas, and the grid or transect interval used. Testing methods shall include descriptions of test units (size, intervals, stratigraphy, depth) and the rationale behind their placement.

l. Analysis: Describe and provide the rationale for the specific analytic methods and techniques used, and describe and discuss the qualitative and quantitative manipulation of the data. Limitations or problems with the analysis based on the data collection results will also be discussed. This section shall also contain references to accession numbers used for all collections, photographs, and field notes obtained during the study, and the location where they are permanently housed. All diagnostic artifacts will be illustrated or photographed and included in the report.

n. Evaluation and Conclusions: Evaluate and formulate conclusions concerning site/sites location, density, size, condition, distribution, and significance in relation to the local and regional archaeology, history, and architecture, and in relation to the direct and indirect impacts of the project alternatives and features on them, and discuss the potential and goals for future research. Discuss the reliability of the analysis or other pertinent data recovered (e.g., site locations, types, distribution, etc.); relate results of the study and analysis to the stated study goals; identify changes, if any, in the research goals; synthesize and compare the results of the analysis and study; integrate other associated studies or data; and identify and discuss environmental and cultural/behavioral patterns and processes that are inferred from the study and analysis results.

o. Recommendations: Discuss the direct, indirect, and varying levels of impacts of all the project alternatives and features on the area's cultural resources with specific management recommendations on all previously recorded and newly discovered sites; discuss the scientific significance of all sites to the extent permitted by the study level in relation to the research goals established in the study; make recommendations on the potential or probable eligibility of all sites to the National Register of Historic Places; make recommendations with regard to the Corps/SCS planning goals and project alternatives; and develop a Phase II intensive study program or Phase III testing and research program as defined in sections 4.05 and 4.06 of this scope of work. If it is the Contractor's assessment that no significant resources exist in the project area, the methods of investigation and reasoning which support that conclusion will be presented. If certain areas are not accessible, recommendations will be made for future investigation needs. Any evidence of cultural resources or materials which have been previously disturbed or destroyed will be presented and explained.

p. References: Provide standard bibliographic references (American Antiquity format) for every publication cited in the report. References not cited specifically in the report text will be listed in a separate "Additional References" section.

q. Appendix: Include the scope of work, resumes of all personnel involved, all correspondence derived from the study, all State or National Register site forms, all testing forms, and any other pertinent report information referenced in the text as included in the appendix.

7.04 Failure to fulfill these report requirements will result in the rejection of the report by the Contracting Officer.

8.00 FORMAT SPECIFICATIONS

8.01 The Contractor shall submit to the Contracting Officer the photographic negatives for all black-and-white photographs in the final report.

8.02 All text materials will be typed, single-spaced (the draft reports should be space-and-one-half or double-spaced), on good quality bond paper, 8.5 inches by 11.0 inches, with a 1.5-inch binding margin on the left, 1-inch margins on the top and right, and a 1.5-inch margin at the bottom, and will be printed on both sides of the paper.

8.03 Information will be presented in textual, tabular, and graphic forms, whichever are most appropriate, effective, or advantageous to communicate the necessary information.

8.04 All figures and maps must be clear, legible, self-explanatory, and of sufficiently high quality to be readily reproducible by standard xerographic equipment, and will have mar ns as defined above.

8.05 The final report cover letter shall include a budget of the project.

8.06 The draft and final reports will be divided into easily discernible chapters, with appropriate page separation and heading.

9.00 MATERIALS PROVIDED

9.01 The Contracting Officer will furnish the Contractor with the following materials:

a. Access to any publications, records, maps, or photographs that are on file at the St. Paul District, Corps of Engineers.

b. Two sets of USGS Quadrangle maps of the project area. One set will be used as field maps, and one set will be returned with the appropriate information (see section 7.03m).

c. Two sets of project alternative maps. One set will be used as field maps, and one set will be returned with the appropriate information (see section 7.03m).

d. A letter of introduction signed by the St. Paul District Engineer explaining the objectives of the work and requesting cooperation from private landowners, if requested.

e. One loan copy of all reports identified in sections 3.01 and 3.02 of the scope of work, and any pertinent Corps/SCS planning documents that may be useful, in the opinion of the Contracting Officer.

f. One loan copy of aerial photographs of the project area.

10.00 SUBMITTALS

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

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

b. Progress Reports: On the first of each month, the Contractor will submit a brief progress report outlining the work accomplished that month and any problems or needs that require the attention of the Corps.

c. Draft Contract Report: Ten copies of the draft contract report will be submitted on or before 120 days after contract award. The draft contract report will be reviewed by the Corps of Engineers, the State Historic Preservation Officer, the State Archaeologist, 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.

d. Final Contract Report: The original and 15 copies of the final contract report will be submitted 30 days after the Corps of Engineers comments on the draft contract report are received by the Contractor. The final contract report will incorporate all the comments made on the draft contract report.

e. Popular Report: A draft popular report will be submitted with the draft contract report, and will be reviewed by the Corps of Engineers. Fifteen copies of the final popular report will be submitted with the final contract report. The popular report shall be a condensed version of the contract report that would be of interest to the general public. The report shall provide an overview of the archaeology, protohistory, history and architecture of the project area and region, a brief review of the work conducted in the area and the reasons (both professional and managerial) why the work was conducted, and the results of the completed survey. Exact site locations will not be reported in the popular report.

f. Site Forms: All newly completed and updated State site forms will be submitted to the appropriate State agency.

10.02 Neither the Contractor nor his representative shall release any sketch, photograph, report, or other material of any nature obtained or prepared under the contract without specific written approval of the Contracting Officer prior to the acceptance of the final report by the Government. After the Contracting Officer has accepted the final report, distribution will not be restricted by either party except that data relating to the specific location of extant sites will be deleted in distributions to the public.

11.00 METHOD OF PAYMENT

11.01 Requests for partial payment under this fixed price contract shall be made monthly on ENG Form 93. A 10-percent retained percentage will be withheld from each partial payment. Upon approval of the final contract report by the Contracting Officer, final payment, including previously retained percentage, shall be made.

U S DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

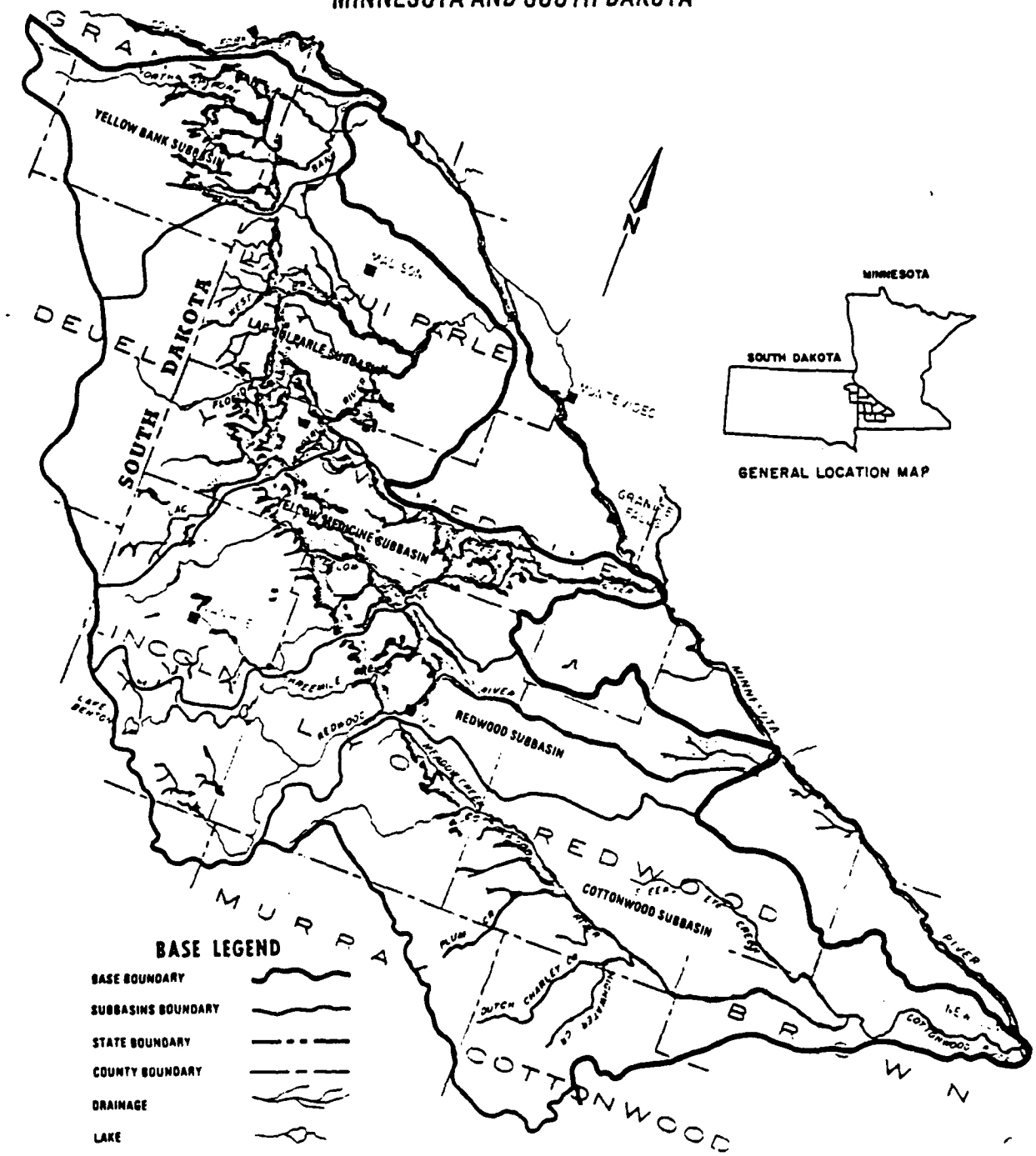
MAJOR FLOOD DAMAGE AREAS

UPPER MINNESOTA RIVER SUBBASINS STUDY

by the

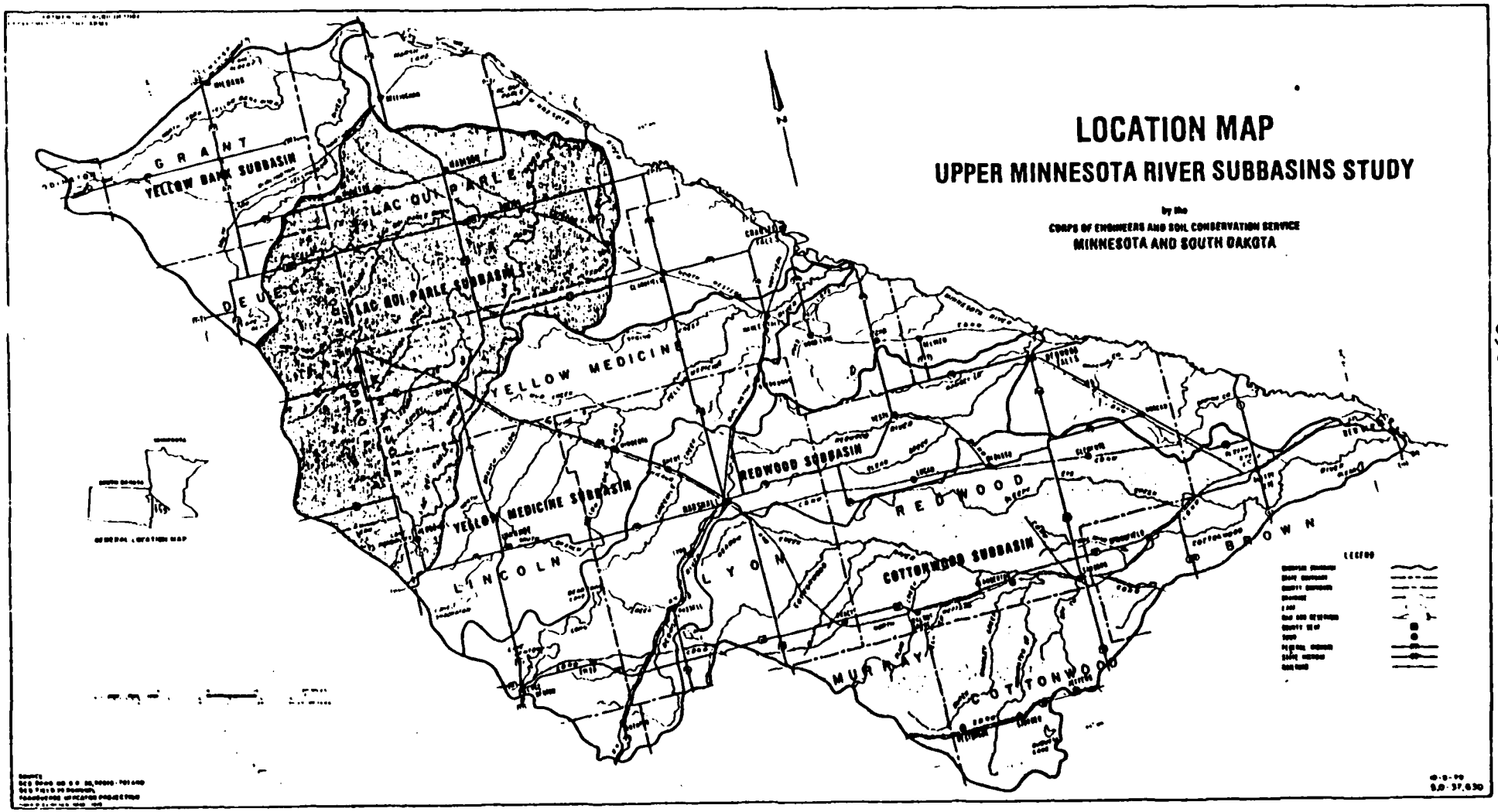
CORPS OF ENGINEERS AND THE SOIL CONSERVATION SERVICE

MINNESOTA AND SOUTH DAKOTA



SOURCE
SCS DRWG NO 5-5-34,384(6-78) AND
SCS FIELD PERSONNEL
*TRANSVERSE MERCATOR PROJECTION

10-8-78
S.L-37,608


LOCATION MAP
UPPER MINNESOTA RIVER SUBBASINS STUDY
by the
CORPS OF ENGINEERS AND SOIL CONSERVATION SERVICE
MINNESOTA AND SOUTH DAKOTA
GRANT
YELLOW BANK SUBBASIN
LAC QUI PARLE
LAC QUI PARLE SUBBASIN
YELLOW MEDICINE
YELLOW MEDICINE SUBBASIN
REDWOOD SUBBASIN
REDWOOD
BROWN
LINCOLN
LYON
COTTONWOOD SUBBASIN
MURRAY
COTTONWOOD
LEGEND

CHECKED BOX APPLIES ☒ ORDER FOR SUPPLIES OR SERVICES ☐ REQUEST FOR QUOTATIONS NO. RETURN COPIES OF THIS QUOTE BY (THIS IS NOT AN ORDER. See DD Form 1155r) PAGE 1 OF 2

1. CONTRACT/PURCH ORDER NO.	2. DELIVERY ORDER NO.	3. DATE OF ORDER	4. REQUISITION/PURCH REQUEST NO.	5. CERTIFIED FOR NATIONAL DEFENSE UNDER DMS REG 1 DO
DACW37-82-M-1508		82 JUN 02	NCSPD-ER-R-3	

6. ISSUED BY / CODE:
DEPARTMENT OF THE ARMY
ST. PAUL DIST. CT, CORPS OF ENGINEERS
1135 U.S. P.O. & CUSTOM HOUSE
ST. PAUL, MINNESOTA 55101

7. ADMINISTERED BY: (If other than 6) / CODE:
The Contracting Officer of the Corps of Engineers, United States Army (Missouri River Division, Omaha, Nebraska)
District Engineer
U.S. Army Engineer District, St. Paul

8. DELIVERY FOR: ☒ ORDER ☐ OTHER (See Schedule if other)

CONTRACTOR/QUOTER / CODE / FACILITY CODE

NAME AND ADDRESS:
ARCHAEOLOGY LABORATORY
ATTN: CHARLES D. LEIN, PRESIDENT
UNIVERSITY OF SOUTH DAKOTA
VERMILLION, SD 57069

10. DELIVER TO FOB POINT BY: 82 NOV 12

11. CHECK IF: ☐ SMALL BUSINESS ☐ MINORITY BUSINESS

12. DISCOUNT TERMS: NET

13. MAIL INVOICES TO: AS SHOWN IN BLOCK 15

SHIP TO: CODE
CORPS OF ENGINEERS
1135 USPO & CUSTOM HOUSE
ST. PAUL, MN 55101

16. PAYMENT WILL BE MADE BY: CODE
SEND INVOICES IN DUPLICATE TO:
ST. PAUL DISTRICT, C OF E
1135 U.S. P.O. & CUSTOM HOUSE
ST. PAUL, MN 55101 ATTN: NCSDC-ER

MARK ALL PACKAGES AND PAPERS WITH CONTRACT OR ORDER NUMBER

17. ORDER: DELIVERY ☐ / PURCHASE ☒

This delivery order is subject to instructions contained on this side of form only and is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract. Payment will be made by Invoice Only. Not by Statement.

Reference your WRITTEN QUOTE 82 MAY 19 furnish the following on terms specified herein, including, for U.S. purchases, General Provisions of Purchase Order on DD Form 1155r (EXCEPT CLAUSE NO. 13 APPLIES ONLY IF THIS BOX ☐ IS CHECKED AND NO. 16 IF THIS BOX ☒ IS CHECKED) and delivery as indicated. This purchase is negotiated under authority of 10 USC 2304(a)(3) or as specified in the schedule if within the U. S., its possessions or Puerto Rico; if otherwise, under 2304(a)(6).

☐ If checked, Additional General Provisions apply; Supplier shall sign "Acceptance" on DD Form 1155r and return ___ copies.

18. ACCOUNTING AND APPROPRIATION DATA/LOCAL USE
96X3121 GI ... R07820025
AB-B01-02-04A0-0000

ITEM NO.	19. SCHEDULE OF SUPPLIES/SERVICES	20. QUANTITY ORDERED/ ACCEPTED*	21. UNIT	22. UNIT PRICE	23. AMOUNT
1	CULTURAL RESOURCES INVESTIGATION OF THE 639 PROJECT AREA. THE CONTRACTOR WILL PERFORM THE SERVICES OUTLINED IN THE FURNISHED SCOPE OF WORK. CONTINUED	1	JOB		17,707.00

Copy available to DTIC does not permit fully legible reproduction

*If quantity accepted by the Government is same as quantity ordered, indicate by ✓ mark. If different, enter actual quantity accepted below quantity ordered and encircle.

24. UNITED STATES OF AMERICA
BY: P. J. ... CONTRACTING/ORDERING OFFICER

25. TOTAL
26. DIFFERENCES

27. a. QUANTITY IN COLUMN 20 HAS BEEN: ☐ INSPECTED ☐ RECEIVED ☐ ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED

b. DATE / c. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE

d. I certify this account is correct and proper for payment.

DATE / SIGNATURE AND TITLE OF CERTIFYING OFFICER

28. a. INVOICE NO.
b. ☐ PARTIAL ☐ FINAL

29. PAID BY

30. INITIALS

31. PAYMENT: ☐ COMPLETE ☐ PARTIAL ☐ FINAL

32. AMOUNT VERIFIED CORRECT FOR

33. CHECK NUMBER

34. BILL OF LADING NO.

35. RECEIVED AT / 36. RECEIVED BY / 37. DATE RECEIVED / 38. TOTAL CONTAINERS / 39. S/R ACCOUNT NUMBER / 40. S/R VOUCHER NO.

DD FORM 1155 PREVIOUS EDITION IS OBSOLETE.

4

GENERAL PROVISIONS

1 INSPECTION AND ACCEPTANCE – Inspection and acceptance will be at destination, unless otherwise specified. Until delivery and acceptance, and after any rejections, risk of loss will be on the Contractor. Title to supplies will pass to the United States Government upon acceptance, regardless of when or where the Government takes physical possession. Notwithstanding the requirements for Government inspection and tests contained in specifications applicable to this contract, except where specified inspections or tests are specified for performance solely by the Government, the Contractor shall perform, or have performed the inspections and tests required to substantiate that the supplies and services provided under the contract conform to the drawings, specifications and contract requirements listed herein, including if applicable the technical requirements for the manufacturer's part numbers specified herein.

2 VARIATION IN QUANTITY – No variation in the quantity of supplies called for by this contract will be accepted unless such variation has been caused by conditions of loading, shipping, packing, or allowances in manufacturing processes, and then only to the extent, if any, specified elsewhere in the contract.

3 – PAYMENTS – Invoices shall be submitted in quadruplicate (one copy shall be marked "Original") unless otherwise specified, and shall contain the following information: Contract or Order number, Item number, contract description of supplies or services, sizes, quantities, unit prices and extended totals. Bill of lading number and weight of shipment will be shown for shipments on Government Bills of Lading. Unless otherwise specified, payment will be made on partial deliveries accepted by the Government when the amount due on such deliveries so warrants.

4 DISCOUNTS – In connection with any discount offered, time will be computed from date of delivery of the supplies to carrier when acceptance is at the point of origin, or from date of delivery at destination or at port of embarkation when delivery and acceptance are at either of these points, or from the date the correct invoice or voucher is received in the office specified by the Government, if the latter is later than date of delivery. Payment is deemed to be made for the purpose of earning the discount on the date of mailing of the Government check.

5 DISPUTES – (a) Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall mail or otherwise furnish a copy thereof to the Contractor. This decision shall be final and conclusive unless within 30 days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the Secretary. The decision of the Secretary or his duly authorized representative for the determination of such appeals shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. The Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision. (b) This "Disputes" clause does not preclude consideration of law questions in connection with decisions provided for in (a) above, provided that nothing in this contract shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

6 FOREIGN SUPPLIES – This contract is subject to the Buy American Act (41 U.S.C. 10a-d) as implemented by Executive Order 10582 of December 17, 1954, and other applicable actions, concerning the procurement of foreign supplies.

7 CONVICT LABOR – The Contractor agrees not to employ any person undergoing sentence of imprisonment except as provided by Public Law 89-176, September 10, 1965 (18 U.S.C. 4082(c)(2)) and Executive Order 11755, December 29, 1973.

8 OFFICIALS NOT TO BENEFIT – No member of or Delegate to Congress or resident commissioner, shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

9 COVENANT AGAINST CONTINGENT FEES – The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration or otherwise recover, the full amount of such commission, percentage, brokerage or contingent fee.

10 GRATUITIES – (a) The Government may, by written notice to the Contractor, terminate the right of the Contractor to proceed under this contract if it is found after notice and hearing, by the Secretary or his duly authorized representative, that gratuities (in the form of entertainment, gifts or otherwise) were offered or given by the Contractor, or any agent or representative of the Contractor, to any officer or employee of the Government with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performing of such contract, provided, that the existence of the facts upon which the Secretary or his duly authorized representative makes such findings shall be an issue and may be reviewed in any competent court. (b) In the event this contract is terminated as provided in paragraph (a) hereof the Government shall be entitled: (i) to pursue the same remedies against the Contractor as it could pursue in the event of a breach of the contract by the Contractor and (ii) as a penalty in addition to any other damages to which it may be entitled by law to exemplary damages in an amount (as determined by the Secretary or his duly authorized representative) which shall be not less than three nor more than ten times the costs incurred by the Contractor in providing any such gratuities to any such officer or employee. (c) The rights and remedies of the Government provided in this clause shall be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

11 RENEGOTIATION – This contract, and any subcontract hereunder, is subject to the Renegotiation Act of 1951, as amended (50 U.S.C. App. 1211 et seq.) and shall be deemed to contain all the provisions required by Section 104 thereof, and to be subject to any subsequent act of Congress providing for the renegotiation of contracts.

12 – CONDITION FOR ASSIGNMENT – The Purchase Order may not be assigned pursuant to the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), unless or until the supplier has been requested and has accepted this order by executing the Acceptance hereof.

13 COMMERCIAL WARRANTY – The Contractor agrees that the supplies or services furnished under this contract shall be covered by the most favorable commercial warranties the Contractor gives to any customer for such supplies or services and that the rights and remedies provided herein are in addition to and do not limit any rights afforded to the Government by any other clause of this contract.

14 FAST PAYMENT PROCEDURE –

(a) *Conditions.* This is a fast payment order. Invoices will be paid on the basis of the Government's delivery to a post office, common carrier, or, in shipment by other means, to the point of first receipt by the Government.

(b) *Responsibility for Supplies.* Title to the supplies shall vest in the Government upon delivery to a post office or common carrier for shipment to the specified destination. If shipment is by means other than post office or common carrier, title to the supplies shall vest in the Government upon delivery to the point of first receipt by the Government. Notwithstanding any other provision of the purchase order, the Contractor shall assume all responsibility and risk of loss for supplies (i) not received at destination, (ii) damaged in transit, or (iii) not conforming to purchase requirements. The Contractor shall either replace, repair or correct such supplies promptly at his expense, pursuant to instructions to do so are furnished by the Contracting Officer within ninety (90) days from the date title to the supplies vests in the Government.

(c) *Preparation of Invoice.*

(1) Upon delivery of supplies to a post office, common carrier, or in shipment by other means to the point of first receipt by the Government, the Contractor shall prepare an invoice in accordance with Clause 3 of the General Provisions of Purchase Order except that invoices under a blanket purchase agreement shall be prepared in accordance with the provisions of the agreement. In shipments by either post office or common carrier, the Contractor shall either (A) note on the invoice the date of shipment, name and address of carrier, bill of lading number or other shipment documentary number, or (B) attach copies of such documents to the invoice as evidence of shipment. In addition the invoice shall be prominently marked "Fast Pay". In case of delivery by other than post office or common carrier, a receipted copy of the Contractor's delivery document shall be attached to the invoice as evidence of delivery.

(2) If the purchase price includes the cost of transportation, the Contractor shall enter the prepaid shipping cost on the invoice as a separate item. The cost of parcel post insurance will not be paid by the Government. If transportation charges are separately stated on the invoice, the Contractor agrees to furnish related paid freight bills or other transportation billings paid separately for a period of three years and to furnish such bills to the Government when requested for audit purposes.

(d) *Preparation of Invoice.* In the event this order requires the preparation of a Material Inspection and Receiving Report (DD Form 250), the contractor has the option of either preparing the DD Form 250 or including the following information on the invoice: in addition to that required in (c)(1) above: (A) a statement in prominent letters "NO DD 250 PREPARED"; (B) shipment number, (C) mode of shipment, and (D) as to item level, (i) National Stock Number and/or Manufacturer's part number, (ii) unit of issue, (iii) Ship To-Point, (iv) Mark For-Point if in coverage, and (v) MILSTRIP document number if in coverage.

(e) *Certificate of Invoice.* The Contractor agrees that the submission of an invoice to the Government for payment is a certification that the supplies for which the Government is being billed have been shipped or delivered in accordance with the shipping instructions issued by the ordering officer; that the supplies, items or services, and that such supplies are in the quantity and of the quality designated by the cited purchase order. Persons knowingly making false certification may be subject to criminal prosecution.

OUTER SHIPPING CONTAINERS SHALL BE MARKED "FAST PAY"

15 *Service contracts (if the contract is for services and is not exempted by applicable regulations of the Department of Labor)*

SERVICE CONTRACT ACT OF 1965 – Except to the extent that an exemption, variation or tolerance would apply pursuant to 29 CFR 4.6 if this were a contract in excess of $2,500, the Contractor and any subcontractor hereunder shall pay all of his employees engaged in performing work on the contract not less than the minimum wage specified under section 6 (a)(1) of the Fair Labor Standards Act of 1938, as amended (current minimum wage). However, in cases where section 6 (a)(2) of the Fair Labor Standards Act of 1938 is applicable, the rates specified therein will apply. All regulations and interpretations of the Service Contract Act of 1965 expressed in 29 CFR Part 4 are hereby incorporated by reference in this contract.

ADDITIONAL GENERAL PROVISIONS

17 CHANGES – The Contracting Officer may at any time, by a written order, and without notice to the sureties, make changes, within the general scope of this contract, in (i) drawings, designs, or specifications, where the supplies to be furnished are to be specially manufactured for the Government in accordance therewith; (ii) method of shipment or packing; and (iii) place of delivery. If any such change causes an increase or decrease in the cost of, or the time required for performance of the contract, whether or not changed by any such order, an equitable adjustment shall be made by written modification to the contract. Any claim by the Contractor for adjustment under this clause must be asserted within thirty days from the date of receipt by the Contractor of the notification of change; provided that the Contracting Officer, if he decides that the facts justify such action, may receive and act upon any such claim asserted prior to final payment, under this contract. Failure to agree to any adjustment shall be a dispute concerning a question of fact within the meaning of the clause of the contract entitled "Disputes." However, nothing in this clause shall excuse the Contractor from proceeding with the contract as changed.

18 TERMINATION FOR DEFAULT – The Contracting Officer, by written notice, may terminate this contract, in whole or in part, for failure of the Contractor to perform any of the provisions hereof. In such event, the Contractor shall be liable for damages, including the excess cost of reprocurement, for supplies or services not delivered. Provided that, if (i) it is determined for any reason that the Contractor was not in default or that the Contractor's failure to perform or make progress was beyond the control, fault or negligence of the Contractor, and (ii) the termination shall be deemed to be a termination for convenience under paragraph 19. As used in this provision the term "subcontractor" and "subcontractor" means subcontractor at any tier.

19 TERMINATION FOR CONVENIENCE – The Contracting Officer, by written notice, may terminate this contract, in whole or in part, when it is in the best interest of the Government. If this contract is for supplies and is so terminated, the Contractor shall be compensated in accordance with Section VIII of the Armed Services Procurement Regulation, in effect on this contract's date. To the extent that this contract is for services and is so terminated, the Government shall be liable only for payment in accordance with the payment provisions of this contract for services rendered prior to the effective date of termination.

20 ASSIGNMENT OF CLAIMS – Claims for moneys due or to become due under the contract shall be assigned only pursuant to the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15). However payments to an assignee of moneys under the contract shall not, to the extent provided in said Act as amended, be subject to reduction or setoff in favor of

ACCEPTANCE

The Contractor hereby accepts the offer represented by the numbered purchase order as it may previously have been, or now is modified, subject to all of the terms and conditions set forth, and agrees to perform the same.

NAME OF CONTRACTOR	SIGNATURE	TYPED NAME AND TITLE	DATE SIGNED
The University of South Dakota	Joseph McFadden	Joseph M. McFadden President	

DD FORM 1155r 1 MAR 78 REPLACES EDITION OF 1 AUG 78 WHICH IS OBSOLETE.

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	THE MINIMUM WAGES TO BE PAID ON THIS PROJECT, AS DETERMINED BY THE SECRETARY OF LABOR TO BE PREVAILING FOR THE CORRESPONDING CLASSES OF WORKERS EMPLOYED ON PROJECTS OF A CHARACTER SIMILAR TO THE CONTRACT WORK IN THE PERTINENT LOCALITY, MAY BE ADDED BY MODIFICATION WHEN RECEIVED FROM THE DEPARTMENT OF LABOR. POINT OF CONTACT: MS. SANDY BLAYLOCK (612-725-5934) OR MR. DAVID BERWICK (612-725-7746) GENERAL PROVISIONS OF PURCHASE ORDER FORM 1155R ARE DELETED IN THEIR ENTIRETY. THE GENERAL PROVISIONS AND REPRESENTATIONS, CERTIFICATIONS AND ACKNOWLEDGMENTS ARE ATTACHED HERETO AND MADE A PART HEREOF.				
	ORIGINAL			TOTAL	$17,707.00

* U.S. Government Printing Office 1983-311-515

DEPARTMENT OF THE ARMY
ST PAUL DISTRICT, CORPS OF ENGINEERS
1135 U S POST OFFICE & CUSTOM HOUSE
ST PAUL, MINNESOTA 55101

REPLY TO
ATTENTION OF:

NCSSP-P

24 August 1982

Archaeology Laboratory
ATTN: Dr. Joseph McFadden, Pres.
University of South Dakota
Vermillion, SD 57069

Dear Dr. McFadden:

Four copies of Supplemental Agreement No. P00001 to Purchase Order DACW37-82-M-1508 covering cultural resources investigation of the 639 project area.

Please complete blocks 14, 15 and 16 and return three copies as soon as possible.

An advance copy of the supplemental agreement is also inclosed for your convenience. After approval and signature of the Contracting Officer, a signed copy will be forwarded for your files.

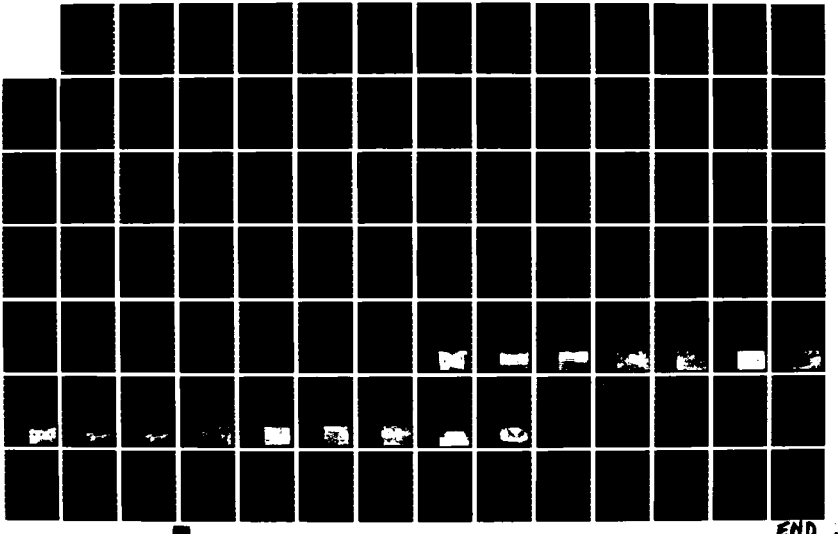
Sincerely,

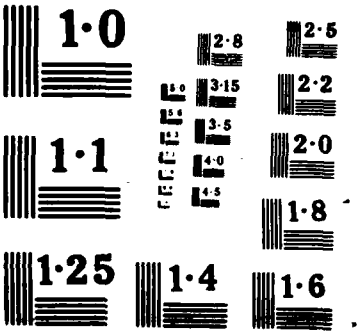
P. J. HILLESTAD
Contracting Officer

1 Incl (in quad)

AD-A172 332 CULTURAL RESOURCES INVESTIGATIONS OF THE UPPER MINNESOTA RIVER (639) PROJ.. (U) SOUTH DAKOTA UNIV VERMILLION ARCHAEOLOGY LAB D BEISSEL ET AL. SEP 84 4/4

UNCLASSIFIED DACW37-82-M-1508 F/G 5/6 NL




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4·5

SBM 30 JULY 1966
GSA ADMINISTRATION
FPR (41 CFR) 1-16.101

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

PAGE 1 OF

AMENDMENT/MODIFICATION NO.	2 EFFECTIVE DATE	3 REQUISITION/PURCHASE REQUEST NO	4. PROJECT NO. (If applicable)
P00001	24 AUG 82	NCSPD-ER-R-3	

5. ISSUED BY CODE

Department of the Army
North Pacific Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minn. 55101

6. ADMINISTERED BY (If other than block 5) CODE

7. CONTRACTOR NAME AND ADDRESS (No., street, city, county, state, and ZIP Code) CODE FACILITY CODE

ARCHAEOLOGY LABORATORY
ATTN: CHARLES D. LEIN, PRES.
UNIVERSITY OF SOUTH DAKOTA
VERMILLION, SD 57069

8.
☐ AMENDMENT OF SOLICITATION NO. _____,
DATED _____ (See block 9)
☒ MODIFICATION OF CONTRACT/ORDER NO. DACW37-82-M-1508
DATED 82 JUN 12 (See block 11)

9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended.

Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods: (a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10. ACCOUNTING AND APPROPRIATION DATA (If required)
96X3121 GI R07820025
AB-B01-02-04A0-0000 ADJUSTMENT IN PRICE - NONE

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS

(a) ☐ This Change Order is issued pursuant to _____
The Changes set forth in block 12 are made to the above numbered contract/order.

(b) ☐ The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12.

(c) ☒ This Supplemental Agreement is entered into pursuant to authority of MUTUAL AGREEMENT OF BOTH PARTIES.
It modifies the above numbered contract as set forth in block 12.

12. DESCRIPTION OF AMENDMENT/MODIFICATION

CHANGE ORDER TO READ:

BLOCK 9. CONTRACTOR - ARCHAEOLOGY LABORATORY
ATTN: DR. JOSEPH MCFADDEN, PRES.
UNIVERSITY OF SOUTH DAKOTA
VERMILLION, SD 57069

BLOCK 10. DELIVER TO FOB BY: FIRST WEEK OF DECEMBER 1982.

NO CHANGE IN TOTAL AMOUNT OF PURCHASE ORDER.

Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.

☐ CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT ☒ CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 3 COPIES TO ISSUING OFFICE

14. NAME OF CONTRACTOR/OFFEROR
Joseph McFadden
(Signature of person authorized to sign)

15. NAME AND TITLE OF SIGNER (Type or print)
Joseph M. McFadden
President, University of South Dakota

16. DATE SIGNED
9/2/82

17. UNITED STATES OF AMERICA
BY _____
(Signature of Contracting Officer)

18. NAME OF CONTRACTING OFFICER (Type or print)
P. J. HILLESTAD

19. DATE SIGNED

101

* U.S. GOVERNMENT PRINTING OFFICE: 1966 O-205-555

Vita

Kenneth L. Brown

DATE AND PLACE OF BIRTH

November 10, 1951, Liberty, Missouri

MARITAL STATUS

Married, 1980, Marie E. Klon

CHILDREN

Jennifer M. Brown, April 14, 1981

OFFICE ADDRESS

Archaeology Laboratory, University of South Dakota, Vermillion, South Dakota, 57069. Phone: 605-677-5401

HOME ADDRESS

414 N. Plum, Vermillion, South Dakota, 57069. Phone: 605-624-6416

EDUCATION

1980	M. Phil.	Anthropology, University of Kansas
1977	M.A.	Anthropology, University of Kansas
1974	B.A.	Anthropology (with honors) and Sociology, University of Kansas
1972	A.A.	Kansas City Metropolitan Junior College
1970		Liberty High School, Liberty, Missouri

ARCHAEOLOGICAL EXPERIENCE

1981-1983 Principal Investigator, University of South Dakota, for contracts awarded: Red River of the North Ring Levees survey, Pembina and Walsh Counties, North Dakota (in progress); Lake Traverse survey, South Dakota and Minnesota (in progress); Survey of wastewater collection and treatment facilities around Lake Madison, South Dakota; Survey of the Shenandoah, Iowa airport; Test excavations at site 13WD405, Woodbury County, Iowa; Survey of the Ft. Yates Irrigation Project, Sioux County, North Dakota; Cultural resources survey along the Pembina River, North Dakota.

1982 Principal Investigator, (May - June) Test excavations of four sites in the proposed Lonetree Reservoir, North Dakota.

1982 Principal Investigator, Dakota Interactive Services, Inc. (May - June) Survey of prehistoric and historic sites around Jamestown Reservoir, North Dakota.

1981 Principal Investigator, Dakota Interactive Services, Inc. (August - October). Survey of prehistoric and historic sites in Waubay National Wildlife Refuge, South Dakota.

1980 Archaeological Field Mapper, Luther College, (October), the mapping of the Blood Run site, Northwestern Iowa.

1980 Archaeological Field Supervisor, University of South Dakota, (June-August), the survey and testing of prehistoric sites in Brushy Creek State Park, Iowa.

1979 Archaeological Field Assistant, University of Kansas, (July-August), in the El Dorado Lake Project, Southeastern Kansas. Testing and excavating historic sites.

1978 Archaeological Field Supervisor, University of Kansas, (June-August), in Kansas City, Missouri. Excavating Late Archaic and Late Woodland sites along the Little Blue River.

1976 Archaeological Survey Supervisor, University of Kansas, (June-August), in Kansas City, Missouri. Testing Late Archaic to Mississippian sites along the Little Blue River.

1975 Archaeological Survey Supervisor, University of Kansas, (June-August), in the Cimarron National Grassland, Southwestern Kansas.

1975 Archaeological Survey Assistant, University of Kansas, (April-May), Little Blue River, Kansas City, Missouri.

1975 Archaeological Surveyor, University of Kansas, (January), Cimmarron National Grassland, Southwestern Kansas.

1974 Archaeological Survey Assistant, University of Kansas (August), in Anderson and Linn Counties, Southeastern Kansas.

1974 Archaeological Field Laboratory Assistant, University of Kansas, (June-August), Coffey Site, Manhattan, Kansas. A Middle Plains Archaic and Late Archaic hunting and gathering camp.

1973 Excavator, Kansas Archaeological Field School (June-August), in Kansas City, Missouri. A Kansas City Hopewell village and Steed-Kisker burial mound.

ORGANIZATIONS

Society for American Archaeology
Plains Anthropological Association
South Dakota Archaeological Society
North Dakota Archaeological Society
Lambda Alpha

Graduate Student President, Graduate Student Colloquium in Anthropology, University of Kansas, September, 1976 - September, 1977. September, 1978 - September, 1979.

Graduate Student Vice-President, Graduate Student Colloquium in Anthropology, University of Kansas, January, 1976 - September, 1976.

Graduate Student Representative, Graduate Student Colloquium in Anthropology, University of Kansas, September, 1974 - September, 1977.

PAPER PRESENTATIONS

1975 33rd Plains Conference, Lincoln, Nebraska. "An Archaeological Survey of the Cimarron National Grassland, Southwestern Kansas."

1977 35th Plains Conference, Lincoln, Nebraska. "Late Prehistoric Settlement Patterns in Southwestern Kansas."

1978 36th Plains Conference, Denver, Colorado. "Archaeological Excavations at the Seven Acres Site, 23JA115, Jackson County, Missouri."

1979 37th Plains Conference, Kansas City, Missouri. "A New Archaeological Complex in the Kansas City Locality: the Maybrook Phase."

PUBLICATIONS (articles)

1976 A Search for Patterns in the Horizontal and Vertical Distribution of Artifacts in the Kansas City Hopewell Component at the Young Site, (23PL4). University of Kansas, Publications in Anthropology 8, A.E. Johnson,(ed.). Lawrence.

1977 (with Mary Adair). Prehistoric Cultural Resources in Kansas: Some Problem Areas. Kansas Anthropological Association Newsletter 22(9).

1979 Late Prehistoric Settlement Patterns in Southwestern Kansas. Plains Anthropologist 24(85):191-206.

1981 (with Robert Ziegler). Nebo Hill Settlement Patterns in Northwestern Missouri. Missouri Archaeologist, 42:43-55.

1982 (with Marie E. Brown and Ned H. Hanenberger). Prehistoric Stone Tools of South Dakota: A Guide. South Dakota Archaeological Society, Special Publication, No. 6. Vermillion.

CONTRACT ARCHAEOLOGY PUBLICATIONS

1974 (With David Evans and Marc Rucker). An Appraisal of the Archaeological Resources of the Big Sugar Creek Watershed, Anderson and Linn Counties, Kansas. Report submitted to the National Park Service.

1975 An Appraisal of Archaeological Resources Along the Right-of-Way of a Proposed Road North of the Cimarron River in the Eighty-One Pasture of the Cimarron National Grassland District of the San Isabel National Forest. Report submitted to the U.S. Department of Agriculture, Forest Service.

1976 Prehistoric Cultural Resources of the Cimarron National Grassland, Morton and Stevens Counties, Kansas. Report submitted to the U.S. Department of Agriculture, Forest Service.

1976 (with Mark Baumler). Little Blue River Channel-Modification Project, Archaeological Research Design. Report submitted to the U.S. Army Corps of Engineers, Kansas City District.

1977 (With Byron Dixon, Rebecca Filer, Dankers Lauderdale, Patricia Miller, Curtis Sorenson, and Robert Ziegler). Historic and Prehistoric Cultural Resources in the Longview and Blue Springs Lakes, Jackson County, Missouri. Report submitted to the U.S. Army Corps of Engineers, Kansas City District.

1978 Evaluations and Recommendations for the Historical, Architectural and Paleontological Resources at Blue Springs and Longview Lakes, Jackson County, Missouri. (Supplement to the volume: Historic and Prehistoric Cultural Resources of the Blue Springs and Longview Lakes, Jacson County, Missouri). Report submitted to the U.S. Army Corps of Engineers, Kansas City District.

1979 (with Byron Dixon and Susan Richards). Historic and Prehistoric Cultural Resources Along the Proposed Channel of West Fire Prairie Creek, Jackson County, Missouri. Report submitted to the U.S. Army Corps of Engineers, Kansas City District.

1981 (with Robert Ziegler, assemblers). Prehistoric Cultural Resources Within the Right-of-Way of the Proposed Little Blue River Channel, Jackson County, Missouri. Report submitted to the U.S. Army Corps of Engineers, Kansas City District.

1982 (in preparation). Testing Four Historic Sites in the El Dorado Lake Project. Report to be submitted to the U.S. Army Corps of Engineers, Tulsa District.

1982 (in preparation). Cultural Resources Along the South Dakota Segment of the Northern Border Pipeline. Report to be submitted to the Northern Border Natural Gas Company, Omaha.

1982 (with Marie Brown and Karen Zimmerman). Archaeological and Historical Reconnaissance and Literature Search of Cultural Resources within the Pembina River Project, Pembina and Cavalier Counties, North Dakota. Report submitted to the U.S. Army Corps of Engineers, St. Paul District.

1982 (with Marie Brown and Karen Zimmerman). Prehistoric and Historic Resources within the Jamestown Reservoir Project. Report submitted to the Bureau of Reclamation.

1982 A Cultural Resources Survey of the Fort Yates Irrigation Project, Sioux County, North Dakota. Report submitted to the Bureau of Indian Affairs.

1982 A Cultural Resources Survey of the Shenandoah, Iowa, Airport Expansion Project. Report submitted to H. Gene McKeown and Associates, Inc.

1982 A Cultural Resources Survey of Wastewater Collection and Treatment Facilities At Lake Madison, Lake County, South Dakota. Report submitted to the Lake Madison Sanitary District and Schmitz, Kalda & Associates.

1982 (in preparation)(with Marie Brown and Karen Zimmerman). A Cultural Resources Survey of the Upper Minnesota River. Report to be submitted to the St. Paul District, U.S. Army Corps of Engineers.

1982 (with Marie Brown). Test Excavations of Four Sites in the Proposed Lonetree Dam and Dikes and New Rockford Canal, Wells County, North Dakota. Report submitted to the Bureau of Reclamation.

1982 (in preparation) (with Marie Brown). Test Excavations at Site 13WD405, Woodbury County, Iowa. Report to be submitted to the Office of the State Archaeologist of Iowa.

TEACHING EXPERIENCE

1981 Fall, Instructor, University of South Dakota, Introduction to Physical Anthropology, Anthropology 220.

1980 Spring, Instructor, University of Kansas, North American Archaeology, Anthropology 504.

1979 Fall, Instructor, University of Kansas, Introduction to Physical Anthropology, Anthropology 304.

1979 (Spring) and 1978 (Fall), Instructor (with Robert Ziegler). An Invitation to Great Plains Archaeology. A six week adult class sponsored by Museums Associates, Museum of Natural History, University of Kansas.

PRESENT PROFESSIONAL POSITIONS

Director, University of South Dakota Archaeology Laboratory (fall 1982 to present).

Principal Investigator of Contract Archaeology, University of South Dakota Archaeology Laboratory (fall 1980 to present).

PROFESSIONAL INTERESTS AND EXPERTISE

North American Indians, Archaeology of the Plains and Eastern United States, Settlement Patterns, Cultural Ecology, Lithic Technology, Lithic Use-Wear Analysis, Ceramic Analysis, Computer Applications to Archaeological Problems.

REFERENCES

Dr. Larry Zimmerman
Director, Anthropology Program
Department of Social Behavior
University of South Dakota
Vermillion, South Dakota 57069
605-677-5401

Dr. Alfred E. Johnson
Director, Museum of Anthropology
University of Kansas
Lawrence, Kansas 66045
913-864-4245

Dr. Dale Henning
Department of Anthropology
Luther College
Decorah, Iowa 52101
319-387-1283

Vita

Marie E. Brown

DATE AND PLACE OF BIRTH

October 10, 1950, Milwaukee, Wisconsin

MARITAL STATUS

Married, 1980, Kenneth L. Brown

CHILDREN

Jennifer M. Brown, April 14, 1981

OFFICE ADDRESS

Archaeology Laboratory, University of South Dakota, Vermillion, South Dakota, 57069. Phone: 605-677-5401

HOME ADDRESS

414 N. Plum, Vermillion, South Dakota, 57069. Phone: 605-624-6416

EDUCATION

1982 M.A. Anthropology, University of Kansas

1972 B.A. Anthropology, Marquette University

1968 Our Lady of Mercy High School, Milwaukee, Wisconsin

ARCHAEOLOGICAL FIELD EXPERIENCE

1982 Archaeological Field Director. Test Excavations of four sites in the proposed Lonetree Reservoir, North Dakota.

1982 Archaeological Field Assistant, University of South Dakota. Survey at: Lake Traverse, South Dakota; Upper Minnesota River, South Dakota and Minnesota; Lake Madison, South Dakota; Shenandoah, Iowa; Ft. Yates, North Dakota; Test excavations at site 13WD405, Sioux City, Iowa.

1982 Archaeological Field Assistant, Dakota Interactive Services, Inc. Survey of prehistoric and historic sites around Jamestown Reservoir, North Dakota.

1981 Archaeological Field Assistant, University of South Dakota. Survey of prehistoric and historic sites along Pembina River, North Dakota.

1980 Archaeological Field Mapper, Luther College. The Mapping of the Blood Run Site, Northwestern Iowa.

1980 Archaeological Field Supervisor, University of South Dakota. Surveying and testing of prehistoric sites in Brushy Creek State Park, Iowa.

1979 Archaeological Field Assistant, El Dorado Lake, Kansas. Excavated a Woodland site.

1979 Excavator, Little Blue River Project, Kansas City Missouri. Tested an Early Woodland site.

1978 Archaeological Field Assistant, El Dorado, Kansas. Excavated a Woodland site.

1978 Field Assistant, Cultural Resource Reconnaissance, Missouri State Highway Commission.

1975 Archaeological Field Foreman, Chief Joseph Reservoir Archaeological Research Project, Washington. Tested prehistoric sites.

1974 Assistant Field Foreman, Alpowa Project, Washington. Excavated a prehistoric site assigned to the Harder Phase.

1973 Archaeological excavator, Alpowa Project, Washington. Excavated a prehistoric site assigned to the Harder Phase.

1972 Excavator, Washington State University Field School, Alpowa Project, Washington. Excavated a site assigned to the Harder Phase.

1971 Excavator, Sacramento State College Field School, Samwell Cave, California. Excavated a Paleo-Indian site.

ARCHAEOLOGICAL LABORATORY EXPERIENCE

1982, Fall to Present, Supervisor, The University of South Dakota Archaeology Laboratory.

1981-1982 Research Associate, University of South Dakota. Analysis of artifacts from: Pembina River, North Dakota; Northern Border Natural Gas Pipeline, South Dakota.

1980-1981 Research Associate, Cataloging artifacts from the Northern Border Pipeline Project, South Dakota and report writing.

1979-1980 Research Assistant, Analysis of cultural material from 14BU57, El Dorado Lake, Kansas.

1978-1979 Research Assistant, Analysis of lithics, ceramics and faunal remains from 14BU55, El Dorado Lake, Kansas.

1977 Laboratory Assistant, cataloging artifacts from the El Dorado Lake Project, Kansas.

1975 Laboratory Assistant, cleaning and cataloging artifacts from the Chief Joseph Reservoir Research Project, Washington.

1975 Laboratory Assistant, preliminary analysis of utilized flakes from the Alpowa Project, Washington.

RESEARCH INTERESTS AND EXPERTISE

Plains and Plateau Archaeology, Faunal Analysis, Bone Tool Technology and Wear Patterns, Cultural Ecology and Subsistence Patterns.

PROFESSIONAL SOCIETIES

Society for American Archaeology
Plains Anthropological Association
South Dakota Archaeological Society
North Dakota Archaeological Society
Lambda Alpha

PAPER PRESENTATIONS

1979 First Flint Hills/Osage Hills Conference, Norman, Oklahoma. "Plains Village Manifestations in the El Dorado Reservoir, Kansas."

PUBLICATIONS (articles)

1982 (with Kenneth Brown and Ned H. Hanenberger). Prehistoric Stone Tools of South Dakota: A Guide. South Dakota Archaeological Society, Special Publication, No. 6. Vermillion.

1979 An Analysis of the Smoky Hill Subsistence Pattern. In Kansas Working Papers in Anthropology, Vol. 4, University of Kansas, Lawrence.

CONTRACT ARCHAEOLOGY PUBLICATIONS

1981 (with M.J. Adair). Late Woodland Occupation at 14BU55. In: Phase II Investigations of Prehistoric and Historic Cultural Resources in El Dorado Lake, Kansas. Ed. by M.J. Adair. Report submitted to the U.S. Army Corps of Engineers, Tulsa District.

1982 (in preparation) 14BU57. In: Phase III Investigations of Prehistoric and Historic Cultural Resources in El Dorado Lake, Kansas. Report to be submitted to the U.S. Army Corps of Engineers, Tulsa District.

1982 (with other authors) Cultural Resources Along the South Dakota Segment of the Northern Border Pipeline. Report submitted to the Northern Border Natural Gas Company, Omaha.

1982 (with Kenneth Brown and Karen Zimmerman) Archaeological and Historical Reconnaissance and Literature Search of Cultural Resources Within the Pembina River Project, Pembina and Cavalier Counties, North Dakota. Report submitted to the U.S. Army Corps of Engineers, St. Paul District.

1982 (with Kenneth Brown and Karen Zimmerman) Prehistoric and Historic Resources Within the Jamestown Reservoir Project, North Dakota. Report submitted to the Bureau of Reclamation.

1982 (in preparation)(with Kenneth Brown and Karen Zimmerman) A Cultural Resources Survey of the Upper Minnesota River. Report to be submitted to the U.S. Army Corps of Engineers, St. Paul District.

1982 (with Kenneth Brown) Test Excavations of Four Sites in the Proposed Lonetree Dam and Dikes and New Rockford Canal, Wells County, North Dakota. Report submitted to the Bureau of Reclamation.

1982 (in preparation)(with Kenneth Brown) Test Excavations at Site 13WD405, Woodbury County Iowa. Report to be submitted to the Office of the State Archaeologist of Iowa.

PROFESSIONAL POSITIONS

Supervisor, The University of South Dakota Archaeology Laboratory (Fall 1982 to Present).

RESUME

Karen Pike Zimmerman
311 Forest Avenue
Vermillion, SD 57069
(605) 624-6223

EDUCATION

Red Oak Community High School, Red Oak, Iowa 1963
University of Iowa, B.A. English 1967
University of Iowa, M.A. Library Science 1969
University of South Dakota, M.A. History (U.S. Plains) 1977

PROFESSIONAL LIBRARY/ARCHIVES/MUSEUM EXPERIENCE

Cataloging Librarian, University of Iowa Libraries, 1969-71. Duties: Original cataloging and L.C. classification of monographs in social sciences, humanities and science. Cataloging microfilm and government documents (L.C. Classification).

Cataloging Librarian, University of Kansas Libraries, 1971-72. Duties: Original cataloging and L.C. classification of monographs in social sciences and humanities. Developed and implemented system for cataloging KU theses and dissertations. Supervised main entry listing of uncataloged materials in storage.

Associate Curator, Kansas Collection, University of Kansas Libraries, 1972-74. (Promoted to Associate in 1973; granted tenure 1974). Duties: Coordinated cataloging activities of the department, arranged and cataloged manuscripts collections, supervised photograph conservation laboratory, assisted Curator in negotiation and acquisition of new collections, provided reference assistance to researchers, served as department head in absence of the Curator, displayed materials from the Collection in exhibits.

Museum Curator II-Registrar, W.H. Over Museum, Vermillion, SD, 1978-81. Duties: Developed and implemented computerized inventory of collections, compiled data from old records and established new files, accessioned and cataloged objects, monitored storage conditions and recommended improvements, kept records of objects on exhibit and on loan, supervised work study students and volunteers.

HISTORICAL RESEARCH

Conducted historical records and documents searches for cultural resource management studies in compliance with contracting agencies through The University of South Dakota Archaeology Laboratory and Dakota Interactive Services, Inc., Vermillion, SD. Experience includes research in Iowa, Kansas, Minnesota, North Dakota and South Dakota. Research experience in state and local libraries, historical preservation centers and museums as well as contacting local informants.

CULTURAL RESOURCE MANAGEMENT REPORTS

A Literature Search and Cultural Resources on the Iowa Side of the Missouri River with Larry J. Zimmerman and Karen Leichtnam. A report prepared for the U.S. Army Corps of Engineers, Omaha District, May 1978.

Phase I Cultural Resources Literature Search and Inventory for MANDAN Project in South Dakota with Larry J. Zimmerman and Richmond Clow. A report prepared for Midwest Environmental Services, Grand Forks, ND, 1979.

CULTURAL RESOURCE MANAGEMENT REPORTS (cont.)

Sources for South Dakota Prehistory with Larry J. Zimmerman. South Dakota Archaeological Society Special Publication 5, 1981.

Cultural Resource Investigations of the Waubay National Wildlife Refuge with Steve Keller. A report prepared for U.S. Dept. of Interior, Fish and Wildlife Service, October, 1981.

Archaeological and Historical Reconnaissance and Literature Search of Cultural Resources Within the Pembina River Project, Pembina and Cavalier Counties, North Dakota with Kenneth L. Brown and Marie E. Brown. A report prepared for U.S. Army Corps of Engineers, St. Paul District, 1982.

Prehistoric and Historic Resources Within the Jamestown Reservoir Project with Kenneth L. Brown and Marie E. Brown. A report prepared for U.S. Bureau of Reclamation, 1982.

COMPUTER EXPERIENCE

Contracted 1982-83 to complete the computerized inventory of W.H. Over Museum Collections, Vermillion, S.D., providing access to historical, ethnographic, natural history and photographic collections with retrievability by type of object, donor, location and other data categories.

GENERAL PUBLICATIONS

The Kansas Plains, Exhibit brochure, Kansas Collection, University of Kansas Libraries, Dec., 1973.

"The Recovery of the Past: Photographic Restoration," in Books and Libraries at the University of Kansas, 13:3, Lawrence, Kansas, Spring, 1976.

"Spring Hunt, 7,000B.C." in Prairie Sportsman 1:15, April 1977.

"Corn in Plains Culture History," in South Dakota Archaeology 1:1, 1977.

The Edited Letters of John Vansickle, 1858-1863, M.A. Thesis, University of South Dakota Department of History, 1977.

Young People's Guide to South Dakota Archaeology, Children's pamphlet, University of South Dakota Archaeology Laboratory, 1982.

PAPERS PRESENTED

"The Kansas Border Wars in the Letters of John Vansickle, 1858-1861," delivered at the Missouri Valley History Conference, March 12, 1977.

TEACHING EXPERIENCE

Introduction to Bibliography and Library Methods, 1-hour course, Fall semester, 1972, University of Kansas.

Lectures on library materials and research methods to courses in history, sociology, anthropology and women's studies. University of Kansas, 1972-74, University of South Dakota, 1976-77.

Public lectures on genealogy, preservation of photographs and family records to various organizations, 1980.

Lectures on Museum Registration Methods to anthropology class Museum Techniques, 6 semesters, University of South Dakota, 1978-81.

MEMBERSHIPS

Phi Alpha Theta (Honorary History Society 1977)
Western History Association
American Association for State and Local History
Mountain-Plains Museum Association
Association of South Dakota Museums (Executive Board 1980-82; Newsletter Editor 1982)
Friends of the W.H. Over Museum (Treasurer 1977-78; Newsletter Editor 1981)
American Association of University Women (President Vermillion branch 1979-81)

REFERENCES

Dr. Herbert T. Hoover
Dept. of History
206 East Hall
University of South Dakota
Vermillion, SD 57069

Dr. Lawrence E. Bradley
Dakota Interactive Services, Inc.
P.O. Box 1
Vermillion, SD 57069

Kenneth L. Brown, Director
Archaeology Laboratory
109 East Hall
University of South Dakota
Vermillion, SD 57069

Julia Vodicka, Director
W.H. Over Museum
University of South Dakota
Vermillion, SD 57069

June Sampson, Director
Western Heritage Center
29th and Montana Ave.
Billings, MT 59101

Dennis R. Beissel
648 Como Avenue
St. Paul, Minnesota 55103

home: (612) 489-1428
business: (612) 831-2480

PROFESSIONAL OBJECTIVE: To ~~serve~~ as project manager or equivalent role with private ~~industry~~ or consulting firm and to continue professional ~~development~~ in marketing and ~~administration~~.

CERTIFICATION: Certified Professional Geologist No. 6010 (AIPG)

RELEVANT EXPERIENCE:

September, 1981 to Present — Senior Hydrogeologist
Environmental Engineering & Management, Ltd.
Minneapolis, Minnesota

Responsibilities included subcontractor management, supervision of geotechnical staff, and business development. Projects included design of ground water monitoring systems, investigation of hazardous waste spills, hydrogeologic site evaluation, and geologic analysis.

June, 1978 to September, 1981 (part-time) — President
Bloomgren-Beissel, Inc.

Hydrogeologic consultants. Professional consulting firm specializing in hydrogeology, water supply, flood plain hazard mitigation studies, research and report writing, expert testimony. Responsibilities included marketing and company operations.

February, 1980 to September, 1981 — State Ground Water Specialist
Classification: Principal Hydrologist
Minnesota Department of Natural Resources

Supervise and direct staff of 6-11 professionals, including senior level hydrologists, in the planning, design and implementation of state-wide ground water data collection and analysis program. Coordinate Department's ground water activities with other state and federal agencies. Provide testimony as Department's expert witness on ground water matters.

April, 1978 to February, 1980 — Hydrogeologist
Classification: Senior Hydrologist
Minnesota Department of Natural Resources

Supervise professional ground water staff; plan, design, and initiate ground water data collection program, areal hydrogeologic studies, aquifer delineation investigations, geophysical and remote sensing surveys and aquifer tests.

October, 1977 to April, 1978	Liaison - Minnesota Department of Natural Resources Division of Waters & Soil and Water Conservation Districts Responsible for technical training in ground water hydrology and hydraulics and for administrative training in water management for Soil and Water Conservation District personnel.
November, 1976 to October, 1977	Hydrogeologist West Virginia Geological and Economic Survey Morgantown, West Virginia Responsible for initiation and supervision of projects and programs in basic and applied hydrogeologic research. Projects included hydrogeochemical sampling for uranium exploration; determining surface and deep coal mining effects on water supplies; ground water supply evaluation; and technical assistance to the general public.
August, 1971 to November, 1976	Hydrogeologist South Dakota Geological Survey Vermillion, South Dakota Responsible for supervision and direction of county-wide geologic and water resource study, rural water supply investigations, test drilling program, aquifer tests, and geophysical well logging. Field supervisor for drilling and survey crews and geologic assistants.
September, 1969 to June, 1971	Research Assistant Colorado State University - Geology Department Ft. Collins, Colorado Assisted in projects to classify pollution potential of mountain dwelling sites. Hands-on experience with surface geophysical techniques, well logging equipment and mapping of rock fractures.
Summer, 1969	Geologist - Division of Waters Minnesota Department of Natural Resources Responsible for collection and compilation of hydrologic and geologic data for limnological surveys in southwest Minnesota and geologic analysis of well logs.
Summer, 1968	Geologic Field Camp Colorado State University White River Plateau, Colorado

Summer, 1966 & 1967	Full-time replacement worker Armour and Company packing plant South St. Paul, Minnesota
Noncompensatory Work	Coordinator - 1979 Midwest Groundwater Conference, Bloomington, Minnesota
	Thesis Committee Member - West Virginia University
	Instructor - University of South Dakota. Directed reading course in hydrogeology for graduate students.
ADDITIONAL TRAINING:	University of Wisconsin - Engineering short course: Groundwater Computer Models, 1980.
	The Pennsylvania State University - Short course: Fundamentals of Water Pollution Control in Coal Mining, 1977.
	West Virginia University - Field Conference: Geologic Hazards, 1977.
	Eastern Regional Remote Sensing Applications Center - NASA, Goddard: Computer Enhancement of LANDSAT Imagery, 1979 & 1980.
	University of Minnesota - Short Courses: Irrigation System Design and Scheduling, 1978; How to Sell Effectively, 1982.
	State of Minnesota Personnel Development Program, 1977 - 1981: Basic Management Functions Managing the Human Resource Supervisor's Role in State Government Performance Appraisal Citizen's Participation
	Minnesota Association of Commerce and Industry: Hazardous Materials, 1981.
	St. Paul TVI: Principles of Small Business Management, 1979.

PROFESSIONAL SOCIETIES:

American Institute of Professional Geologists (AIPG)
National Water Well Association (NWWA)
American Water Resources Association (AWRA)
American Society for Testing and Materials (ASTM)
Scientific Research Society (Sigma Xi)
Minnesota Water Well Association (MWWA)

PUBLICATIONS AND REPORTS:

Beissel, D.R. and Ford, D.R., 1981. Hydrologic Effects of Quarry Dewatering on Dean Lake, Scott County, MN: 1981 International Symposium on Urban Hydrology, Hydraulics, and Sediment Control, University of Kentucky, Lexington, KY.

Beissel, D.R. and Kerber, A., 1981. Ground Water Use Inventory in Minnesota Using Landsat Data: Proceedings, Second Eastern Regional Remote Sensing Applications Conference, NASA Conference Publication 2198.

Beissel, D.R. and Fax, J.G., 1981. Ground Water Hydrology of Lac qui Parle County, Minnesota: Minnesota DNR-Waters Bulletin in prep.

Fax, J.G. and Beissel, D.R., 1981. Ground Water Hydrology of Swift County, Minnesota: Minnesota DNR-Waters Bulletin No. 28.

Beissel, D.R., et. al., 1980. Selected Aquifer Tests in Minnesota: Minnesota DNR-Waters Technical Paper No. 8.

Beissel, D.R., 1980. Irrigation Well Inventory of Sherburne County, Minnesota, using LANDSAT MSS imagery: Proceedings, First Eastern Regional Remote Sensing Applications Conference, Easton, MD.

Arkle, T., Beissel, D.R., et. al., 1979. The Mississippian and Pennsylvanian (Carboniferous) Systems in the United States, D, West Virginia and Maryland: U.S. Geological Survey Professional Paper 1110 D.

Stach, R.L., Helgerson, R.N., Bretz, R.F., Tipton, M.J., Beissel, D.R., and Harksen, J.C., 1978. Arsenic Levels in the Surface and Ground Waters Along Whitewood Creek, Belle Fourche River, and a Portion of the Cheyenne River, South Dakota: South Dakota Water Resources Research Institute Completion Report A-054-SDAK.

Beissel, D.R., Larese, R.E., Nuhfer, E.B., 1977. Index to Surface Mining in West Virginia: West Virginia Geological and Economic Survey, Morgantown, West Virginia.

Beissel, D.R., Barari, A., 1976. Ground Water Study for the Brookings-Deuel Rural Water System, South Dakota: South Dakota Geological Survey Open-file report.

Beissel, D.R., Barari, A., 1976. Ground Water Study for the East Gregory Rural Water System, South Dakota: South Dakota Geological Survey Open-file report.

Beissel, D.R., 1975. Geology of Deuel County, South Dakota: South Dakota Cooperative Extension Service Pamphlet.

Beissel, D.R., in prep. Geology and Water Resources of Deuel and Hamlin Counties, South Dakota: South Dakota Geological Survey Bulletin.

Beissel, D.R., 1978. Aquifers and Ground Water Production Zones for Minnesota RDC Region 6E; Pilot Study for State-wide Water Information Management System.

Administrative Training Packet for Soil and Water Conservation Districts in Minnesota, 1977.

Aquifer Test Analyses and Engineering Reports to Water Resource Management administrators and to clients.

COMMUNITY ORGANIZATIONS:

PTA

Minnesota Science Museum

W.H. Over Museum (South Dakota)

Boy and Girl Scouts of America

PERSONAL DATA:

Born: December 5, 1947, St. Paul, Minnesota
Married, two children
High School Graduation - 1965, Hill-Murray, St. Paul, Minnesota

APPENDIX B

Lists of Sites
National Register Form

Sites in Deuel and Grant Counties, South Dakota,
Recorded From the Files at the University of South Dakota

Site Number	Section	Township	Range	Site Type
39GT1	-	-	-	2 mounds
39GT2	32	121N	47W	campsite
39GT3	5	120N	47W	campsite
39GT4	14	121N	50W	campsite
39GT5	7	121N	49W	village
39DE1	35	115N	49W	mound
39DE2	16	113N	47W	village
39DE3	31	113N	48W	campsite
39DE4	25	113N	49W	campsite
39DE5	29	116N	49W	village
39DE6	29	116N	48W	village
39DE7	19	117N	50W	campsite
39DE8	34	113N	50W	tipi rings
39DE9	22	113N	47W	campsite
39DE10	34	113N	48W	tipi rings
39DE11	17	113N	47W	village
39DE12	17	113N	47W	village
39DE14	20	113N	48W	historic
39DE15	30	114N	50W	historic
39DE16	28	115N	47W	historic
39DE17	10	117N	50W	campsite
39DE19	26	117N	50W	rock carving
39DE20	26	117N	50W	historic
39DE21	29	116N	48W	historic
39DE22	32	117N	47W	tipi rings
39DE24	30	114N	48W	mound
39DE25	30	114N	48W	historic
39DE26	7	115N	48W	tipi rings
39DE27	35	115N	49W	stone lined pit

39DE28	34	116N	49W	stone effigies
39DE29	17	114N	50W	mound
39DE30	21	114N	50W	campsite
39DE31	33	113N	47W	campsite
39DE32	23	114N	50W	campsite
39DE33	23	114N	50W	tipi rings
39DE34	24	114N	50W	campsite
39DE35	32	114N	49W	campsite
39DE36	2	114N	49W	campsite
39DE37	1	113N	49W	campsite
39DE38	17	113N	48W	village
39DE39	23	114N	50W	campsite
39DE40	22	113N	48W	campsite
39DE42	18	114N	50W	historic
39DE43	29	115N	48W	campsite
39DE45	7	115N	48W	tipi rings

(same as site 39DE26)

Sites in Lac qui Parle and Yellow Medicine Counties, Minnesota,
From the Files of the Minnesota State Historic Preservation Office

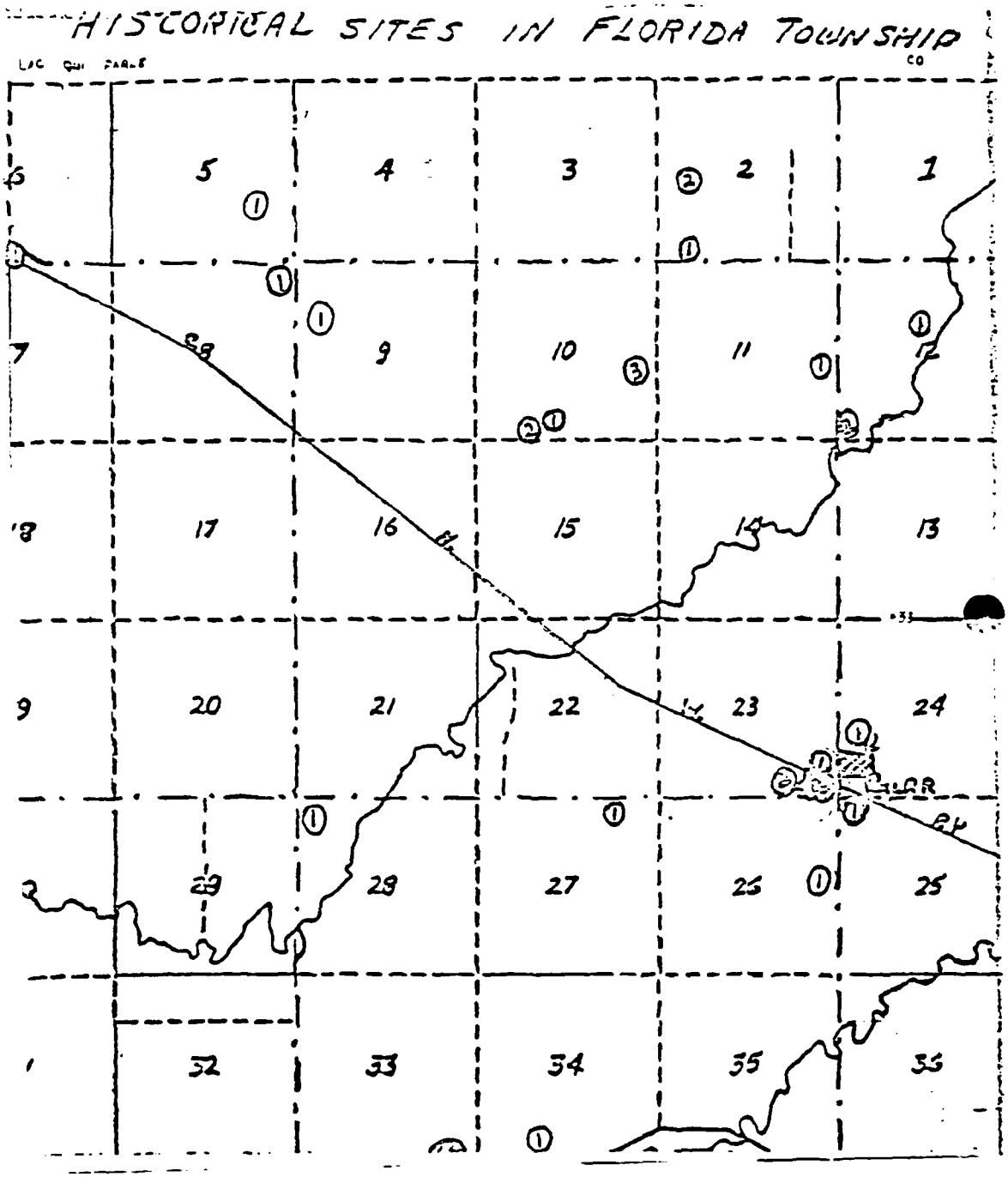
Site Number	Section	Township	Range	Site Type
21LP1	14	117N	14W	mound
21LP3	26	118N	42W	3 mounds
21LP4	23	118N	42W	2 mounds
21LP5	14	118N	42W	8 mounds
21LP6	14	118N	42W	mound
21LP7	23 & 24	118N	42W	8 mounds
21LP8	7	120N	45W	mound
21LP9	12	120N	46W	8 mounds
21LP10	20	117N	45W	campsite
21LP11	2	120N	46W	village
21YM1	4	114N	40W	village
21YM2	22	114N	41W	village
21YM3	24	115N	39W	mounds
21YM4	23	115N	39W	village
21YM5	30	115N	38W	mound
21YM6	28	115N	38W	mound
21YM7	29	115N	38W	mound
21YM8	29	115N	38W	mound
21YM9	30	115N	38W	mound
21YM10	23	115N	39W	mound
21YM11	15	115N	39W	10 mounds
21YM12	25	115N	39W	3 mounds
21YM13	15	115N	39W	2 mounds
21YM14	10	115N	39W	mound
21YM15	24	115N	39W	ditch
21YM16	24	115N	39W	4 mounds
21YM17	24	115N	39W	mound
21YM18	9	115N	39W	mound
21YM19	9	115N	39W	mound

21YM20	24	116N	40W	mound
21YM21	13	116N	40W	mound
21YM22	11	116N	40W	mound
21YM23	19	117N	40W	mound
21YM24	24	115N	39W	mound
21YM25	29	115N	38W	Sioux Agency
21YM26	10	114N	46W	tipi rings
21YM27	24	114N	46W	earth lodge village
21YM29	29	115N	38W	mound
21YM30	3	114N	46W	tipi rings
21YM31	4	115N	39W	village
21YM32	10	115N	39W	campsite
21YM33	10	115N	39W	campsite
21YM34	10	115N	39W	campsite
21YM35	10	115N	39W	village
21YM36	9	115N	39W	campsite
21YM37	15	115N	39W	pit house
21LP-	17	118N	45W	farm
21LP-	4	117N	45W	farm
21LP-	4	119N	43W	farm
21LP-	4	119N	43W	farm
21LP-	5	119N	43W	farm
21LP-	8	119N	43W	farm
21LP-	29	116N	46W	farm

Sites listed for Florida Township.

FLORIDA TOWNSHIP

Site No.	Site Name	Circa	Presently Occupied By
FL-2-1	Dinner bell		
FL-2-2	Original tree claim		
FL-6-1	An important spring		
FL-6-1	Minnesota-South Dakota State Line		
FL-8-1	District No. 56 School		
FL-9-1	An early spring		
FL-10-1	Old hand dug stone well	1879	
FL-10-2	Original house cellar	1879	Still in use.
FL-10-3	Old homestead site		
FL-11-1	District No. 97 School		
FL-12-1	District No. 97 School		
FL-12-2	District No. 97 School		
FL-23-1	Stanley (Burr) Railroad Depot		Foundation and station marker are left.
FL-23-2	Old post office.	1902-1964	
FL-23-3	Original post office in Stanley	1899-	
FL-24-1	Burr Bank building	Started in early 1920's	
FL-25-1	General store & post office	1907-	Is still being used.
FL-26-1	District No. 95 School		Still there - used as town hall
FL-27-1	District No. 40 School		
FL-28-1	District No. 40 School	1925-1956	
FL-34-1	Original dug-out home of Sam Knutson.		

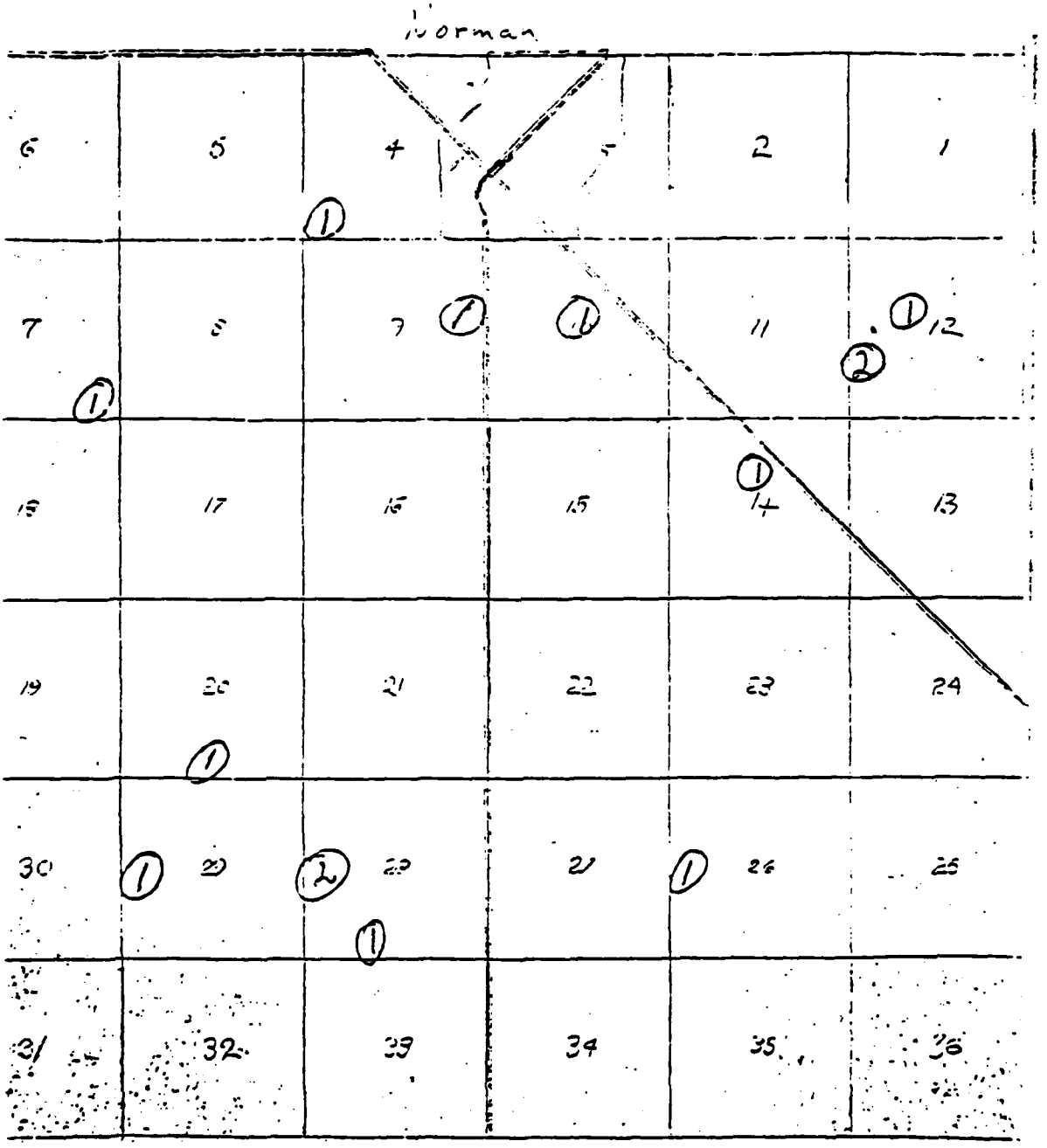


Map of sites listed for Florida Township.

Sites listed for Norman Township

NORMAN TOWNSHIP

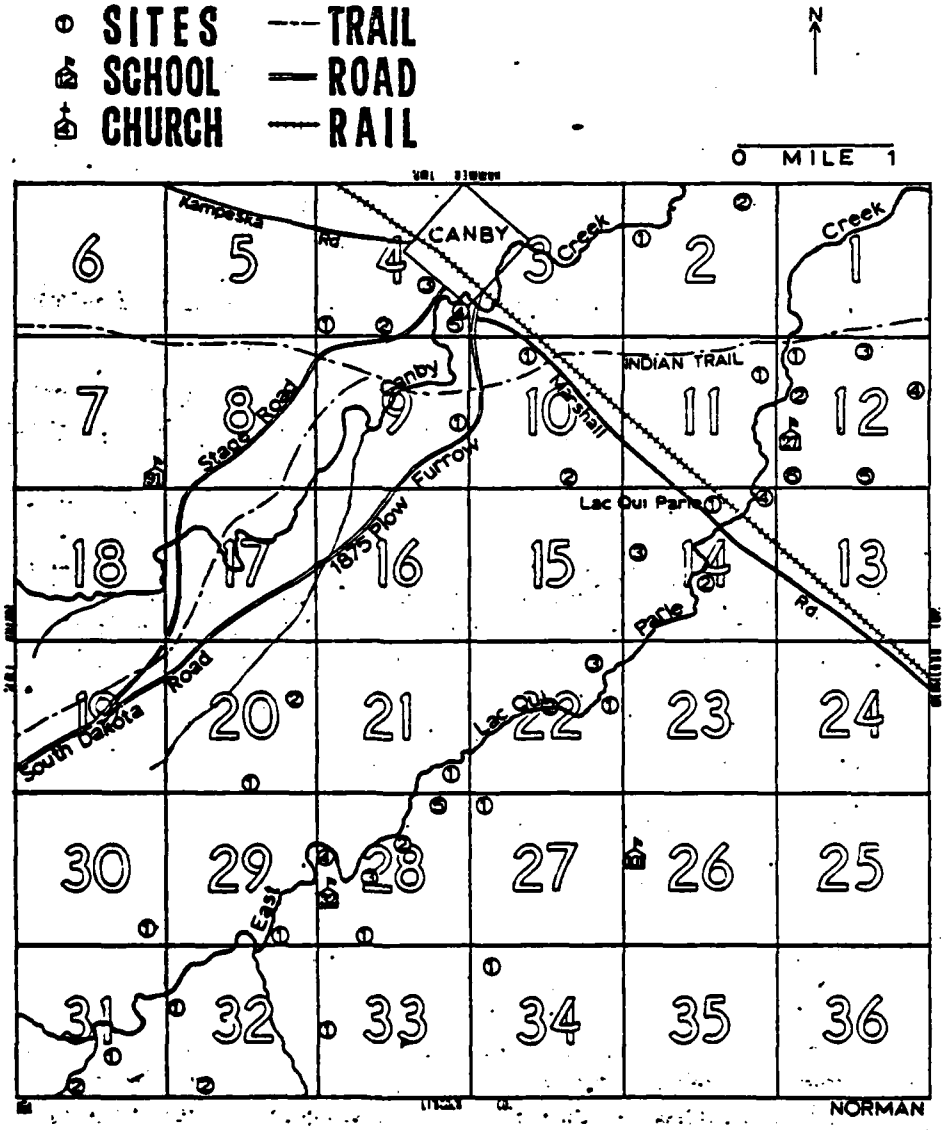
Site No.	Site Name	Circa	Presently Occupied By
NO-4-1	St. Paul's Lutheran Church Cemetery		Still being used.
NO-7-1	District No. 91 School		
NO-9-1	Thought to be the site of the Ferguson Bros. Herford farm.	1918-1925	
NO-10-1	St. Stephan's Lutheran Cemetery		
NO-12-1	Indian Mound		
NO-12-2	District No. 27 School		
NO-14-1	"Lac Qui Parle" town site		
NO-20-1	Trinity Cemetery	1882-	
NO-26-1	District No. 101 School		
NO-28-1	Swenson Cemetery		
NO-28-2	District No. 32 School	1880-	
NO-29-1	District No. 32 School (moved from site NO-28-2)		



Sites recorded for Norman Township.

Norman Township

T114N-R45W



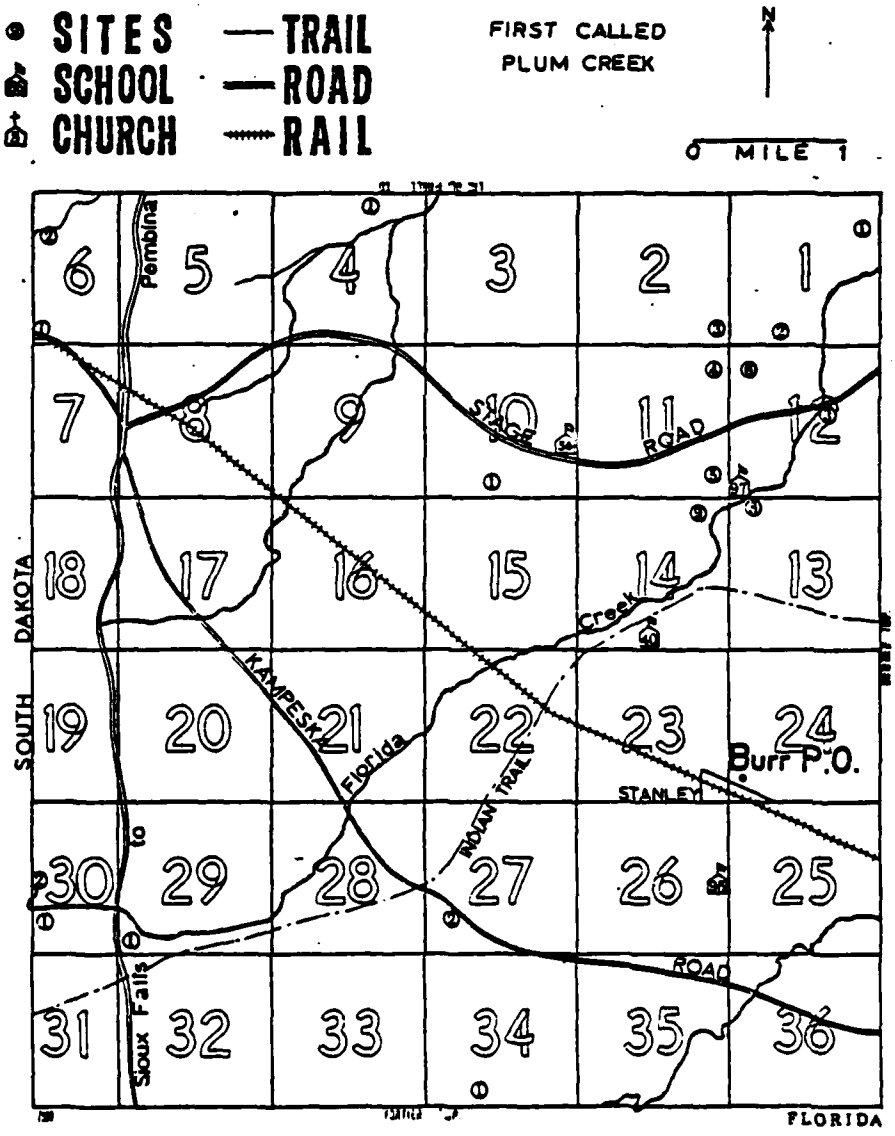
HISTORIC SITES, NORMAN TOWNSHIP, ORGANIZED 1874

See also Canby — *Roy G. Paulson*

NO	2–1	Borre Peterson	Pioneer	1873
	2–2	Martin Anderson	Pioneer	1873
	4–1	St. Paul's Lutheran Cemetery		1889
	4–2	Canby Second Dump Grounds		1907
	4–3	N. Underwood Claim Sold to John Swenson		1872
	4–4	Canby's First Dumpground		1880
	4–5	Zaccheus Lutheran Church Cemetery		1913
	7–91	School District Number 91	First Site	1901
	9–1	Ferguson Hereford Ranch	Pioneer Livestock Farm	1914
	10–1	St. Stephens Lutheran Church Cemetery		1892
	10–2	Ole N. Lien	Pioneer	1873
	11–1	Lars Gjovig	Pioneer	1872
	12–1	Christen Houg	Pioneer	1872
	12–2	Lars Erickson	Pioneer	1873
	12–3	Lars Olson	Pioneer	1873
	12–4	Knud Knudson	Pioneer	1873
	12–5	Peder Johnson	Pioneer	1873
	12–6	Berndt Peterson	Pioneer	1873
	12–27	School District Number 27	First Site	1878
	14–1	Lac Qui Parle Village Site	Railroad Plot	1872
	14–2	Andrew Knutsen (Knudson)	Pioneer	1872
	14–3	Matea Anderson	Pioneer	1872
	14–4	Jens Nicolay Pederson	Pioneer	1872
	20–1	Trinity Lutheran Church Cemetery (Wahlstrom)		1885
	20–2	Paul Jacobson	Pioneer	1873
	21–1	Thor Olson	Pioneer	1870
	22–1	Knudt Christianson	Pioneer	1871
	22–2	Magnus Anderson	Pioneer	1872
	22–3	Arnt Olufson	Pioneer	1873
	26–101	School District Number 101	First Site	1905
	27–1	Jacobson	Early Claim	1871
	28–1	Swenson Cemetery – First Cemetery in Western YMCo		1875
	28–2	John Swenson First Claim Sold to	Ole Lokken	1872
	28–3	Kittle (Charles) Swenson	Pioneer	1872
	28–4	John Bryngulson	Pioneer	1870
	28–5	Mariet Christianson	Pioneer	1873
	28–32	School District Number 32	First Site	1879
	29–1	Andreas Jacobson	Pioneer	1871
	30–1	John Paulson	Pioneer	1872
	31–1	G. C. Friberg Olson (Oleson)	Pioneer	1870
	31–2	Daniel Danielson	Pioneer	1870
	32–1	Syver A. Negaard (Nygaard)	Pioneer	1870
	32–2	Christian Anderson	Pioneer	1873
	33–1	Agil G. Gulman	First Settler	1870
	34–1	Ole Kittelson	Pioneer	1873

Florida Township

T115N-R46W



HISTORIC SITES, FLORIDA TOWNSHIP, ORGANIZED 1879

See also Stanley — *Mrs. Guy Johnson*

FL	1–1	Lockwood	Early Claim	1871
	1–2	Edwards	Early Claim	1871
	2–3	Edwards Sod Cabin	Early Claim	1871
	4–1	Andrew West	Pioneer	1873
	6–1	Stateline Railroad Settlement		1872
	6–2	George B. Enos	Pioneer	1873
	10–1	Hans Jerde	Pioneer	1879
	10–56	School District Number 56	First Site	1885
	11–4	Parmenter	Early Claim	1871
	11–5	Tom King	Early Claim	1871
	12–3	Benson Torra Claim	Stage Station	1879
	12–6	King	Early Claim	1871
	12–97	School District Number 97	First Site	1902
	13–8	McCutchin	Early Claim	1871
	14–9	Marey	Early Claim	1871
	14–40	School District Number 40	First Site	1880
	26–95	School District Number 95	First Site	1902
	27–2	Wagon Road – Kampeska to Marshall		1874
	29–1	LeBlanc	Early Claim	1871
	30–1	Wahkadisne	Early Claim	1871
	30–2	Grist Mill	Early Mill	1871
	34–1	Knut Halstenson	Pioneer	1879

NATIONAL REGISTER SITES

South Dakota SHPO's Office:

Deuel County, South Dakota
- First National Bank Building (Waltz's Meat Market), Clear Lake, South Dakota
- Deuel County Courthouse, Clear Lake, South Dakota
- Odd Fellow Hall, Gary, South Dakota

Grant County, South Dakota
- First Congregational Church, E. 3rd Ave., Milbank, South Dakota
- First National Bank of Milbank
- Hollands Grist Mill, Milbank
- Milbank Carnegie Library
- Swedish Lutheran Church of Strandburg
- Lebanon Lutheran Church near Summit

Minnesota SHPO's Office:

Yellow Medicine County
- John G. Lund House, Canby, Minnesota
- Canby Commercial District
- Upper Sioux Agency, Sioux Agency Township
- Andrew John Volstead House, Granite Falls

Lac qui Parle County
- Camp Release State Monument, Camp Release Township
- Commercial Bank Building, Dawson
- Thoreson/Lind Residence, Lac qui Parle Township
- [Lac qui Parle Mission/Fort Renville are Register sites across Minnesota River in Chippewa County]

Form No 10-300 REV. (2-77)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC: Wilson Flour Mill

AND/OR COMMON: Wilson Flour Mill

2 LOCATION

STREET & NUMBER: County Road No. 20 — __NOT FOR PUBLICATION

CITY, TOWN: Revillo — X VICINITY OF — CONGRESSIONAL DISTRICT: 1

STATE: South Dakota — CODE — COUNTY: Grant — CODE

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
__DISTRICT	__PUBLIC	__OCCUPIED	X AGRICULTURE	__MUSEUM
__BUILDING(S)	X PRIVATE	X UNOCCUPIED	__COMMERCIAL	__PARK
__STRUCTURE	__BOTH	__WORK IN PROGRESS	__EDUCATIONAL	__PRIVATE RESIDENCE
X SITE	PUBLIC ACQUISITION	ACCESSIBLE	__ENTERTAINMENT	__RELIGIOUS
__OBJECT	__IN PROCESS	X YES: RESTRICTED	__GOVERNMENT	__SCIENTIFIC
	__BEING CONSIDERED	__YES: UNRESTRICTED	__INDUSTRIAL	__TRANSPORTATION
		__NO	__MILITARY	__OTHER:

4 OWNER OF PROPERTY

NAME: Lee Mills

STREET & NUMBER:

CITY, TOWN: Montevideo, — __ VICINITY OF — STATE: Minnesota

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC.: Grant County Courthouse, Registrar of Deeds

STREET & NUMBER: South Main Street

CITY, TOWN: Milbank, XXXX — STATE: South Dakota 57252

6 REPRESENTATION IN EXISTING SURVEYS

TITLE:

DATE: __FEDERAL __STATE __COUNTY __LOCAL

DEPOSITORY FOR SURVEY RECORDS:

CITY, TOWN: — STATE:

SIGNIFICANCE

PERIOD

__PREHISTORIC
__1400-1499
__1500-1599
__1600-1699
__1700-1799
__1800-1899
__1900-

AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW

__ARCHEOLOGY-PREHISTORIC
__ARCHEOLOGY-HISTORIC
__AGRICULTURE
__ARCHITECTURE
__ART
__COMMERCE
__COMMUNICATIONS
__COMMUNITY PLANNING
__CONSERVATION
__ECONOMICS
__EDUCATION
__ENGINEERING
__EXPLORATION/SETTLEMENT
__INDUSTRY
__INVENTION
__LANDSCAPE ARCHITECTURE
__LAW
__LITERATURE
__MILITARY
__MUSIC
__PHILOSOPHY
__POLITICS/GOVERNMENT
__RELIGION
__SCIENCE
__SCULPTURE
__SOCIAL/HUMANITARIAN
__THEATER
__TRANSPORTATION
__OTHER (SPECIFY)

SPECIFIC DATES

BUILDER/ARCHITECT

STATEMENT OF SIGNIFICANCE

On the 11th day of May, 1885, Ervin L. Chubb, of Silver Creek, Minnesota, purchased a parcel of land located 1 ¼ South of Wilson, Dakota Territory. In the SE corner of the NW quarter of Section 25, and running east 30 rods, then North 80 rods, then west 30 rods, then South 80 rods to place of beggnning. Then he acquired the water rights from John and Annie Johnson's land in Section 26, as the Yellowbank Creek lies on part of this land, and The damn would shut off the water from their land in Section 26.

Work on the damn that would form the holding pond, supplying the power for the mill, was begun. After many hours of work by man, oxen, and horses with shovels and slipscrapers, the damn was completed. The length being 700 feet long and 40 feet wide.

The flour mill building was built in 1885. The foundation was 40 feet by 26 feet. It was located on the south side of the south fork of the Yellowbank Creek. As the water came off the water wheel, it would run down the Creek. The damn was erected to hold the water at a higher level, so it could be piped to the water wheel at the flour mill. Sam Ellis was employed as the miller. The damn held reserve water for the creek's low times. Water wasx ditched from sloughs and potholes for distances of 5 miles upstream. A road crossing the creek was built by the mill, as there was few places to cross the Yellowbank. The banks of the Creek are very steep. This was a well travelled trail. The flour mill had a capacity of 75 barrels per day. The homesteaders would walk for miles with a sack of wheat on their back to have it made into flour at the mill.

The Mill was abandoned in 1904, when a new modern mill was built at Revillo, South Dakota. The milling equipment was moved to South Shore, South Dakota by Lewis Shanstrom and his two sons, John and Eric.

Use additional sheets if necessary.

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
__EXCELLENT	__DETERIORATED	__UNALTERED	__ORIGINAL SITE
__GOOD	__RUINS	__ALTERED	__MOVED DATE_____
__FAIR	__UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Following the remains of an old wagon trail, you're led to the foundation of the Wilson Flour Mill. The foundation's approx. dimensions are: 40 ft. by 26 ft. Approximately 400 feet from the foundation to the southwest lies remains of a sodhouse.

Also on the property to the south of the mill site, lies the damn used to hold the water of the Yellowbank. This damn supplied the water power for the mill. (The damn is approx. 700 feet long) There also are big cottonwood trees still growing from the time the damn was erected. Many of the trees at the site, and along the Yellowbank, are over 100 years old.

Use additional sheets if necessary

9 MAJOR BIBLIOGRAPHICAL REFERENCES

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY _____

QUADRANGLE NAME _____ QUADRANGLE SCALE _____

UTM REFERENCES

	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
A				B			
C				D			
E				F			
G				H			

VERBAL BOUNDARY DESCRIPTION

Legal Description: NW Quarter - 25 - 118 - 49

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE

Ambrose Weber

ORGANIZATION: Grant County Historical Assoc.

DATE: Oct. 7, 1980

STREET & NUMBER: R.R.2 Box 31

TELEPHONE: 605-432-4268

CITY OR TOWN: Revillo

STATE: S. Dakota 57259

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL ___ STATE ___ LOCAL ___

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

TITLE DATE

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

KEEPER OF THE NATIONAL REGISTER

ATTEST: DATE

CHIEF OF REGISTRATION

GPO 931-821

APPENDIX C

Field Notes
Site Forms

FIELD NOTES
July 16, 1982 to August 10, 1982

July 16, 1982

LQP-40

We spoke with Mrs. Walter Johnson. She and her husband own the entire impact area. Their son, Jamie, does alot of the present farming and has taken a keen interest in the future action. He is, needless to say, anti-dam. We spoke with him also.

60-65% of the impact area has been planted with flax. The rest is pasture, although no livestock are currently in the area. This is the first time these fields have been broken (Jamie Johnson, personal communication). The grass is almost knee high. The flax fields are on the terraces and bottomland, while the pasture is restricted to the sideslopes. Visibility in the pasture areas is zero, although there are a number of cutbanks and eroded spaces as well as rodent burrows. All of these were surveyed by Marcucci and myself (Stanley). Visibility in the flax fields was about 35-40% but we were asked to stay out of those fields in order to avoid crop damage.

Lots of glacial till is exposed throughout the impact area. No evidence of prehistoric or historic cultural debris was observed, except for some recent material in a dump on the east end of the impact area. No shovel testing was conducted in the pasture since it is restricted to sideslopes, but the pasture was surveyed with special attention paid to the exposed areas. The flax fields should be surveyed in the fall after the harvest. Jamie Johnson thought the flax would be harvested by the end of August. Areas in flax are indicated by an "x" on the quad maps.

The landforms that comprise this drainage are gentle and sloping, suggesting a relatively young drainage. The stream is intermittant. No flowing water was observed but there is an occasional pool.

YB-18

The landowner is Paul Meyer. He was not home but we were given permission to walk the area by the daughter. She was unaware of the project and knew of no sites within the project area.

The project area was 95% pasture and 5% oats. We stayed out of the oats but did survey the pasture. The latter is heavily grazed; consequently, visibility was relatively good, 35-40% in most areas. We checked closely all the cutbanks, cowpaths, and other exposed areas: i.e., eroded spots, cattle hangouts, etc. We found no evidence of prehistoric occupations or potentially 'significant' historical structures.

Both streams that flow through the project area are intermittent, although several standing pools of stagnant water were observed. This area is heavily eroded with alot of glacial material lying about the surface. Subsurface testing was not undertaken because of the good visibility and erosional nature of the drainage. The oat field should be surveyed later this fall (area indicated by an "O" on the quad).

July 17, 1982

YB-25

There are three landowners involved at this lake: Paul Peterson, Warren Burg, and Carl Granquist. All three are anti-dam. After lengthy discussions with each landowner we were finally allowed permission go on their property.

A homestead (39GT14) was located on the Granquist farm. The site location is SW¼ NE¼ NE¼, section 8, T118N, R49W, Georgia Township. According to Mr. Granquist this represents remains of the Holsten homestead. Mrs. Julius Johnson of Strandburg, was born at this location in 1900. Although we did not speak with Mrs. Johnson, we did have an interesting conversation with her daughter, Mrs. Lily Bergman, of Strandburg. The original homestead burned on Mrs. Johnson's sixth birthday (January 6, 1906). The family fled the flames to a neighbor's place several miles away. This was quite a walk in the dead of winter while dressed in bed clothes. The home was rebuilt and eventually moved to the Peterson farm and is now the Peterson home. The original homesteaders were from Sweden.

The homestead has six structures and a well. It appears to be quite old. Only the foundations remain of some of the buildings. The foundations are constructed of glacial till without mortar. No wood materials were observed. The cellar below what was the house is now full of debris, including foundation stones, glass and china fragments, and dead cows (i.e., hides and skeletal remains).

Mr. Granquist mentioned that during the Great Depression years a government cattle kill took place at this site and the remains were disposed of in the deeper depressions. The government bought up the starving cattle in the area and shot them. Mr. Granquist did not know how many cattle were involved. He has owned the land since 1948.

We surveyed the entire project area, again paying special attention to exposed portions. 99% of the project area is in pasture and 1% is in corn (indicated by a C on the quad map). Visibility in the corn field (located on Peterson's farm) was about 60%, but in the pasture it was poor, 0-10%. There are four terraces and slopes within the project that should be tested.

The stream is intermittant with an occasional pool. There is an old bridge foundation (built of glacial cobbles) and the remains of an old section road along the Granquist/Burg fence line. Granquist has some cattle grazing within the project area. There is a stock pond too. Peterson has horses and cattle grazing on his land while no livestock are present on Burg's land. All three landowners use the project area for calving.

No prehistoric artifacts were found throughout the project area. The Holsten homestead provided the only historic structures other than the old bridge and section road. Elwin Rogers, from Moorhead State University, has written a history of Grant County, but it is in manuscript form. It has been reviewed by Lily Bergman.

YB-6

The landowner is Marlin Berkner. He did not grant us access to the project area. The project area is in pasture and trees.

July 18, 1982

LQP-8

The known landowners are as follows: Duane Nordseth, Luverne Thiegles, Joe Kontz, Marlin Kontz, Estle Saum, Rehn, and at least one more who we failed to locate. We spent a good share of the morning trying to contact the various landowners. All of them are anti-dam.

Estle Saum's place will be inundated. The house and barn are constructed of concrete blocks in imitation stone. According to Mr. Saum the buildings were constructed at about 1900. Similar construction styles were observed in the city of Canby, Minnesota, located just north of the project area. Three additional structures were observed that will be inundated. They consist of a barn, machine shed, granary, and a silo. All of them are located on an unimproved road at the southern edge of the project area.

We surveyed a portion of the project area. This included section 29 as well as the southwest tributary that extends in sections 31 and 32. Several terraces and toe slopes offering good site potential were shovel tested. Visibility was zero throughout the entire project area, except for cutbanks, cowpaths, slumps, and other eroded or exposed features. These features comprised about 5% of the project area. No evidence of prehistoric or historic sites was found.

A buried soil surface was observed in an east facing cutbank that is located in the NE¼ NW¼ NW¼ of section 32, R45W, T114N, in Norman Township. No cultural material was exposed in the cutbank. The buried soil is approximately one meter below the surface of an upland slope and three meters above

the present channel. Gravel from an outwash channel is at about the same elevation and it appears that the buried surface pinches out where the gravel begins.

July 19, 1982

We surveyed the remaining portion of project LQP-8 but failed to locate any sites. There is running water in both the Lac qui Parle and southwest tributary. Woodland vegetation is dense throughout the project area except for the extreme southwestern section of the proposed lake. This area has some hay and oat fields that have yet to be harvested.

LQP-3

The landowners are Steve Maas, Lester Fairchild, and a Mr. Grabow. They are all anti-dam but were very cooperative. We surveyed the eastern region of the project area first. This included the eastern half of section 29 and the north cenral part of section 32 in Florida Township (Minnesota). The Grabows own this part of the proposed lake. Their home will be inundated. Visibility is relatively good, 35-40%, although the project area is all pasture except for the five to eight acres associated with the house and farm buildings. The farmstead area is greatly disturbed from farming activities, i.e., feedlots, construction, etc. A farm pond, not shown on the quad map, is located on the southern tributary of Florida Creek. This area, SW¼ SW¼ of section 29, has been greatly disturbed by the construction of the pond and use of the area by cattle. We examined all of the cutbanks, cowpaths, and eroded or slumped areas. We did not find any sites. The pasture is thin with 30-35% visibility. Glacial till is plentiful on the upland surfaces. The latter appears greatly eroded.

Two terraces near the proposed dam site should be shovel tested. Mrs. Grabow said that the former owners found arrowheads in her garden, but neither she nor the survey crew found any. Visibility in the garden was 90%.

July 20, 1982

We surveyed the region which lies west of the Grabows and extends to the Maas' buildings. All of the cutbanks, cowpaths, and eroded or slumped areas were examined. Except for these areas visibility was zero. This region has good site potential. There are at least ten terraces that should undergo subsurface testing procedures. What appears to be a bench mark was observed near a fence line along the Minnesota/South Dakota border. It is approximately 50 meters south of Florida Creek.

The extreme western end of the project area was also surveyed. This area has good site potential and should undergo subsurface testing. The historic burials were not

located but the historic homestead site (39DE16) recorded by Barb Lass was observed. The entire project area was apparently heavily utilized by both Euro-American settlers and American Indians during the historic period (Steve Maas, personal communication). Several dugouts were observed just east of the Maas' buildings. No prehistoric sites were encountered.

July 21, 1982

YB-15

Landowners are: Harold Seefeldt, Jerome Tillma, Orman Street, and Lee Mills. Tillma and Mills would not allow us on their property. Seefeldt's land is on the southern edge of the proposed lake. We surveyed this area and found five dugouts (39GT9). We were not able to locate the silver mine noted by Karen Zimmerman.

Four areas were selected for subsurface testing. All four are terraces that will be inundated. Surface visibility was zero. This area of the proposed lake is all pasture except for one small oat field. Grids were established on the terraces that were selected for subsurface testing with the aid of a K-E compass and postholes were dug every 10 meters to a depth of 40 cm. All soils were sifted through quarter-inch hardware cloth. The soil is black (10YR 2/1). Some pebbles were present. The presence of glacial cobbles indicate these terraces have been eroded since they (the cobbles) are clearly visible on the surface. The lower terraces had a considerable amount of gravel and large cobbles below the surface. Other than the dugouts there was no evidence of human occupations.

Orman Street's land has an abandoned house and outbuildings (39GT17) that will be inundated. Mr. Street took us to the old grist mill (39GT16), which is on Lee Mills' property, but is just on the other side of the fence line separating Mills' property from Street. The mill consists of two foundations constructed of glacial cobbles without mortar, and a large earthen dam. There is an old homestead (39GT18) located about 300 meters southwest of the grist mill. It is a clapboard structure held together with round (wire) nails and does not appear to be associated with the grist mill nor does it appear to be as old.

July 22, 1982

Channel Survey (see quad maps for locations)

1A - La Bolt Quad

The floodplain vegetation was exceptionally thick. There is a large amount of historic garbage (probably post-World War II). There is no flowing water in the channel itself but there is an occasional pool of water. Examination of the cutbanks indicate a stoneline about 80 cm below the surface.

Shovel probes were dug to a depth of 40 cm. (All shovel tests were dug 40 cm deep and spaced approximately 10 to 15 meters apart unless otherwise indicated). The soil was a dark gray silty loam. Fifteen probes were dug. No cultural material other than the garbage noted above was observed. Surface visibility was zero.

2A - La Bolt Quad

The channel was narrow and dry with floodplain vegetation growing in it. About 15 meters of tall prairie grass separated the channel from the cornfields on either side. Visibility in the cornfields was about 60%. We surveyed these fields for about 60 meters from the channel and also examined all cutbanks. No cultural material was observed.

3A - Revillo Quad

This area already appears to have been channelized. A bean field lies about 20 meters south of the channel and a wheat field is approximately 20 to 25 meters north of it. There is tall priarie grass and some trees near the channel. We walked the bean field, visibility 40-50%, but stayed clear of the wheat, visibility 20-30%. Ten shovel tests were dug on each side of the channel. The soil is a dark gray silty loam. Abandoned farm buildings are just north of the channel but appear to be outside the impact area. No cultural remains were observed.

4A - Revillo Quad

Both sides of the channel are in wheat. The channel itself is prairie grass with very little water. We examined the cutbanks and rodent burrows and put in ten shovel tests on each side of the channel. The soil is a sandy silt loam, dark brown in color. No cultural remains were observed.

5A - Revillo Quad

There is a bean field to the north of the channel and a wheat field to the south. Both fields are 10 to 15 meters from the channel. Next to the channel is a strip of tall prairie grass. There are very few trees. We surveyed the bean field, 50% visibility, but stayed out of the wheat field. Five shovel tests were dug on each side of the channel. The soil is a dark brown sandy loam. No cultural remains were observed.

6A - Revillo Quad

On the north side of the channel is a pasture, zero visibility, and to the south is a corn field, 60% visibility, about 15 meters from the channel. There were no cattle in the pasture at the time of the survey. Ten shovel tests were dug in the pasture. The soil is a dark gray silt with some gravel in it. There was no running water in the channel although there was a pool just below the bridge. No cultural remains were observed.

7A - Revillo Quad

Dense floodplain vegetation is on both sides of the channel. There is evidence of high water on most of the trees. There is a hay field to the north and a woodlot extending to the south of the channel. A large dike along the north side indicates this area has been channelized. No subsurface testing was done along the dike because of the disturbed soils. No cultural remains were observed.

8A - Marietta Quad

There is a bean field on the south side of the channel, 40% visibility, and a corn field on the north side, 50% visibility. There is prairie grass for about five meters on both sides of the channel as well as several small trees. A small terrace is located about 30 meters north of the channel. We surveyed both the bean and corn fields, including the terrace, but did not observe any cultural remains.

July 23, 1982

9A - Marietta Quad

There is a corn field to the south of the channel and a wheat field to the north. We stayed clear of the wheat field but we did survey the corn, 60% visibility. There is tall prairie grass in the channel which has little water in it. No cultural remains were observed.

10A and 11A - Marietta Quad

These two areas are located at the confluence of two intermittant streams. To the south is a recently plowed and weathered oat field, 90% visibility. On the north is a recently cultivated bean field that has also been weathered, 100% visibility between rows. Between the two channels about the confluence and immediately adjacent to them is typical floodplain vegetation. Ten shovel tests were dug in this area. The soil is a dark gray sandy loam. No cultural remains were observed.

12A - Marietta Quad

To the west of the channel is a recently plowed field that has been weathered, 90% visibility. To the east of the channel is about 20 meters of prairie grass and then a bean field, 60% visibility. No cultural remains were observed.

13A - Marietta Quad

Hay fields with zero visibility are north and south of the channel. The channel is dry with prairie grass and poplar trees growing in it. Five shovel tests were dug on each side of the channel. The soil is a dark brown sandy loam. No cultural remains were observed.

14A - Revillo Quad

Wheat fields are on both sides of the channel, which is dry and has prairie grass growing in it. We did not dig any shovel tests since we did not want to damage any crops and did not think it necessary to test the middle of the stream

channel.

15A - Revillo Quad

The channel runs through a corn field, 60% visibility. The channel is dry with prairie grass growing in it. We surveyed the corn field but no cultural remains were observed.

July 24, 1982

We talked with Ambrose Weber for awhile and he showed us his collection of historic artifacts that he has recovered from the former community of Wilson and numerous dugouts in the area. He also mentioned a prehistoric site directly west of his place about one mile. Since this site was outside the project area we did not check it out.

16A - Revillo Quad

South Fork of the Yellow Bank River. On both sides of the channel are hay fields. Floodplain vegetation extends about 50 meters on either side of the channel. The latter has only a small amount of water flowing through it. We dug five shovel tests on each side of the channel but did not find any evidence of human occupation. The soil is a dark brown sandy silt.

17A - Revillo Quad

There is a bean field on the south side of the channel, 50% visibility, and a hay field to the north, 10% visibility. Dense floodplain vegetation is along both sides of the channel. We put 12 shovel tests where the visibility was poor. The soil is a dark brown sandy silt. These deposits are very recent as there is little soil development. No cultural remains were observed.

July 25, 1982

Sunday seemed like a good day to take a closer look at the grist mill (39GT16) on Lee Mills' property. There are two structures adjacent to the South Fork of the Yellow Bank River. Upstream from these structures is a large earthen dam. Ambrose Weber thought the spillway for the dam had been constructed with logs and has long since been destroyed. The old abandoned structure (39GT18) on Street's property near the mill is indicated on the quad map by an "X". The legal location is SE¼ NE¼ NE¼ of section 26, R49W, T118N, Georgia Township. We talked with Jerome Tillma again about allowing us to examine his property within the project area. He refused access again. While examining the grist mill we also examined the cutbanks, cowpaths, and other exposed areas for evidence of prehistoric sites. No cultural remains were observed.

July 31, 1982

We saw Ambrose Weber's slide show that he has prepared on the history of Georgia Township. He is very knowledgeable concerning the local history, especially the former community of Wilson. As far as prehistoric sites are concerned, he has heard of some in upland areas, primarily near sloughs, lakes, marshes, etc. He did say he was familiar with stories of historic American Indians utilizing the areas next to the Yellow Bank River. They apparently wanted to take advantage of the willow trees that grew nearby for shade, bows, arrows, lodge poles, etc.

18A - Revillo Quad

There are bean fields on either side of the channel, 50% visibility. Dense floodplain vegetation is adjacent to the channel which contains very slow moving water. No shovel tests were dug. Small pebbles/gravel were observed on the surface in the bean fields. They were rounded and have been subjected to stream rolling. The soil is a very friable sandy silt which appears to be very recent in origin.

19A - Revillo Quad

A corn field lies to the north of the channel, 50% visibility, and a hay field to the south, zero visibility. There is floodplain vegetation for about 50 meters on either side of the channel which is relatively wide. Ten shovel tests were dug on each side of the channel. The soil is a dark brown sandy loam with some gravel in it. No cultural remains were observed.

20A - Marietta Quad

On the north side of the channel is a corn field, 40% visibility. The south is prairie, zero visibility. Fifteen shovel tests were dug in the latter. The soil is a dark brown sandy loam with numerous stream rolled pebbles in it. The channel is relatively wide with floodplain vegetation surrounding it. No cultural remains were observed.

21A - Marietta Quad

A wheat field lies to the north, zero visibility, and a corn field is south, 30 to 40% visibility. The channel is relatively wide with a large amount of water flowing in it. Dense floodplain vegetation occurs along the channel. No shovel tests were dug. No cultural remains were observed in the corn field or in the cutbanks along the channel.

22A - Marietta Quad

On the northeast side of the channel is a hay field, to the south is a bean field, 60% visibility, that had recently been cultivated but had not been rained upon. There is a corn field, 30% visibility, on the northwest side of the channel. The channel itself is narrow and surrounded by floodplain vegetation. The soil is sandy with quite a few pebbles/gravel in it. No cultural remains were observed.

23A - Marietta Quad

To the west of the channel is a hay field, while to the east is a corn field, 30% visibility. Very dense floodplain vegetation, zero visibility, occurs along the channel. No cultural remains were observed in the hay field or cutbanks along the channel. The soil on the surface is sandy with gravel/pebbles in it.

24A - Marietta Quad

There is a corn field on the northeast side of the channel, a hay field to the southeast, and corn fields to the southwest and northwest. Visibility in the corn fields was about 30 to 40%. Along the channel is a heavily grazed pasture, 20 to 30% visibility. The entire area was examined but no cultural remains were observed.

25A - Marietta Quad

On the east side of the channel is a corn field, 20 to 30% visibility, to the southwest is wheat, and to the northwest is another corn field, 20 to 30% visibility. There are a number of farm buildings to the east. The channel is narrow with very little water in it. Prairie grasses and occasional trees occur in the channel. No cultural remains were observed.

26A - Marietta Quad

The channel is narrow with no water in it. There are a number of trees along the bank and prairie grasses growing within the channel. On the west side of the channel is a wheat field, zero visibility, while to the east is a bean field, 20 to 30% visibility, and a hay field, zero visibility. No cultural remains were observed.

27A - Marietta Quad

The channel is relatively wide with some standing but no flowing water. To the east is a bean field, 20 to 30% visibility and to the west is a gravel road and another bean field, 20 to 30% visibility. Prairie grasses are along the channel as well as a few trees. No cultural remains were observed.

28A - Marietta Quad

Heavily grazed pasture is on both sides of the channel, 10 to 20% visibility. There were a number of cattle in the area. Railroad tracks are along and across the channel. This area is greatly disturbed by both farming and railroad activities. No cultural remains were observed.

29A - Marietta Quad

There is a bean field to the east of the channel, 20 to 30% visibility, and a corn field to the west, 20 to 30% visibility. The channel contains floodplain vegetation. No cultural remains were observed.

August 2, 1982

LQP-3

Test pit one: Steve Maas' property. The pit was placed approximately 150 meters east of the Maas barn on a long narrow terrace that rises about three meters above the flood-plain.

0-10 cm: dark, sandy silt. Five small flakes recovered 1 to 2 cm below the surface. One flake appears to be of Knife River Flint. Soil looks homogenous, a dark sandy silt with small, 1 to 6 cm diameter, water-worn pebbles intermixed. Some rodent activity in the northeast corner of the test pit.

All depth measurements are from the northeast corner of the test pit. One small fleck of charcoal was observed in the northwest corner of the test pit approximately 7 cm below the surface.

10 to 20 cm: no flakes or visible signs of cultural remains. The soil is the same as above except for an increase in the frequency of water-worn pebbles and more sand. See Dennis Beissel's report for a more detailed description of this test pit.

This test pit was initially setup in an arbitrary manner. When the cultural remains were found a grid was setup to correspond with the test pit in order to systematically posthole the rest of the terrace. A grid was set up 45° east of north. Two bisecting transects were laid out. One extended 25 meters southeast/northwest and the other was 30 meters northeast/southwest. Postholes were dug at 10 meter intervals north/ south and at 2 meter intervals east/west. Soils were sifted through quarter-inch hardware cloth. No cultural remains were recovered from any of the post holes. The post holes varied in depth from 20 to 40 cm because of the difficult digging caused by dense gravel deposits. This terrace appears to be a remnant of a larger terrace that had been dissected by an old meander of the creek. The other section of the terrace is located just to the northwest of site 1B (39DE54). Further subsurface testing failed to locate more evidence of human occupations. Site 1B: NE¼ SW¼ of section 27, R47W, T115N, in Herrick Township, Deuel County, South Dakota.

August 3, 1982

LQP-3

A post hole grid was established with the K-E compass on the lower terrace remnant located approximately 40 meters north of site 1B (39DE54). Two 40 meter long, bisecing transects were in a north/south and east/west direction. A total of 10 post holes were dug every 10 meters to a depth of 40 cm. No cultural remains were observed or recovered.

Testing activities were then moved across the creek to another terrace located approximately 50 meters east of the above testing. This terrace is in tall prairie grass and has several large oak trees on it. There is a cutbank on its west edge where the creek has cut into the terrace. Before any subsurface testing was initiated a large, bifacially flaked, basalt chopping tool was found approximately one meter below the present ground surface on the above west-facing cutbank. This artifact was not in situ.

Several possible dugout features were also observed on the east side of this terrace. A 1 X 1 meter test pit was dug near the cutbank where the chopping tool was recovered. The soil is a dark gray (10YR 3/1), sandy silt with fine sand intermixed. The first 10 cm produced one broken bone and two possible flakes. This site is referred to as 2B (SW¼ NE¼ of section 27, R47W, T115N, in Herrick Towndhip, Deuel County, South Dakota). The test pit was excavated to a depth of 60 cm below the surface in 10 cm arbitrary levels. All soils were sifted through quarter-inch hardware cloth. A soil profile was not drawn because there was no discernible stratigraphy. Both sites, 1B (39DE54) and 2B (39DE55), appear to be historic because of their shallow depth. No cultural remains were observed or recovered below 10 cm.

August 4, 1982

LQP-3

We set a datum at site 2B (39DE55) and established a single 60 meter post hole transect 45° east of north in a northeast/southwest direction. A total of 6 post holes, one dug every 5 meters, were placed along the northeast half of the transect and four, one every 10 meters, were dug along the southwest transect. We wanted to see if the closer spacing would produce cultural material when the longer intervals did not. The soil in the post holes was very similar to that which was found in the test pit. The soils were very dark gray (10YR 3/1), sandy silt loam with small water-worn pebbles 1 to 2 cm in diameters.

The datum for this site is located 4 meters east of the creek bank. The two dugouts are located east of the creek bank about 20 meters and face to the south.

Dugout No. 1	Dugout No. 2
NW corner 7.9 m at 125°	NE corner 10 m at 190°
SW corner 17.2 m at 140°	SE corner 17.2 m at 185°
10 m long and 8 m wide	8 m long and 5 m wide

A third dugout, DO-3, was observed about 40 meters east of the other two but was not mapped in. It measures approximately 5 X 10 meters and one meter in depth.

I (David Stanley) suspect that the artifacts found in the test pit and the cutbank are associated with the dugouts.

Steve Maas said that the original Euro-American inhabitants were two eccentric brothers that lived in dugouts along Florida Creek. Whether this is the location of their dugouts or not is difficult to determine without further testing and historical literature research. However, the lithic artifacts seem to imply that site 2B (39DE55) was occupied by American Indians. This site is undisturbed and may yield data that could be supplemented with historical documentation.

We dug shovel tests in 12 separate areas within the project impact, 10 terraces and two upland slopes (see quad map). Ten 40 cm deep shovel tests, from which all soils were sifted through quarter-inch hardware cloth, were placed arbitrarily in each area at about 10 to 15 meter intervals. The soil was identical in each area except for two upland toe slopes. The latter was a dark brown sandy loam while the former was a dark gray silty/sandy loam. The upland toe slopes had a considerable amount of till, while the terraces had water-worn pebbles/gravel in it.

August 5, 1982

LQP-3

Will Stone gave us the general location of the historic American Indian burials. These people apparently died of T B prior to the turn of the century (see Karen Zimmerman's notes) and were buried by Euro-American missionaries. Since that time these graves have been periodically looted. Will Stone was a nine-year-old child when he participated in one of these looting episodes in 1962. This particular episode was organized by, and under the supervision of, his school teacher. Although Mr. Stone had some trouble recalling the exact location of the burials he did think they were located on the west side of the highway (see quad map) about one-quarter of a mile from the bridge on the south side of the creek. He also said that there is a number of depressions and a circle of stones in the area of the burials.

Dennis Beissel, the geomorphologist, believes that there is an average of one meter of Holocene deposits on the terraces we have been testing. Our shovel tests and post holes are no deeper than 40 cm. A good portion of the deposition may be historic, a result of the dust bowl days and general soil development. This would suggest that most prehistoric sites would be quite deep. Will Stone noted that very little water flowed between the banks of Florida Creek prior to the draining of the many upland prairie lakes and marshes.

We located what may be the historic American Indian burials, although we did not find any evidence of them other than a circular pile of stones. This location is approximately where Will Stone thought the burials were.

We did find evidence of a deeply buried site in a west

facing cutbank. This evidence included burned bone, broken bone, and general ture areas is zero, although there are a number of cutbanks and eroded spaces as well as rodent burrows. All of these were surveyed by Marcucci and myself (Stanley). Visibility in the flax fields was about 35-40% but we were asked to stay out of those fields in order to avoid crop damage.

Losts of glacial till is exposed throughout the impact area. No evidence of prehistoric or historic cultural derile measurements.

Level 1:	0 - 38 cm	Silty clay loam, some pebbles, lots of roots, 10YR 2/1
Level 2:	38 - 52 cm	Silty clay loam, blocky texture, very dark gray, 10YR 2/1
Level 3:	52 - 60 cm	Same as above but lighter in color, dark gray, 10YR 4/1
Level 4:	60 - 70 cm	Silty loam, very hard, very dark gray, 10YR 2/1
Level 5:	70 -120 cm	Silty loam, friable, scattered pebbles, very dark gray, 10YR 2/1
Level 6:	120 -135 cm	Sand lens or layer, pebbles, clay loam matrix, brown, 10YR 5/3
Level 7:	135 -153 cm	Silty clay loam, scattered pebbles, very dark brown, 10YR 2/2
Level 8:	153 -161 cm	Banded lens of silt in a clay loam matrix, various colors, the most obvious is a dark yellowish brown, 10YR 3/4
Level 9:	161 -189 cm	Clay loam, very dark gray, 10YR 2/1
Level 10:	189 -195 cm	Sand, poorly sorted, scattered pebbles, brown, 10YR 5/3
Level 11:	195 -250 cm	Clay loam, some pebbles, could be a soil developing in till, very dark gray, 10YR 2/1
Level 12:	250 - cm	Clay loam, silty, olive green or gray till

Hearth material is lying in level 11. There is a bone above the hearth in level 10. A flat thin bone is visible in level 8.

This appears to be a multi-component site with at least one component at or near the surface while the lowest component is 2.5 meters below the surface. The former is evident from the lithic debris and bone fragments found in the cattle paths and slumped in areas near the northern edge of the above cutbank. All of which looks like it may be associated with level 1. Bone fragments were observed in two other levels, one each in levels 8 and 10. These bones are in situ. The fourth component which was detected is situtated in level 11. The cross-section of a hearth is at a depth of 2.22 meters below the surface. It is 1.59 meters long and contains hearth debris that is 4 to 8 cm thick. It may represent more

than one fire. The deposits that form the site matrix are colluvial (Dennis Beissel, personal communication).

There is a circular pile of rocks approximately 25 meters southeast of the cutbank. This is not a natural phenomenon and may indicate the location of the historic burials. They also may be the result of someone clearing a field. The site has always been pasture. It has never been cultivated.

The lithic debris is not homogenous and may represent numerous occupations. So far it has only been observed in the uppermost component, level 1. The fact that Florida Creek is an erosional stream (Beissel, personal communication) suggests that many of the early archaeological sites that may have been located on the floodplain, and even on the terraces associated with Florida Creek, are probably destroyed. Therefore, leaving areas of colluvial deposition as prime locations for preserved sites. More geomorphological research needs to be conducted in order to confirm this.

August 7, 1982

YB-15

Harold Seefeldt pointed out the location of the silver mine (39GT8) for us. The mine is located on the quad map in the SW¼ NE¼ NE¼ of section 35, T118N, R49W. It is indicated on the field map by an "X" downstream from Karen Zimmerman's red "X". We placed a datum about 10 meters above and to the east of the mine entrance. The latter is covered by an approximate 12 X 12 meter area that has slumped down. The mine's entrance faces west. This site is referred to as 4B (39GT8).

Mr. Seefeldt noted that the mine shaft had been reinforced by timbers but he did not know how large the mine is, or was. There is a large pile of glacial till downstream from the slump, which has a young double-trunk tree growing on it.

There are four dugouts directly west of the silver mine entrance. Although they are more than likely associated with the mine, thay have been assigned a separate site number, 5B (39GT9). A datum was established exactly 10 meters east of the corner post of a north/south fence line. A K-E compass mounted on a tripod was used for all mapping. Measurements were made with a 100 meter Lietz-Eslon tape. A recently mowed oat field lies just north of site 5B (39GT9). It was surveyed, 30% visibility, but we did not observe any cultural remains. There is a large depression, DO-5 (dugout-5) that is being used as a dump in the middle of the oat field. Mr. Seefeldt said he did not dig this hole and it has been here ever since he first owned the property. This depression/dump is included in site 5B (39GT9).

Dugout No. 1:
SW corner 44.3 m, 345°
NW corner 48.0 m, 345°
NE corner 44.3 m, 356°
NW to NE side is 9 meters long.
SW to SE side is 9.5 meters long.
Width is 5.6 meters north/south.

This dugout is rectangular in shape and is approximately 1.2 meters deep. Large pieces of till are scattered about the floor of the dugout which opens to the east. The entrance is 2.3 meters wide. A line of cobbles runs along the surface of the western perimeter. The open end has a large number of stones strewn about. There is one exceptionally large specimen (50 cm in diameter) exactly at the northeast corner of the dugout.

Dugout No. 2:
N corner 22.3 m, 5°
SW corner 18.8 m, 5°
SE corner 23.1 m, 13°
NE corner 19.8 m, 13°
Length is 4.2 meters.
Width is 3.3 meters, entrance is 1.5 meters.
Depth is 65 cm.

Dugout No. 2 is relatively shallow with smaller glacial cobbles (15 to 30 cm in diameter) than what is in dugout No. 1., strewn about the floor. The entrance opens to the east. The northeast corner has several large, 50 cm diameter, cobbles concentrated on the floor.

Dugout No. 3:
NW corner 9.5 m, 22°
NE corner 11.4 m, 30°
SE corner 9.8 m, 57°
SW corner 6.8 m, 47°
Length is 4.6 meters.
Width is 3.3 meters, entrance is 1.0 meters.
Depth is 60 cm.

This dugout is small and circular with a narrow entrance. There are some cobbles concentrated near the south corner of the entrance. Most of them are small, 20 to 25 cm in diameter, although there is one exceptionally large piece, over 60 cm in diameter.

Dugout No. 4:
NW corner 54.4 m, 155°
NE corner 53.8 m, 152°
SE corner 61.2 m, 153°
SW corner 62.0 m, 154°
Length is 15.2 meters.
Width 6 is meters, the entrance is 3.2 meters.
Depth is 80 cm.

This is the largest dugout and it is almost directly west of the mine entrance. It is rectangular in shape and no cobbles were lying on the floor or along the edges. The backdirt has been piled along the edges of the dugout to increase its depth therefore giving it a mound-like appearance from a distance.

Dugouts 1 to 3 are located on an upper terrace and dugout No. 4 is to the west, of a lower terrace. Large glacial cobbles on the surfaces of both terraces suggest that they have been eroded.

Dugout No. 5:
NW corner 69.6 m, 328=
NE corner 73.8 m, 338=
SE corner 69.6 m, 338=
SW corner 74.8 m, 330=

This depression is roughly oval in shape and has been used as a dump for a number of years. It was not possible to determine the depth. There are a few young trees growing amongst the junk. This dugout is located on the same terrace as dugouts 1 to 3 but to the west and north of them. The former is in an oat field.

A chert flake had been previously recovered from a cattle path on a terrace located south of the dugouts. Although this terrace had been previously tested on July 21, additional shovel tests were now dug, but no cultural material was recovered. The flake may in fact by natural.

We conducted subsurface testing north of the Seefeldt property on land owned by the Street family. The shovel tests were put in both alluvial and colluvial areas of deposition as well as landforms that have been eroded. No cultural remains were observed in any of these areas except historical features.

One promising feature is a nose slope on the western border of the proposed lake. This feature is just south of the abandoned buildings (39GT17) located on the Street property. We were unable to find any evidence of prehistoric occupation.

There are two possible dugouts on a terrace that is southeast of the above buildings. They are near the driveway and one has been partially filled. The fence line separates the filled portion from the unfilled. The fill is probably a result of the driveway being constructed. We put in 15 shovel tests near these dugouts and only found one old cultivator part.

Two gravel quarries are located on the eroded areas east of the channel and buildings. We put in five shovel

tests in the eroded areas but they did not yield any cultural remains.

We surveyed the remaining areas of project YB-15 down to the grist mill, but excluded the Tillma property (permission not granted) and fields with crops in them. We mapped in the structures at the grist mill. We dug 30 shovel tests in four separate areas but did not find any cultural remains (see quad map).

YB-25
Carl Granquist property (39GT14)
Structure No. 1:

This is a small, square structure. Three walls are suggested by lines of glacial cobbles (foundation). The fourth side faces to the east and appears to be the entrance. There are some small glacial cobbles near the entrance. The depth is approximately 30 to 35 cm.

Structure No. 2:
This is a large rectangular structure. One-half is a cellar (western half). The foundation consists of large glacial cobbles, 50 to 80 cm in diameter. The western half of the foundation is about 30 cm above ground level. The cellar appears to be about 2 meters deep, and is full of cattle bones and hides. The is the largest structure and is probably the house. Glass fragments were scattered about.

Well:

The well is square and was filled in by Granquist after his tractor got stuck in it.

Structure No. 3:

This is an L-shaped structure and is indicated by a scatter of glacial cobbles that vary in size from about 20 to 30 cm in diameter to 50 to 60 cm. There is no depression.

Structure No. 4:

This appears to be a small dugout. There are no foundation stones, only a depression that is about 25 to 30 cm deep. Ceramic and glass fragments were observed on the floor.

Structure No. 5:

There is a small square depression that is about 60 cm deep. Approximately 30 glacial cobbles, over 60 cm in diameter, are scattered about on the floor, as well as some skeletal material from a few cows.

Structure No. 6:

This structure is a long narrow rectangular depression about 60 cm deep. On the east side is a glacial cobble foundation. Large glacial cobbles, greater than 60 cm in diameter, are scattered about the floor. There are more cobbles 2 to 3 meters northeast of the structure and may be

associated with structure No. 6.

The datum is located in the middle of the homestead and should be readily visible. We tested the areas indicated on the quad map by putting in 40 cm deep shovel tests. We lined up three abreast about 10 to 20 meters apart, depending on vegetation and topography, and put in shovel tests every 10 to 15 meters. No cultural remains were observed or recovered.

August 8, 1982

I spoke with David Fischer, the collector from Milbank, South Dakota. The vast majority of his collection is from the Missouri trench and the Big Stone Lake area. He does not know of any sites in the proposed lake areas or channelization areas, nor does he know of anyone who might be collecting in the general region of the proposed projects. We finished testing project area YB-25. No cultural remains were observed.

August 9, 1982

We returned to site 3B (39DE56) for a closer look. While Marcucci and Kunkle setup a grid at the site, I (Stanley) went with the present landowner, Lester Fairchild, to look at two possible locations for the Will Stone burials. Both locations, L1 and L2 on the quad map, have depressions. L1 is just above site 3B (39DE56) on the top of the valley slope. L2 is also on the uplands, directly above the historic site (39DE16) recorded by Barb Lass. L2 has two one meter deep holes that appear to be potholes. Lester said that there is a third hole but we were not able to locate it. He also said that the former landowner had dug the potholes in 1919 while looking for American Indian burials. Apparently he found skeletal material in both potholes. 50 meters southwest of L2 is a pile of glacial cobbles. Lester's son dug a hole near this pile but did not find anything.

L1: NE¼ NE¼ SE¼, R47W, T115N, section 28, Herrick Township
L2: SE¼ SW¼ NE¼, R47W, T115N, section 28, Herrick Township

At site 3B (39DE56) we setup bisecting east/west and north/south transects. Postholes were dug at 5 meter intervals to a depth of 60 cm. Three 1 X 1 meter test pits were dug in arbitrary 10 cm levels to various depths, two to a depth of 50 cm and one to a depth of 70 cm. See the profiles and field map for locations, depths, etc.

Posthole 15E (east) contained several bone fragments just below a fairly large rock that appeared to have been thermally altered and is flat. The bone does not look to be human. Posthole 20E produced another flat rock at the same depth as that which was found in 15E (40 cm).

August 10, 1982

We completed a 5 meter long profile and description of the cutbank that had the hearth and cultural remains at site 3B (39DE56).

Field Notes
September 17 to 20, 1982
Kenneth Brown and Marie Brown

September 16, 1982

We arrived at Watertown at 6:30 PM. We will go into the field tomorrow morning.

September 17, 1982

We drove to project area YB-6, which access was denied to the first field crew. We talked to the landowner, Marlin Berkner. He permitted access to the project area. We began field investigations at 9:30 AM. The southern portion of the project area, land between the road and railroad tracks, was freshly mowed hay. Ground visibility was 30 to 50 percent in these hay fields. The land north of the road was in pasture and timber which had zero ground visibility. However, there were numerous rodent backdirt piles, cattle paths, and eroded stream banks. Due to these numerous exposed areas no shovel tests were dug. All of the exposed areas were carefully examined for cultural remains.

We observed a dugout in the west bank of the stream. The dugout (39GT7) faces east and measures 3 X 5 meters. Its location is the SW¼ NW¼ SE¼ SE¼ of section 24, T119N, R50W. A records search done by Karen Zimmerman did not yield any information concerning this dugout. There wee steep bluff slopes on both sides of the creek, which has a very narrow floddplain. We finished traversing the project area at 4:30 PM.

September 18, 1982

We arrived at project area LQP-15 at 9:15 AM. We first examined an oat field (5 acres) in the southern portion of the project area (Nw½ NE¼ of section 35). Ground visibility was 90 to 100 percent. Except for a dugout in the eastern portion of the field (part of site 39GT9), no cultural remains were observed. Site 39GT9, a cluster of five dugouts, and site 39GT8, a silver mine, were examined.

The cultivated fields within the remainder of project area YB-15, except for approximately 42 acres belonging to Tilma, were traversed at intervals of 15 to 20 meters. Ground visibility was 90 to 100 percent. Two small lithic scatters, consisting of a thin scatter of flakes and shatter, were observed (39GT11 and 39GT12). The two sites are very small. Site 39GT11 measures approximately 50 X 100 meters and site 39GT12 measures approximately 50 to 75 meters. Both sites are situated on small knolls.

Site 39GT11 is located in the NW¼ NW¼ SW¼ NW¼ of section 25, T118N, R49W. Five shovel tests were dug to a depth of 40

cm on the the site. One shovel test was dug near the center of the site and four more were dug in each of the cardinal directions. No cultural remains were recovered from the shovel tests.

Site 39GT12 is located in the S½ NW¼ NE¼ SE¼ of section 26, T118N, R49W. Five shovel tests were also dug on this site in a similar pattern as for site 39GT11. No cultural remains were recovered from the shovel tests. A large quantity of glacial till, consisting of rounded pebbles and cobbles, was observed throughout the plowzone and below the plowzone. This suggests the two sites have been greatly disturbed by cultivation activities and no in situ cultural remains are present. These two lithic scatters appear to be in very poor condition.

We examined the cutbanks, terraces and floodplain around the Wilson flour mill (39GT16) and adjacent dugout (39GT13). No additional cultural remains were observed. We finished traversing the lands in project area YB-15 at 4:45 PM.

September 19, 1982

We arrived at project area LQP-8 at 9:30 AM. We traversed the oat field (16 acres) and hay field (10 acres) that had not been surveyed by the earlier field crew. Ground visibility was approximately 50 percent in the oat field and 20 to 30 percent in the hay field. No cultural remains were observed. Farmstead MN6 was visited. A poured cement foundation of the house was observed. The residue within the foundation suggested the house had burned. The poured cement foundation suggests a 20th century residence. We completed investigtions in this project area at 1:30 PM.

We drove to project area LQP-3 to reexamine sites 39DE16, 39DE53, 39DE54, 39DE55 and 39DE56. We examined sites 39DE54 (lithic scatter) and 39DE55 (dugouts, lithics). No additional cultural remains were observed. We finished the day at 5:30 PM.

September 20, 1982

We returned to project area LQP-3. We located sites 39DE16 (farmstead), 39DE53 (American Indian burial), and 39DE56 (Archaic, Woodland). No additional cultural remains were observed. We left the project area at 12:30 PM.

Field Notes
May 25, 1984
Bill Ranney

May 25, 1984

I arrived at Walter Johnson's residence at 10:00 AM to acquire permission to traverse the cultivated fields within project area LQP-40. He has never recovered any artifacts from the project area. The field methods consisted of traversing the fields in 15 to 20 meter transects. All cutbanks, rodent backdirt piles, and cattle paths were carefully examined for cultural remains. Ground visibility was 80 to 90 percent in the cultivated fields and zero percent in the pasture. A large amount of glacial till was observed in all of the cultivated fields.

Several bone and tooth fragments were observed. They all appear to be Bos. These fields were, until recently, pasture. Therfore, it would not be unlikely that Bos remains would be present. A thin surface scatter of bone, pieces of cement and brick were observed in the NW¼ SE¼ SE¼ of section 3, approximately 150 meters west of the location for the dam. A records search done by Karen Zimmerman did not yield any information concerning historic structures or events within the LQP-40 project area. In the westernmost portion of the project area, eight shovel tests were dug to a depth of 40 cm. No cultural remains were observed. I finished traversing the project area at 3:00 PM.

SITE NO. 39DE53 NAME COUNTY Deuel
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) Burials
CULTURAL AFFILIATIONS late 19th century Indian burials
LOCATION S½ SW¼ SE¼ NE¼,, SE¼ SE¼ SW¼ NE¼ SECTION 28 TOWNSHIP 115N RANGE 47W
ELEVATION 500 & 479 meters UTM COORDINATES E700740 N4956970 MAP USED Canby NW ✓
PROPERTY OWNER Reinertson ADDRESS
DIRECTIONS TO SITE Site is located along Cobb Creek about 10 miles west of Canby on highway 22 and 68.

NEAREST WATER: NAME Cobb Creek DISTANCE 50 'meters DIRECTION north
TOPOGRAPHIC POSTION bluff top and terrace
SIZE IN METERS 50 x 50 meters, 50 x 50 meters DEPTH OF SITE unknown
SUBSTRATE unknown
PRESENT VEGETATION grass, trees GROUND SURFACE VISIBILITY (%) 0
CONDITION good, poor (has been potted by locals)
SURFACE COLLECTIONS? NO XXX YES ___ BY DATE
EXCAVATIONS? NO XXX YES ___ BY DATE
WHAT WAS FOUND depressions for graves where they have been looted
WHERE ARE COLLECTIONS ???
ACCESSION NUMBER(S)
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/10/82
ADDRESS USD Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS This is a historic Indian burial site and should not be destroyed or disturbed by any construction activities, digging, etc. The site is not eligible for nomination to the National Register, but should be protected from destruction because of the presence of human burials.

SITE NO. 39 DE53
SEC 28 T 115 N R 47W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

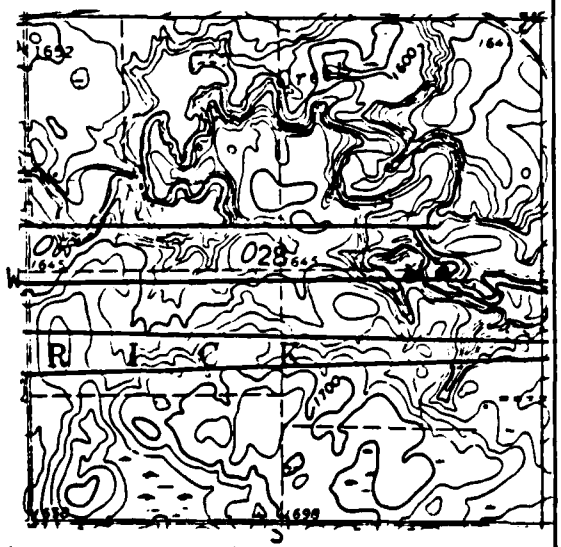


PHOTO OF SITE LOOKING West



SITE NO. 39DE54 NAME _____ COUNTY Deuel
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) habitation
CULTURAL AFFILIATIONS prehistoric, unknown affilation
LOCATION NE¼ SE¼ NE¼ SE¼ SECTION 27 TOWNSHIP 115N RANGE 47W
ELEVATION 479 meters UTM COORDINATES E701550 N4956670 MAP USED Canby NW ✓
PROPERTY OWNER Maas Farm ADDRESS _____
DIRECTIONS TO SITE site is located about 150 meters east of Maas house and barns. Maas residenee is located 9 miles west of Canby on highway 22 and 68.

NEAREST WATER: NAME Cobb Creek DISTANCE 100 DIRECTION north
TOPOGRAPHIC POSTION terrace remnant
SIZE IN METERS 10 x 3 DEPTH OF SITE 20 cm
SUBSTRATE alluvium, colluvium
PRESENT VEGETATION grass GROUND SURFACE VISIBILITY (%) 0
CONDITION good
SURFACE COLLECTIONS? NO ___ YES XX BY Dave Stanley DATE 8/82
EXCAVATIONS? NO ___ YES XX BY Dave Stanley, USD Archaeology Lab DATE 8/82
WHAT WAS FOUND flakes
WHERE ARE COLLECTIONS USD, Archaeology Lab
ACCESSION NUMBER(S) _____
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY ~~Kenneth L. Brown~~ DATE 11/10/82
ADDRESS USD Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS Site is a small camp. The site is one of a few known prehistoric sites along the minor tributaries in Deuel County and therefore may potentially yield significant information about the prehistoric occupation of the area. The site has never been cultivated.

SITE NO. 39DE54
SEC 27 T 115N R 47W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

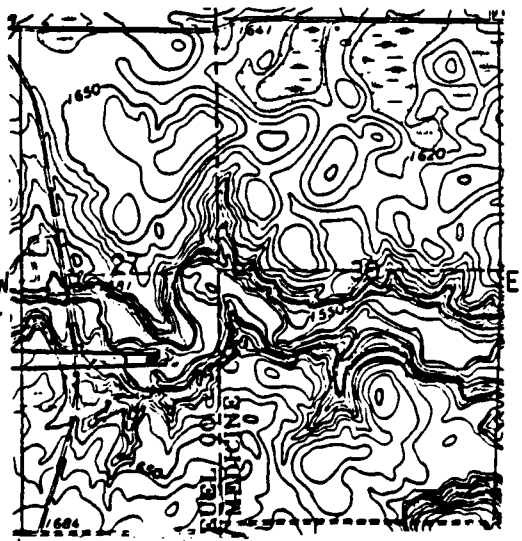


PHOTO OF SITE LOOKING East



SITE NO. 39DE55 NAME COUNTY Deuel
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) habitation, dugouts
CULTURAL AFFILIATIONS historic, early settler, prehistoric,(unknown affiliation)
LOCATION NW¼ SE¼ NE¼ SE¼ SECTION 27 TOWNSHIP 115N RANGE 47W
ELEVATION 463 meters UTM COORDINATES E703570 N4956500 MAP USED Canby NW ✓
PROPERTY OWNER Mr. Maas ADDRESS
DIRECTIONS TO SITE Site is located east of the Maas house and barn about 200 meters. Maas residence is located on the east side of highway 22 and 68, 9 miles west of Canby. The site is very near the Minnesota border along Cobb Creek.

NEAREST WATER: NAME Cobb Creek DISTANCE 10 meters DIRECTION west
TOPOGRAPHIC POSTION terrace of creek
SIZE IN METERS 100 x 100 DEPTH OF SITE 1 meter
SUBSTRATE alluvium
PRESENT VEGETATION grass, trees GROUND SURFACE VISIBILITY (%) 0
CONDITION good
SURFACE COLLECTIONS? NO ___ YES XX BY Dave Stanley DATE 8/82
EXCAVATIONS? NO ___ YES XX BY Dave Stanley DATE 8/82
WHAT WAS FOUND 3 dugouts (historic) and prehistoric component (flakes)
WHERE ARE COLLECTIONS USD. Archaeology Laboratory, Vermillion, S.D. 57069
ACCESSION NUMBER(S)
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/9/82
ADDRESS USD, Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS conduct test excavations to determine function of the dugouts. Not eligible for nomination to the National Register.
Prehistoric component should probably be tested further to help determine potential significance.

SITE NO. 39 DE55
SEC 27 T 115N R 47W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

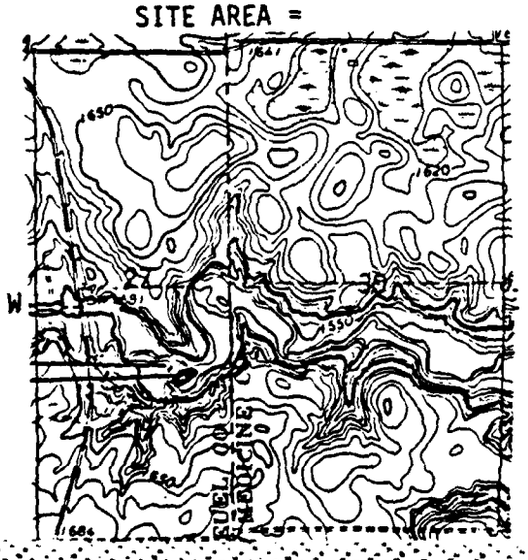


PHOTO OF SITE LOOKING east



SITE NO. 39DE56 NAME _____ COUNTY Deuel
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) habitation, prehistoric
CULTURAL AFFILIATIONS Late Archaic , Middle Woodland
LOCATION N½ NE¼ NE¼ SE¼ SECTION 28 TOWNSHIP 115N RANGE 47W
ELEVATION 480 meters UTM COORDINATES E701060 N4956850 MAP USED Canby NW
PROPERTY OWNER Reinertson ADDRESS _____
DIRECTIONS TO SITE site is located along Cobb Creek, west of highway 22 and 68, 10 miles west of Canby.

NEAREST WATER: NAME Cobb Creek DISTANCE 0 meters DIRECTION west
TOPOGRAPHIC POSTION terrace of Cobb Creek
SIZE IN METERS 75 x 100 DEPTH OF SITE at least 2.5 meters
SUBSTRATE alluvium
PRESENT VEGETATION grass, trees GROUND SURFACE VISIBILITY (%) 0
CONDITION good to excellent
SURFACE COLLECTIONS? NO ___ YES XX BY Dave Stanley DATE 8/82
EXCAVATIONS? NO ___ YES XX BY Dave Stanley, USD Archaeology Lab DATE 8/82
WHAT WAS FOUND Hearth, flakes, ~~crushed granite tempered, cordmarked pottery~~
WHERE ARE COLLECTIONS USD, Archaeology Lab
ACCESSION NUMBER(S) _____
PUBLICATIONS CONCERNING SITE report to U.S. Army Corps of Engineers, St. Paul District

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

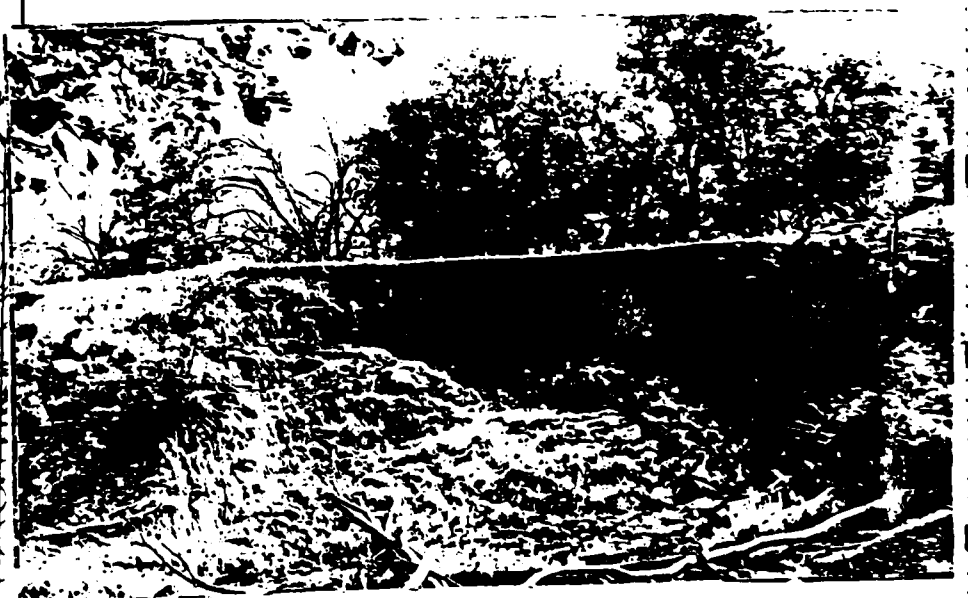
INFORMATION SUPPLIED BY ~~Kenneth L. Brown~~ DATE 11/10/82
ADDRESS USD, Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS
The site is a buried Late Archaic occupation, hearth and charcoal from test pit C-14 dated: hearth= 2605+ 140 BP (UGa-4601) or 655 BC. Test pit charcoal: 3095 +570 BP (UGa-4602) or 1145 BC. Site eligible for nomination to National Register

SITE NO. 39 DE56
SEC 28 T 115N R 47W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =



PHOTO OF SITE LOOKING east



SITE NO. 39GT7 NAME COUNTY Grant
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) habitation?, dugout
CULTURAL AFFILIATIONS historic, early settler
LOCATION SW¼ NW¼ SE¼ SE¼ SECTION 24 TOWNSHIP 119N RANGE 50W
ELEVATION 469 meters UTM COORDINATES E675800 N4995580 MAP USED Stockholm ✓
PROPERTY OWNER H.H. Nelson ADDRESS
DIRECTIONS TO SITE Site is located along a creek, 1½ miles east of Stockholm. The site is west of a highway which runs north south and intersects with highway 20 (which runs east-west).

NEAREST WATER: NAME Creek DISTANCE 0 meters DIRECTION east
TOPOGRAPHIC POSTION terrace of creek
SIZE IN METERS 5 x 3 meters DEPTH OF SITE 1 meter, app.
SUBSTRATE alluvium
PRESENT VEGETATION grass, trees GROUND SURFACE VISIBILITY (%) 0
CONDITION good, fair
SURFACE COLLECTIONS? NO XXX YES ___ BY ___ DATE ___
EXCAVATIONS? NO XX YES ___ BY ___ DATE ___
WHAT WAS FOUND 1 dugout, measures 5 x 3 meters
WHERE ARE COLLECTIONS None
ACCESSION NUMBER(S)
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/10/51
ADDRESS USD, Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS This isolated, single dugout is similar to many others in the area. It is not eligible for nomination to the National Register, however, test excavations may yield information about the early Euro-American settlement of the area.

SITE NO. 39GT7
SEC 24 T 119 N R 50W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

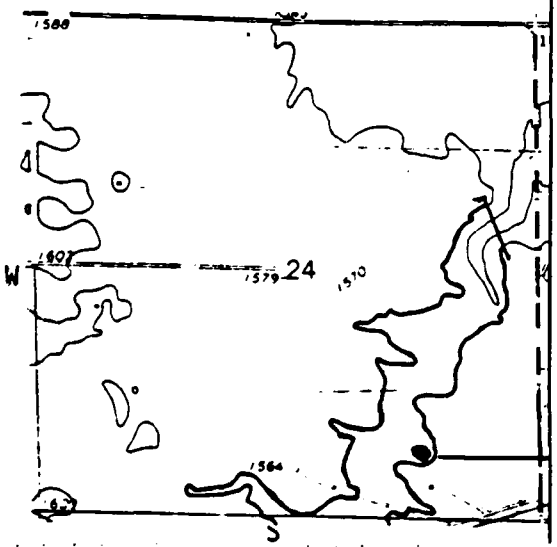


PHOTO OF SITE LOOKING West



SITE NO. 39GT8 NAME _____ COUNTY Grant
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) Silver Mine
CULTURAL AFFILIATIONS Historic, 19th century,
LOCATION E½ SW¼ NE¼ NE¼,, W½ SE¼ NE¼ NE¼ SECTION 35 TOWNSHIP 118N RANGE 49W
ELEVATION 454 meters UTM COORDINATES E684370 N4984130 MAP USED Tunerville ✓
PROPERTY OWNER Seefeldt ADDRESS _____
DIRECTIONS TO SITE Site is located 4 miles south, then ½ mile east, of La Bolt, on gravel section roads.

NEAREST WATER: NAME South Fork of the Yellow Bank River DISTANCE 3 meters DIRECTION west
TOPOGRAPHIC POSTION bluff slope
SIZE IN METERS 10 x 10 meters DEPTH OF SITE unknown
SUBSTRATE colluvium
PRESENT VEGETATION grass, trees GROUND SURFACE VISIBILITY (%) 0
CONDITION poor
SURFACE COLLECTIONS? NO XX YES ___ BY _____ DATE _____
EXCAVATIONS? NO XX YES ___ BY _____ DATE _____
WHAT WAS FOUND slumped over mine shaft
WHERE ARE COLLECTIONS _____
ACCESSION NUMBER(S) _____
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/10/82
ADDRESS USD, Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS
This site is unusual for this area of S.D., but based upon records searches there is no justification for nominating the site to the National Register.

SITE NO. 39 GT8
SEC 35 T 118N R 49W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

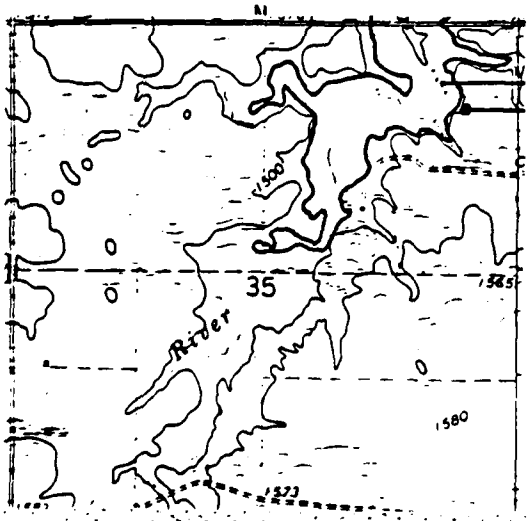
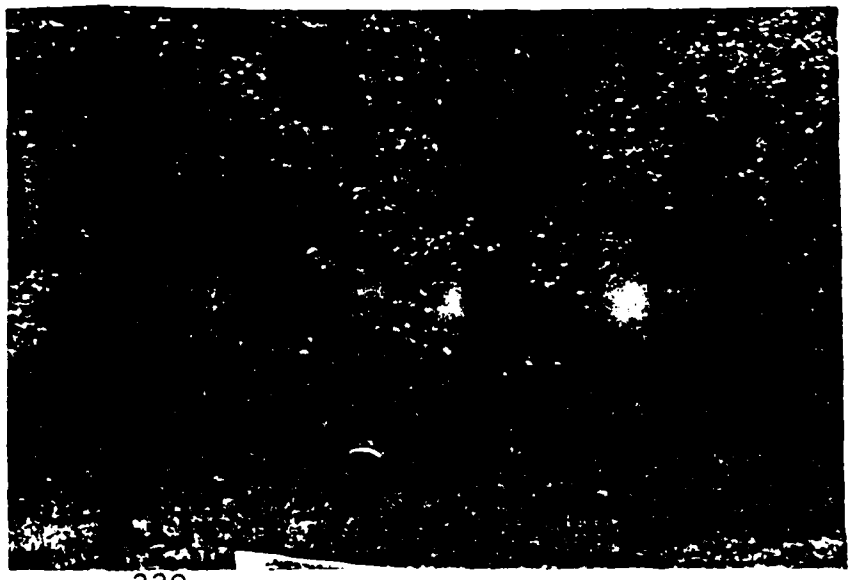


PHOTO OF SITE LOOKING East



SITE NO. 39GT9 NAME _____ COUNTY Grant
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) 5 dugouts,
CULTURAL AFFILIATIONS historic, 19th century
LOCATION S½ NW¼ NE¼ NE¼,, N½ SW¼ NE¼ NE¼ SECTION 35 TOWNSHIP 118N RANGE 49W
ELEVATION 448 meters UTM COORDINATES E684250 N4984200 MAP USED Tunerville
PROPERTY OWNER Seefeldt ADDRESS _____
DIRECTIONS TO SITE Site is located 4 miles south and ½ mile east of La Bolt, on gravel section roads.

NEAREST WATER: NAME South Fork of the Yellow Bank River DISTANCE 30 meters DIRECTION east
TOPOGRAPHIC POSTION terrace of river
SIZE IN METERS 30 x 100 meters DEPTH OF SITE unknown
SUBSTRATE alluvium
PRESENT VEGETATION grass GROUND SURFACE VISIBILITY (%) 0
CONDITION good
SURFACE COLLECTIONS? NO XX YES ___ BY _____ DATE _____
EXCAVATIONS? NO XXX YES ___ BY _____ DATE _____
WHAT WAS FOUND 5 dugouts
WHERE ARE COLLECTIONS _____
ACCESSION NUMBER(S) _____
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/10/82
ADDRESS USD Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS
The five dugouts are not unusual for this area, but test excavations may yield information to help elucidate the early Euro-American settlement of the area. They may be associated with the Silver mine, located directly east of the dugouts.

SITE NO. 39GT9
SEC 35 T 118N R 49W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

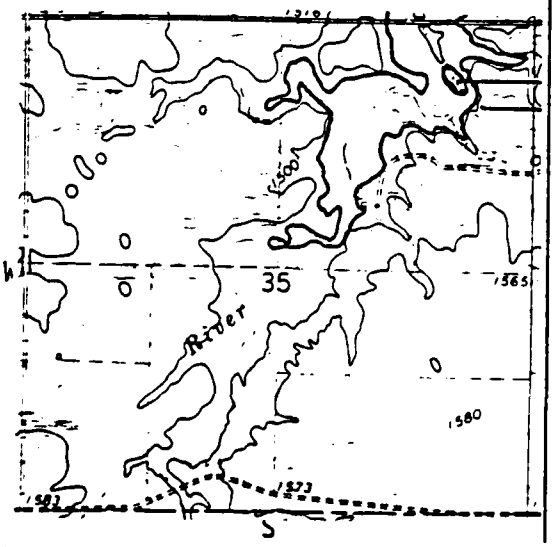


PHOTO OF SITE LOOKING West



SITE NO. 39GT10 NAME COUNTY Grant
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) unknown
CULTURAL AFFILIATIONS prehistoric
LOCATION NE¼ SW¼ NE¼ NE¼ SECTION 35 TOWNSHIP 118N RANGE 49W
ELEVATION 446 meters UTM COORDINATES E684260 N4984140 MAP USED Tunerville
PROPERTY OWNER Seefeldt ADDRESS
DIRECTIONS TO SITE Site is 4 miles south and ½ mile east of La Bolt on gravel section roads.

NEAREST WATER: NAME South Fork of the Yellow Bank River DISTANCE 50 meters DIRECTION east
TOPOGRAPHIC POSTION terrace
SIZE IN METERS unknown, isolated find spot DEPTH OF SITE unknown
SUBSTRATE alluvium
PRESENT VEGETATION grass GROUND SURFACE VISIBILITY (%) 5
CONDITION good
SURFACE COLLECTIONS? NO ___ YES XX BY Marie Brown DATE 9/82
EXCAVATIONS? NO XX YES ___ BY DATE
WHAT WAS FOUND one flake (?)
WHERE ARE COLLECTIONS USD, Archaeology Lab, Vermillion, S.D. 57069
ACCESSION NUMBER(S)
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/10/82
ADDRESS USD, Archeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS
This is an isolated find spot. It is not eligible for nomination to the National Register.

SITE NO. 39 GT10
SEC 35 T 118N R 49W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

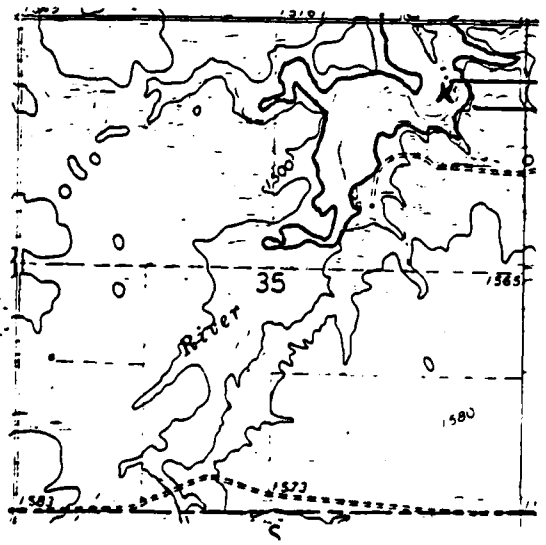
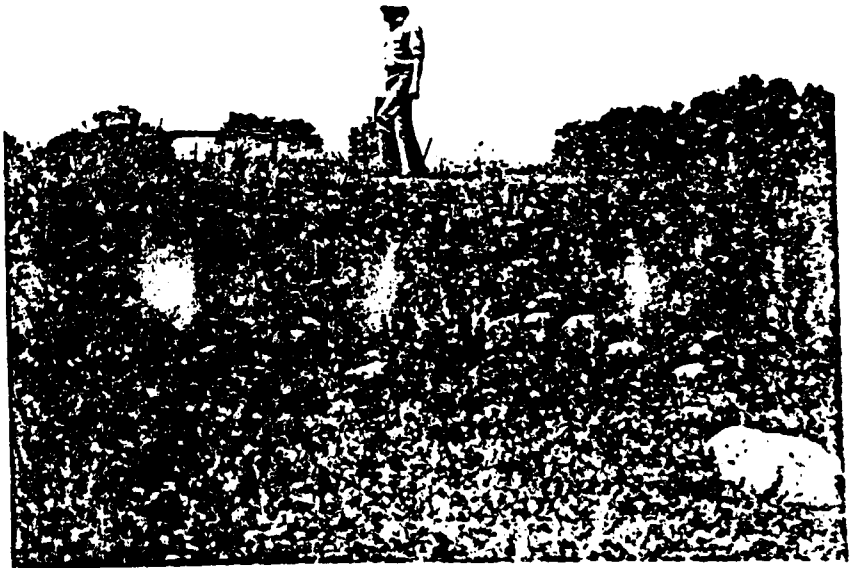


PHOTO OF SITE LOOKING



SITE NO. 39GT11 NAME _____ COUNTY Grant
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) habitation
CULTURAL AFFILIATIONS prehistoric, unknown
LOCATION SW¼ NE¼ NW¼ SE¼ SECTION 26 TOWNSHIP 118N RANGE 49W
ELEVATION 448 meters UTM COORDINATES E684000 N4985050 MAP USED Tunerville
PROPERTY OWNER Street ADDRESS _____
DIRECTIONS TO SITE Site is located 4 miles south and ½ mile east of La Bolt on gravel section roads.

NEAREST WATER: NAME South Fork of the Yellow Bank River DISTANCE 250 meters DIRECTION east
TOPOGRAPHIC POSTION hill top
SIZE IN METERS 50 x 100 meters DEPTH OF SITE 20 cm
SUBSTRATE till
PRESENT VEGETATION cultivated, crops GROUND SURFACE VISIBILITY (%) 100
CONDITION poor
SURFACE COLLECTIONS? NO ___ YES XX BY Ken and Marie Brown DATE 10/82
EXCAVATIONS? NO XX YES ___ BY _____ DATE _____
WHAT WAS FOUND flakes
WHERE ARE COLLECTIONS USD, Archaeology Lab, Vermillion, S.D. 57069
ACCESSION NUMBER(S) _____
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/10/8[illegible]
ADDRESS USD, Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS Test holes indicate the site has been destroyed by cultivation practices and is not deemed eligible for nomination to the National Register.

SITE NO. 39 GT11
SEC 26 T 118N R 49W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

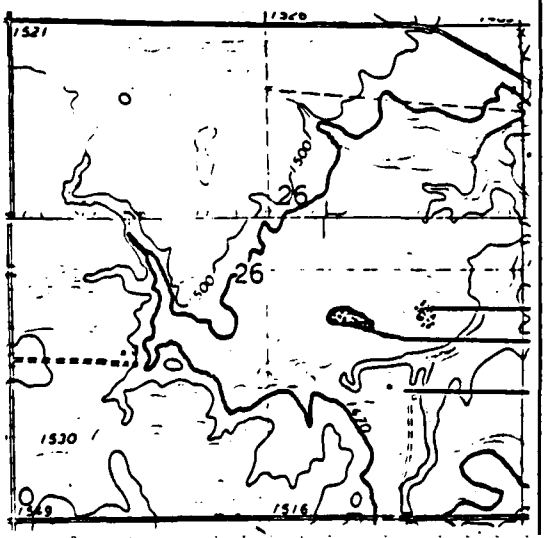
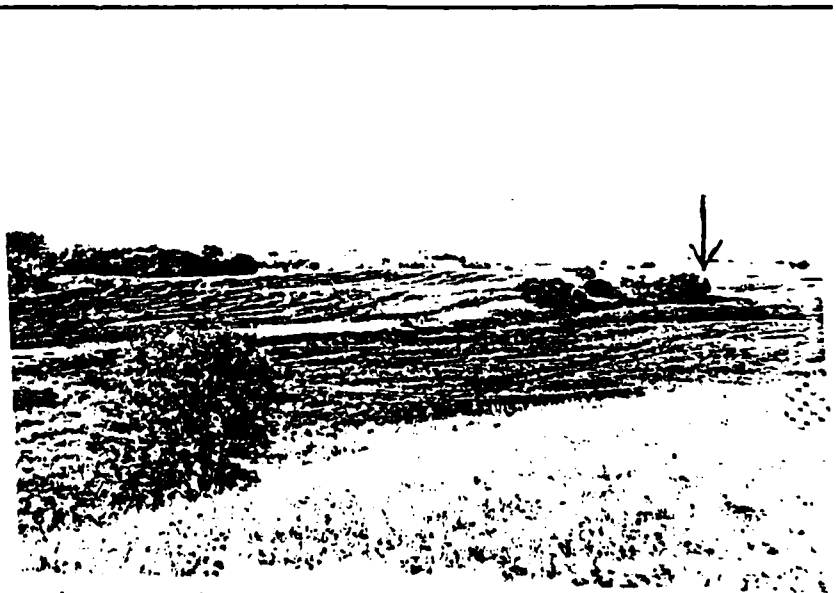


PHOTO OF SITE LOOKING South



SITE NO. 39GT12 NAME _____ COUNTY Grant
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) habitation
CULTURAL AFFILIATIONS prehistoric, unknown
LOCATION S½ NW¼ NE¼ SE¼ SECTION 26 TOWNSHIP 118N RANGE 49W
ELEVATION 448 Meters UTM COORDINATES E684250 N4985100 MAP USED Tunerville
PROPERTY OWNER Street ADDRESS _____
DIRECTIONS TO SITE Site is 4 miles south and ½ mile east of La Bolt on gravel section roads.

NEAREST WATER: NAME South Fork of the Yellow Bank River DISTANCE 150 meters DIRECTION east
TOPOGRAPHIC POSTION hill top
SIZE IN METERS 50 x 75 meters DEPTH OF SITE 25 cm
SUBSTRATE till
PRESENT VEGETATION cultivated, crops GROUND SURFACE VISIBILITY (%) 100
CONDITION poor
SURFACE COLLECTIONS? NO ___ YES xx BY Ken and Marie Brown, USD DATE 10/82
EXCAVATIONS? NO XX YES ___ BY _____ DATE ___
WHAT WAS FOUND flakes
WHERE ARE COLLECTIONS USD, Archaeology Lab, Vermillion, S.D. 57069
ACCESSION NUMBER(S) _____
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/10/82
ADDRESS USD, Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS
This is a thin lithic site, probably a temporary campsite. Shovel tests indicate the site is plowed-out, ie all in the plow zone. The site is not deemed eligible for nomination to the National Register.

SITE NO. 39 GT12
SEC26 T 118N R 49W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

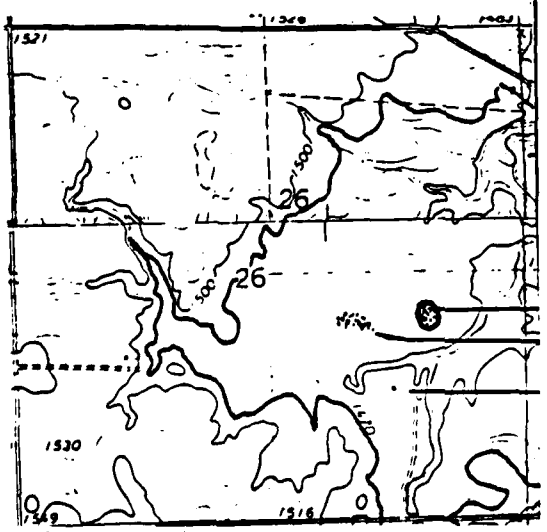
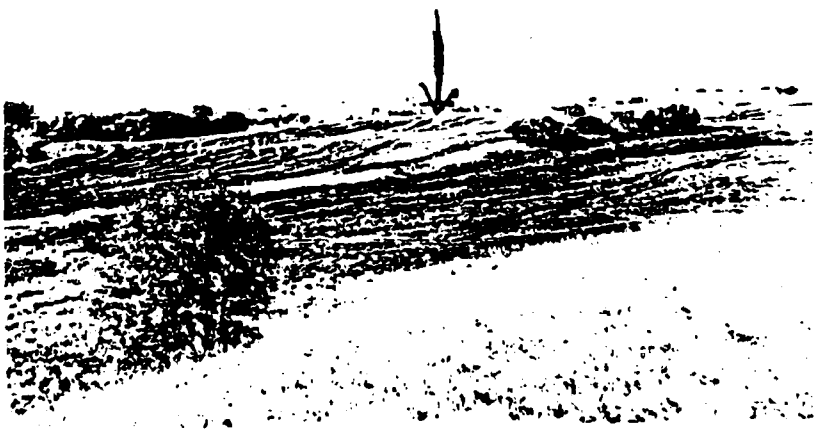


PHOTO OF SITE LOOKING South



SITE NO. 39GT13 NAME COUNTY Grant
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) habitation, dugout
CULTURAL AFFILIATIONS historic, early settler
LOCATION NW¼ NW¼ SW¼ NW¼ SECTION 25 TOWNSHIP 118N RANGE 49W
ELEVATION 442 meters UTM COORDINATES E684570 N4985620 MAP USED La Bolt
PROPERTY OWNER Wilson ADDRESS
DIRECTIONS TO SITE Site is 3 miles south, 1 mile east of La Bolt on gravel section roads.

NEAREST WATER: NAME South Fork Yellow Bank River DISTANCE 60 meters DIRECTION west
TOPOGRAPHIC POSTION ridge top
SIZE IN METERS 4 x 6 meters DEPTH OF SITE 1 meter
SUBSTRATE unknown
PRESENT VEGETATION grass, trees GROUND SURFACE VISIBILITY (%) 0
CONDITION good
SURFACE COLLECTIONS? NO xx YES ___ BY ___ DATE ___
EXCAVATIONS? NO xx YES ___ BY ___ DATE ___
WHAT WAS FOUND 1 dugout
WHERE ARE COLLECTIONS
ACCESSION NUMBER(S)
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/10/82
ADDRESS USD Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS
The site is not unusual for the area, but excavations may yield information which may elucidate the early Euro-American settlement of the area.

SITE NO. 39 GT13
SEC 25 T 118N R 49W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

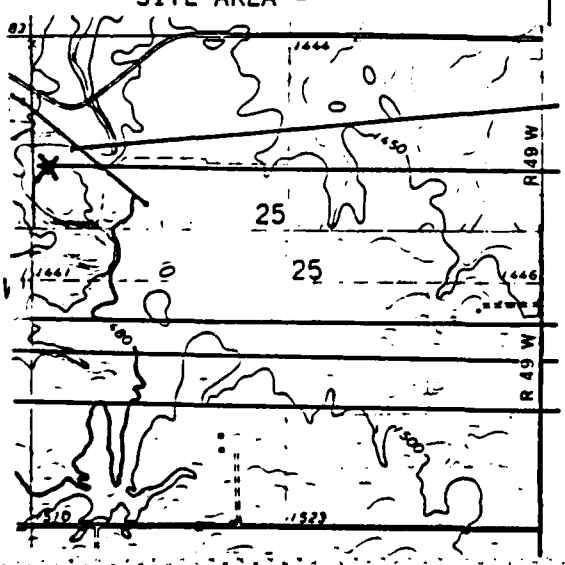


PHOTO OF SITE LOOKING West



SITE NO. 39GT14 NAME COUNTY Grant
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) foundations, dugout
CULTURAL AFFILIATIONS historic
LOCATION SW¼ NE¼ NE¼ SECTION 8 TOWNSHIP 118N RANGE 49W
ELEVATION 472 meters UTM COORDINATES. E679200 N4990340 MAP USED La Bolt ✓
PROPERTY OWNER Granquist ADDRESS
DIRECTIONS TO SITE Site is 2 miles west of La Bolt, off of a highway.

NEAREST WATER: NAME unnamed creek DISTANCE 350 meters DIRECTION east
TOPOGRAPHIC POSTION hill top
SIZE IN METERS 50 x 100 DEPTH OF SITE unknown
SUBSTRATE unknown
PRESENT VEGETATION grass GROUND SURFACE VISIBILITY (%) 0
CONDITION fair
SURFACE COLLECTIONS? NO XXX YES BY DATE
EXCAVATIONS? NO XX YES BY DATE
WHAT WAS FOUND foundations, well, one dugout
WHERE ARE COLLECTIONS
ACCESSION NUMBER(S)
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/10/82
ADDRESS USD, Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS
This is an early 20th century farmstead and is not deemed eligible for nomination to the National Register.

SITE NO. 39 GT14
SEC 8 T 118N R 49W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

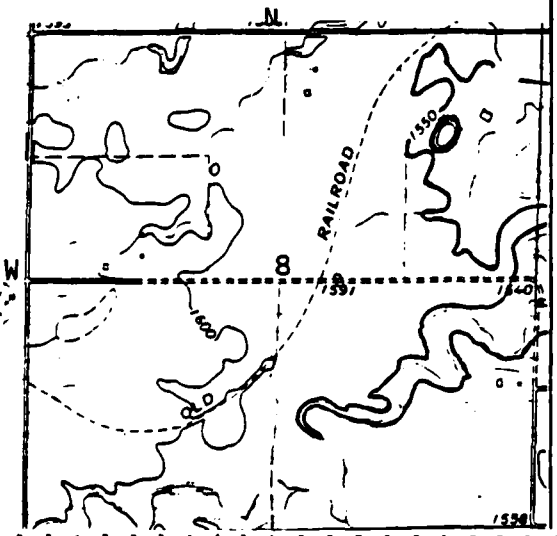
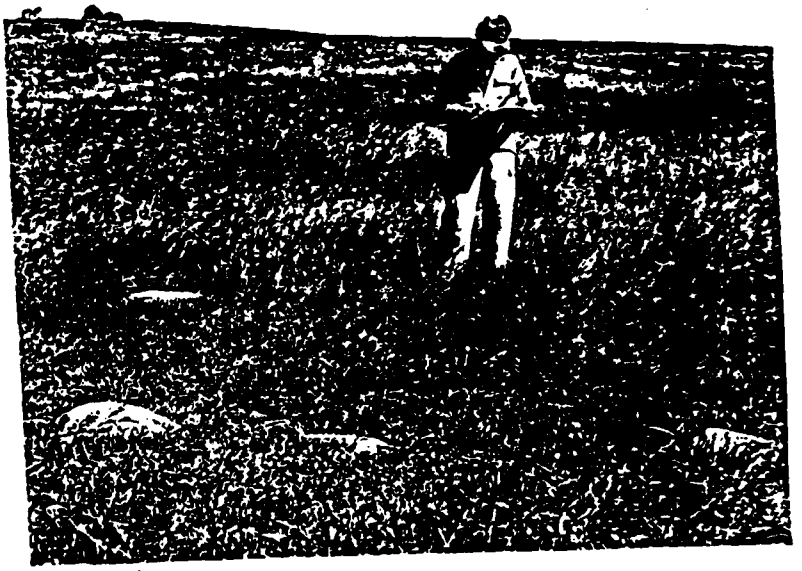


PHOTO OF SITE LOOKING West



SITE NO. 39GT15 NAME _____ COUNTY Grant
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) Bridge foundation
CULTURAL AFFILIATIONS historic, 19th century
LOCATION NE¼ SE¼ NE¼ NE¼,, NW¼ SW¼ NW¼ NW¼ SECTION 8,,9 TOWNSHIP 118N RANGE 49W
ELEVATION 457 meters UTM COORDINATES E679500 N4990460 MAP USED La Bolt ✓
PROPERTY OWNER Granquist ADDRESS _____
DIRECTIONS TO SITE Site is 2 miles west of La Bolt, off of a highway.

NEAREST WATER: NAME unnamed creek DISTANCE 0 meters DIRECTION on it
TOPOGRAPHIC POSTION stream bank
SIZE IN METERS 3 x 15 meters DEPTH OF SITE unknown
SUBSTRATE unknown
PRESENT VEGETATION grass GROUND SURFACE VISIBILITY (%) 0
CONDITION fair
SURFACE COLLECTIONS? NO XX YES ___ BY _____ DATE _____
EXCAVATIONS? NO XX YES ___ BY _____ DATE _____
WHAT WAS FOUND stone foundation to bridge
WHERE ARE COLLECTIONS _____
ACCESSION NUMBER(S) _____
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

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SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/10/82
ADDRESS USD Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS
This is an old, late 19th century foundation for a section road bridge.
~~The site does not warrant nomination to the National Register.~~

SITE NO. 39 GT15
SEC 8,9 T 118N R 49W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

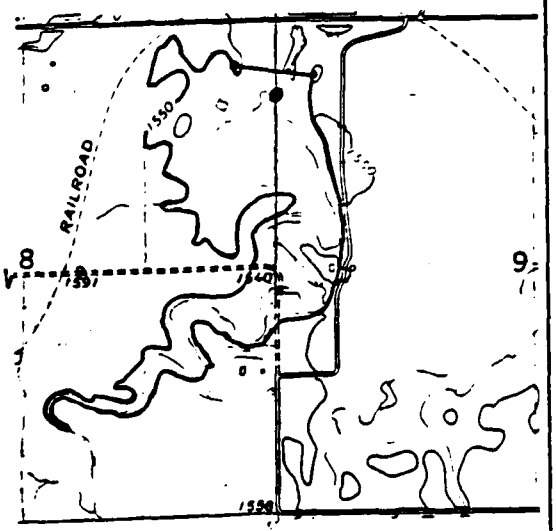


PHOTO OF SITE LOOKING East



SITE NO. 39GT16 NAME COUNTY Grant
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) Flour Mill, 19th Century
CULTURAL AFFILIATIONS Historic flour Mill (Wilson Mill)
LOCATION S½ SW¼ NW¼ NW¼ SECTION 25 TOWNSHIP 118N RANGE 49W
ELEVATION 430 meters UTM COORDINATES E684670 N4985690 MAP USED La Bolt ✓
PROPERTY OWNER Wilson ADDRESS
DIRECTIONS TO SITE Site is located 3 miles south of La Bolt and one mile east on gravel section roads. The site is along the South Fork of the Yellow Bank River, just south of a bend and bridge on a gravel section road, 3 miles south and one mile east of La Bolt.
NEAREST WATER: NAME South Fork of the Yellow Bank River DISTANCE 0 meters DIRECTION on it
TOPOGRAPHIC POSTION on river, terraces
SIZE IN METERS 25 x 100 meters DEPTH OF SITE 1 meter ?
SUBSTRATE alluvium
PRESENT VEGETATION grass, trees GROUND SURFACE VISIBILITY (%) 0
CONDITION fair
SURFACE COLLECTIONS? NO XX YES ___ BY ___ DATE ___
EXCAVATIONS? NO XX YES ___ BY ___ DATE ___
WHAT WAS FOUND two foundations, dam, road
WHERE ARE COLLECTIONS
ACCESSION NUMBER(S)
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/10/82
ADDRESS USD, Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS
The site has been visited by personnel from the S.D. Office of Historic Preservation and is deemed eligible for nomination to the National Register. The present land owner will not allow the nomination to proceed. The form has been filled out.

SITE NO. 39GT16
SEC 25 T 118N R 49W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

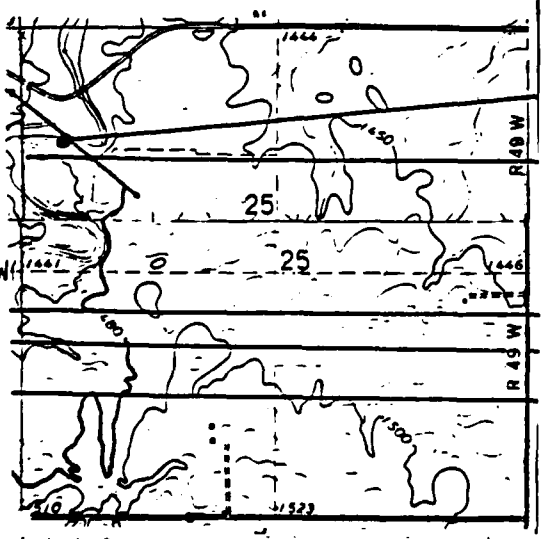


PHOTO OF SITE LOOKING East



SITE NO. 39GT17 NAME _____ COUNTY Grant
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) farmstead, houses, outbuildings
CULTURAL AFFILIATIONS historic, early 20th century
LOCATION NW¼ NW¼ SE¼ SE¼ :: SW¼ SW¼ NE¼ SE¼ :: ~~SE¼ SE¼~~ SECTION 26 TOWNSHIP 118N RANGE 49W
ELEVATION 445 meters UTM COORDINATES E684200 N4984800 MAP USED Tunerville
PROPERTY OWNER Street SE¼, SE¼ NW¼ SE¼ ADDRESS _____
DIRECTIONS TO SITE site is located 4 miles south and ½ mile east of La Bolt on gravel section roads. The site is ½ mile north of a east-west section road, and is adjacent to and west of the South Fork of the Yellow Bank River.

NEAREST WATER: NAME South Fork Yellow Bank River DISTANCE 30 meters DIRECTION east
TOPOGRAPHIC POSTION terrace
SIZE IN METERS 50 x 100 DEPTH OF SITE surface
SUBSTRATE
PRESENT VEGETATION grass, trees GROUND SURFACE VISIBILITY (%) 0
CONDITION poor
SURFACE COLLECTIONS? NO XX YES ___ BY _____ DATE _____
EXCAVATIONS? NO XX YES ___ BY _____ DATE _____
WHAT WAS FOUND house, outbuildings, barn
WHERE ARE COLLECTIONS _____
ACCESSION NUMBER(S) _____
PUBLICATIONS CONCERNING SITE report to the St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/19/82
ADDRESS USD, Archaeology Laboratory, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS
No further investigation

SITE NO. 39
SEC 26 T 118N R 49W
PHOTO COPY OF 7.5" QUADRANGLE OR SKETCH MAP OF SITE

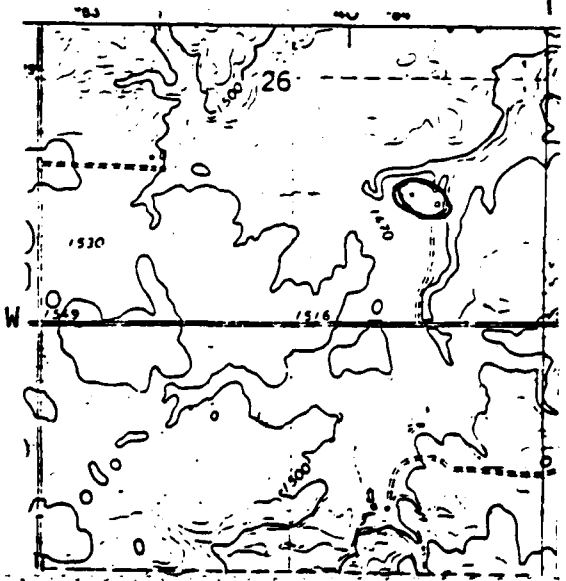
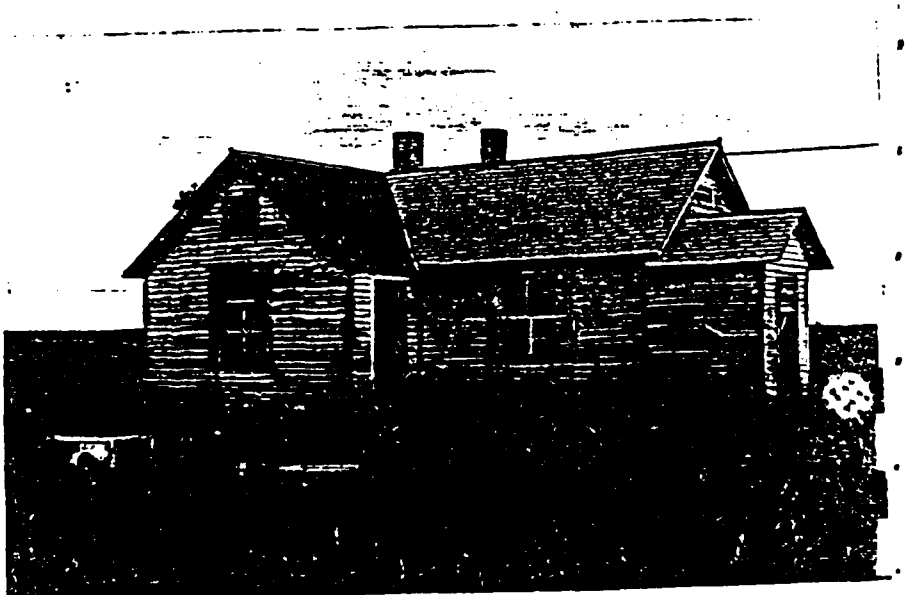


PHOTO OF SITE LOOKING West



SITE NO. 39GT18 NAME COUNTY Grant
TYPE OF REMAINS (MOUND, VILLAGE, HABITATION, ETC.) Standing (partially) structure-house?
CULTURAL AFFILIATIONS historic, early 20th century
LOCATION SE¼ SE¼ NE¼ NE¼ SECTION 26 TOWNSHIP 118N RANGE 49W
ELEVATION 433 meters UTM COORDINATES E684430 N4985650 MAP USED La Bolt
PROPERTY OWNER Mills ADDRESS
DIRECTIONS TO SITE site is located 3 miles south of La Bolt and one mile east on gravel section roads. The site is along the South Fork of the Yellow Bank River, just south of a bned and bridge on a gravel section road. It is west of site 39GT16
NEAREST WATER: NAME South Fork Yellow Bank River DISTANCE 30 meter DIRECTION east
TOPOGRAPHIC POSTION terrace
SIZE IN METERS 5 x 10 DEPTH OF SITE surface
SUBSTRATE
PRESENT VEGETATION grass GROUND SURFACE VISIBILITY (%) 0
CONDITION poor
SURFACE COLLECTIONS? NO XX YES ___ BY ___ DATE ___
EXCAVATIONS? NO XX YES ___ BY ___ DATE ___
WHAT WAS FOUND standing structure, house?
WHERE ARE COLLECTIONS
ACCESSION NUMBER(S) -
PUBLICATIONS CONCERNING SITE report to St. Paul District, Corps of Engineers

complete both sides and return to
SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, BOX 152, FORT MEADE, SOUTH DAKOTA 57741

INFORMATION SUPPLIED BY Kenneth L. Brown DATE 11/19/82
ADDRESS USD Archaeology Lab, Vermillion, S.D. 57069
RECOMMENDATIONS AND/OR COMMENTS
No further investigation

SITE NO. 39
SEC 26 T 118N R 49W
PHOTO COPY OF 7.5" QUADRANGLE
OR SKETCH MAP OF SITE

SITE AREA =

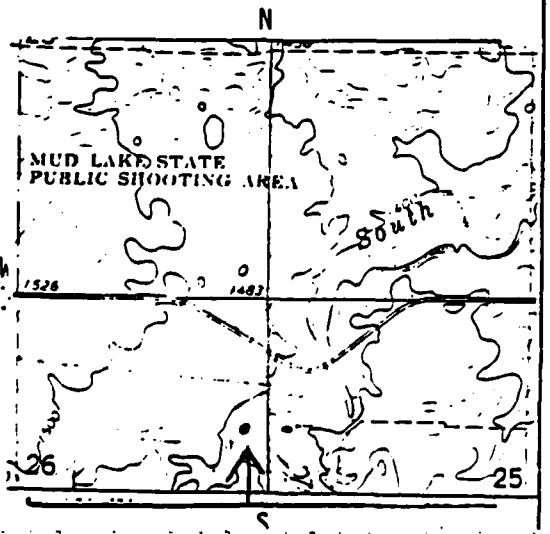
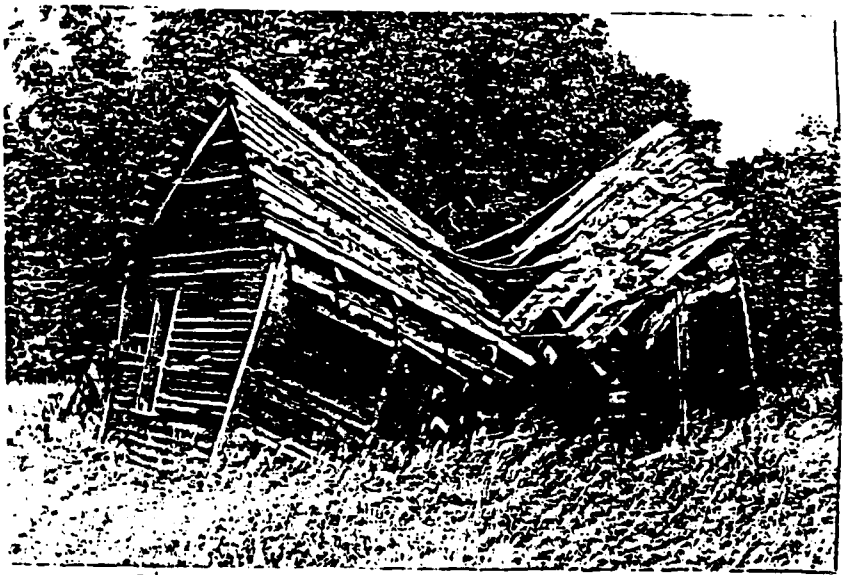


PHOTO OF SITE LOOKING North



Appendix D

Review Comments and Responses

DEPARTMENT OF THE ARMY
ST PAUL DISTRICT, CORPS OF ENGINEERS
1135 U. S. POST OFFICE & CUSTOM HOUSE
ST PAUL, MINNESOTA 55101

REPLY TO
ATTENTION OF:

Planning
Environmental Resources

Mr. Ken Brown
Museum of Anthropology
University of Kansas
Lawrence, Kansas 66045

Dear Mr. Brown:

Enclosed are comments on the draft report entitled Cultural Resources Investigations on the Upper Minnesota River (639) project, Deuel and Grant Counties, South Dakota, and Lac Qui Parle and Yellow Medicine Counties, Minnesota. The enclosed comments include those of the Corps of Engineers, the Minnesota State Historic Preservation Office, the Minnesota State Archeologist, and Mr. Scott Anfinson, Archeologist with the Minnesota Historical Society.

The draft report will need extensive revisions before it can be considered acceptable as a final report. The comments are generalized to refer to the overall problems with the report. It is suggested that the report be reworked in detail to comply with the agencies comments.

It is the contractor's responsibility to either change the report to conform with the criticisms of these outside agencies and the St. Paul District or explain why they are not relevant. This explanation should be provided in a separate letter (which will be included in a report appendix). One copy of the final report will be resubmitted for review before all final copies are printed. The next review copy will be due November 1, 1983.

If you have any questions, please call Sandy Blaylock at (612) 725-7632.

Sincerely,

Robbin L. Blackman

Enclosures

Robbin Blackman
Acting Chief, Environmental Resources
Planning Division

Corps of Engineers

Comments on the draft report Cultural Resources Investigations of the Upper Minnesota River (639) Project, Deuel and Grant Counties, South Dakota, and Lac Qui Parle and Yellow Medicine Counties, Minnesota

Report Format and Presentation

1. Figures

Because of the extensive number of photographs, maps, and figures relating to report sections or specific sites, all these figures should be incorporated within the main text of the report. For example, all figures associated with site MN3 should be included with the site description. As it is, the report is too difficult to follow and the information is scattered.

2. Site Descriptions

The site description section should constitute a complete description of the field methodology used to discover and test each site; a complete description of the site; all associated profiles, figures, maps, and photographs; a discussion of the project impacts; site significance and eligibility; future recommendations relating to the project and archeological work; and any other data concerning the site (e.g., geomorphological), or its relationship to other sites. Many of the site descriptions in the draft report are incomplete and too brief. Additionally, information that concerns an individual site and is scattered throughout the report will also be incorporated in the site description section.

3. Field Notes

All pertinent information in the field notes will be incorporated into appropriate sections of the report. Field notes from the later fall survey will be included in the final report. All maps and figures associated with the field notes will be included (the field notes refer to maps, yet there are none). All information in the field notes that is not related to the fieldwork or project and all statements that are derogatory (e.g., referring to Indians as half-breeds) will be removed from the field notes.

4. Background Information

The information that is incorporated within the Environmental section on climate and the natural and cultural transformations information in Chapter 5 is interesting, yet not very useful if it is not related to the specific study area, field and site conditions encountered when in the field, and specific site data. These report sections should be reworked and trimmed down to blend with this specific project/contract.

5. Field Methodology

The description of the field methodology does not adequately describe the survey and testing methods and techniques undertaken in each reservoir or channel area, and when a site was encountered the following areas must be

addressed or included in the final report: (a) a description of how the 10-12% channel survey sample was chosen; (b) maps indicating which portions of the channel and reservoir areas were surveyed, which were not surveyed, which areas were post hole tested, the location of each test, and areas where the methodology changed; (c) a detailed description of the field methodology employed at each reservoir area and all along the channel area, as well as a description of the methodology employed at each site that was tested; (d) justification or rationale for why certain areas were selected for post hole testing and why other reservoir and channel areas were not tested; (e) the justification for using such wide survey transects (25 to 50 meters apart), and why subsurface testing was conducted only when surface visibility was less than 25 percent; (f) a discussion of how the field methodology was incorporated with the geomorphologist's information about probable site locations and depth; (g) a justification for why post holes were dug only to a depth of 40 cm, yet the geomorphologist indicated that all channel and reservoir areas except YB18 and YB25 could contain cultural material below 40 cm and in some cases as deep as 6 feet (ca. 200 cm).

Further, the information in the field notes is contradictory to the field methodology statement on page 46. Additionally, reexamination of the geomorphology information presented in Chapter 7 and compared to the data from the field notes indicates that the field methodology actually employed was not adequate for the geomorphological conditions of the area. Further, the methodology was not adequate given the vegetation conditions of the project areas, and very little of the project areas were subsurface tested even when the surface visibility was 0%. What follows is our reexamination of the data and information presented in the report and the methodology that was actually used:

LQP 3
Geomorphology: upper terraces could contain cultural material to ca. 200 cm deep.
Field Methodology and Conditions: all pasture except 5-8 acres; 35-40% visibility in the eastern part of the reservoir; 0% visibility in the western part. Two terraces near the proposed dam should be shovel tested; 10 terraces in the west part should be shovel tested. The extreme western end should be shovel tested (recommended in the field notes). Portions of 3 terraces were tested (2 1x1's and some post holes; 1 cutbank was profiled; and 3 1x1's were placed in MN 3). Post holes were dug to 40 cm; 1x1's dug to 50, 60, 70, and 109 cm. There is no indication that any of the other areas in LQP 3 that were recommended for testing in the field notes were tested.

LQP8
Geomorphology: terraces may contain buried cultural material; in situ cultural material could be as deep as the soil on the terraces above the present creek bed.
Field: dense woodland vegetation; visibility 0%; no shovel testing.

LQP40
Geomorphology: cultural material found within solum up to 92 cm (36") thick.
Field: 60-65% flax-visibility 35-40%- not surveyed; 35-40% pasture-visibility 0%- no shovel testing.

YB6
Geomorphology: cultural material could occur only in the upper 18 to 61 cm (7-24").
Field: 100% pasture- not surveyed at all.

YB15
Geomorphology: in some areas- buried A horizons discovered below 51 cm. These terraces may have more deeply buried cultural material.
Field: all pasture- visibility 0%- 4 terraces selected to test- don't know the number of post holes put in. Dug to only 40 cm.

YB18
Geomorphology: cultural material only in the upper 46 cm (18 inches).
Field: 95% pasture, 5% oats (not surveyed). 35-40% visibility in the pasture. No shovel testing.

YB25
Geomorphology: cultural material only in the upper 46 cm (18 inches).
Field: 99% pasture- 0-10% visibility; 1% corn- not surveyed; no shovel testing.

Channel Areas

Geomorphology: Maximum alluvial thickness - 3 meters. Cultural material may be present within the alluvium, but the area is subject to frequent flooding and not a good one for any long-term encampments.

Field: A 12% sample of 53.1 miles is 6.37 miles. Surveying both sides of the river doubles it to 12.74 miles. Field notes indicate that only 102 shovel testings were dug. Visibility ranged from 100% to 0%. The survey corridor was 60 meters wide -- transects were spaced 10 meters apart. So on each side of the river 6 transects were walked. With only 102 tests, that comes out to ca. 1 shovel test per 700 feet. The field notes also indicate that, while some of the channel area was in crops or plowed, much of it had limited or obscured visibility, and anywhere from 0-50 meters back from the channel there was usually floodplain vegetation. According to page 46 "Areas of the river where vegetation was too thick to walk through were not surveyed." These are exactly the areas that should have been shovel tested. The number of shovel tests that were dug compared to the amount of area that had none or limited visibility indicates that the surface testing was inadequate.

In summary, it seems that the survey methodology and subsurface testing methodology were not systematically employed as is implied on page 46. In fact, only a small portion of LQP3 seems to have been more intensively tested. This also happens to be the area that was being surveyed when the COE monitored the project. During the field monitoring, Sandy Blaylock discussed with you the problems she observed with the field methodology. Sandy indicated that the Scope of Work required shovel testing all areas where surface visibility was limited; all subsurface locations were to be located on quad and project maps; all tests were to be recorded on testing forms and keyed with the map locations; when a site was discovered, the horizontal and vertical extent of the site was to be discovered; and the areas where the

field crew just walked over and did not shovel test for the 3 weeks prior to the field monitoring should be resurveyed. In the reservoir areas, the Scope of Work required 100% survey. Because of the limited time left for fieldwork after the COE monitoring, it was discussed that the reservoir areas should be resurveyed by sampling particularly high potential areas and shovel tested. There is no indication in the draft report that any of these problems were taken care of after the COE monitoring of the fieldwork. These field methodology problems must be addressed in the final report, or the COE will have to disagree that the project areas were adequately surveyed.

6. Photographs: The photographs in the final report must clearly show the subject of the photograph. The photographs in the draft report are not usable. The final report will not be accepted unless the photographs are of a good quality. It is the responsibility of the Contractor to see that the printer reproduces quality photographs.

7. Maps and Figures: The final report will contain the following:

a. Copies of each quad map clearly showing the project boundaries and the potential dam location; the location of areas surveyed and the survey methods employed; the location of all subsurface tests; and the areas not surveyed; and the site size. The maps used in the Pembina report should be an example of the map clarity required.

b. Copies of the project maps for the Lac qui Parle and Yellow Bank subbasins (maps 1 and 2 from the Scope of Work) showing the project boundaries and the site locations and sizes. Copies of these maps are available from the COE and can be provided for inclusion in each report. Oversized maps may be folded and inclosed at the back of each report. Fold-out maps within the report text are also acceptable.

c. One copy of each original quad map and the project maps will be resubmitted to the COE with the same information that is requested above in a and b. These maps will be submitted separately.

d. Site specific maps (i.e., figures 36-42), will be reworked to include: An indication of the site boundaries for each site; symbols indicating the auger tests that were positive and negative; number the test units, auger tests, and dugouts so they can be related to the site description discussion and testing forms; indicate the location of other sites nearby or other key topographic or landmark features within the site area. As is, it is difficult to get a feeling for each site's location, and it seems that it would be very difficult to relocate any of the sites on the basis of the maps.

8. Testing Forms: All post hole and formal 1x1 testing forms will be included as a report appendix. All testing forms will be keyed with the test number location on a site and/or quad map.

9. Project Impacts: All project impact discussions should address all reservoir impacts: each potential dam location, the permanent conservation/sediment pool, the flood pool, and any associated indirect impacts. Each site description should include a discussion of the above impacts, and these impacts can be summed up in Chapter 8 - "Cultural Resource Evaluations and Recommendations".

10. Eligibility Recommendations: In the draft report, there is not enough information presented on a site's significance or non-significance to independently determine whether a site is eligible for the National Register, it is not eligible, or more research and testing needs to be done to determine its eligibility. The final report will address this problem and provide more detailed information on the significance and eligibility of each site. If a determination of eligibility cannot be made at this time, a discussion of what further work is necessary should be provided. Further, additional justification should be provided for determinations of eligibility or ineligibility. It is not enough to briefly describe a site and then state that it is eligible or ineligible without more information. As discussed in the MNSHPO's and MN State Archeologist's comments, a site's eligibility cannot be determined alone on the basis that little research has been done in that area; or that we might learn something from further testing; or that a site's architectural style was popular and so it is not eligible for the National Register. More specific justification must be provided in the final report.

Minnesota State Archeologist

Comments on "Cultural Resources Investigations of the Upper Minnesota River (639) Project, Deuel and Grant Counties, South Dakota, and Lac qui Parle and Yellow Medicine Counties, Minnesota"

1. p. iv — Phase III Mitigation plans: "1) Salvage/Preservation which is the complete recovery and preservation of a site." Can a site be completely recovered (presumably through excavation) and preserved at the same time? This is not stated clearly. A more appropriate definition of the plan was stated on page 165 and should be restated in the Management Summary.

2. p. 4 — Change lands bottom (paragraph 3, line 6) to bottom lands.

3. p. 18 — Last sentence under Soils is rather awkward.

4. p. 23-24 — Is this extensive and wide ranging climatological discussion necessary? Discussion seems to deviate unnecessarily far from the project area.

5. p. 38 — The summary could be slightly more detailed.

6. p. 39 — Definitions of site and find spot should be added to the chapter.

7. p. 46 — "Crew members were spaced 25 to 50 meters apart." This is a wide range--exactly which areas were covered by which transect intervals? This general statement makes it impossible to judge the merits of the specific survey strategy and makes it impossible to use the data for predictive purposes.

8. p. 58 — Edit and tighten the Cultural Transformations section. Why discuss things that are not applicable (disposal of the dead) and gloss over those that are quite important to the project (land alteration)? I don't see any evidence that this is applied to survey strategy or interpretation anyway.

9. p. 63 — "Clovis sites have been recorded in or near the project area . . ." Should this read "No Clovis sites . . ."? If documented Clovis sites do exist in or near the project area they should be referenced.

10. p. 64 — Plains Archaic Period. "Large numbers of stone circles appear during the later archaic." Is this documented? I was under the impression that most stone circle sites were attributed to the Late Prehistoric periods.

11. p. 65 — Woodland Period. "Maize agriculture was not practiced." I would qualify this statement to imply that there is no evidence to indicate that maize agriculture was practiced.

12. p. 65 "The Onamia ceramic type is a late Middle Woodland or early Late Woodland manifestation . . . Manufacture of Onamia pottery is dated from A.D. 800 to A.D. 1000." These are the dates of only the Late Woodland period.

13. p. 70 "Keating reported four Mdewakanton villagers on the lower Minnesota." Should this read villages?

14. p. 78 Transition into next section is unclear. Aren't these descriptions of both projects and sites?

15. p. 78+ a. Figures should be put after each project and/or site described. Present organization makes for very difficult reading and orientation.

b. A description of methods applied to particular project areas should be given or shown on the project maps.

c. Reference to the proper project map should be given for each site. For example, 39DE16 should reference Figure 4.

d. Site size is not shown on the maps. The scope clearly requires a determination of size (section 4.05). The verbal description of size doesn't help much if you don't know how to apply it on the ground. Shouldn't the verbal dimensions be stated as, for example 100x100 meters; 1000 square meters, rather than 100x100 square meters?

e. Also, on the site maps, was there an actual permanent datum put in on each site? If so, why aren't bearings given to facilitate relocation? Site boundaries could also be tied in to the datum, as could test units. Otherwise, what was the datum used for, anyway, and why is it on the maps?

16. p. 78+ The overview of this project and others is difficult to tie into what was located. Were all of the sites discussed in the overview relocated? If not, which ones were, and what are the reasons why the rest were not? Some mention is made of this (the dugouts, for example) but it is not systematically done. Some of the discussion is of settlement outside the project area, although it apparently may have a bearing on the project area. This should be more clearly discussed so that the reader doesn't have to analyze all the information over again. Get those maps up front with the projects!

17. p. 88-89 While the historic component at the site (MN2) is recommended for eligibility to the NR, no recommendations are made concerning the prehistoric occupation. Also, on page 87, under cultural affiliation, no reference is made to the prehistoric component.

18. p. 90 Site MN3. The hearth must be extremely deflated to be so flat as seen in profile in Figure 37. The depth of the hearth as stated in the description (195 to 250 cm below ground surface) doesn't correspond with the hearth depth as seen in profile in Figure 37. In the next paragraph the hearth was said to be at a depth of 2.22 meters. Which is correct? Possibly rewrite this discussion.

If no culturally diagnostic artifacts were recovered, why was a radiocarbon date(s) run? I personally don't see this as very constructive use of funds. One cannot tell from the list of artifacts which, if any, were found in the same level as the second radiocarbon date. What about the faunal remains? If there were no diagnostic artifacts found, presumably the identification as archaic is based on the radiocarbon dates. I think some analysis and discussion of this is warranted. Was there any visual stratigraphy? There apparently wasn't any typological stratigraphy revealed by arbitrary units. Are these dates really valid? How can we assess them?

19. p. 95 Site MN4. "The recovery of a Box taurus tibia at a depth of 50 cm indicates the site has been badly disturbed." It could mean that the site has silted in rapidly and would still have intact soils. Since the recommendation for non-eligibility is based on this apparent disturbance, I think more discussion is necessary to substantiate this reasoning.

20. p. 97 Site MN5. Why doesn't this site warrant NR nomination? A physical anthropologist would see great scientific research merit in such a site, while Native Americans will probably not think highly of a project which destroys it. Procedure for excavation, analysis, and reburial should be examined.

21. a. In general, I am concerned about the basis for recommending or not recommending sites to the National Register. Site MN5 seems highly significant to me, for example, as a striking reminder of a fate too common to Native Americans in contact with European diseases which helped white conquest. In addition, it could be argued that it has scientific research value. On the other hand, just because "test excavations might prove informative" is no reason to declare a site (dugout, p. 109) eligible to the National Register. I would like to see more discussion of why certain sites are not architecturally or historically significant (p. 111, for example). There apparently are lots of dugouts in this area. Will we nominate them all (p. 109, p. 119-120) because we haven't done much archaeological study on them yet? Study has to be done first, in order to establish a context for evaluation, I would think. What does it mean to say that, "Little is known of this structure; but it does not seem to be worthy of National Register status"? (see p. 123, Hungry Home) Prehistoric site descriptions are often very sketchy. MN19, for example (p.

129) has no information about the depth of plowing. Frankly, I am skeptical that the complete destruction of a site through plowing can be substantiated by shovel testing only. I would think that you would need controlled test units to examine the relationship between plow zone and cultural bearing horizon adequately. I would at least like to know how many shovel tests, how they were placed, and what the soil profiles looked like. Is there a map showing the boundaries of the site scatter?

I think all of the sites should be discussed in Chapter 8, Evaluations and Recommendations, not just the sites considered potentially eligible. Reasons must be stated as to why sites were recommended for exclusion as well as inclusion regarding the National Register.

b. According to the Scope, the Phase I part of this study was "to provide data sufficient to develop a predictive model of the archaeological, historic, and architectural sites in the project area." I see no evidence of this. There is no information provided as to <u>where</u> within each of the project areas shovel tests were done, except when they were positive and yielded material. How can one justify only shovel testing where visibility was less than 25 percent (p. 46)? Does this assume that all sites are plowed through where visibility is 75 percent or more and that there are no buried horizons below the plow zone? If this is the reasoning, it should be justified with testing or other studies. Where are the field maps that all the shovel tests were recorded on (p. 46)? How will I be able to record for the Minnesota files exactly what was surveyed, exactly what transect intervals were used, and where the shovel tests were placed? Since no sites were found in Minnesota, we end up with very little information — just four quad maps showing the Minnesota side of the Yellow Bank subbasin! What was surveyed, how was it surveyed, where is the 10% subsample within channel projects located, etc..?

c. A final note - it would be much easier to review and understand the data if one did not have to flip from site description to (unreferenced) area map to site map to site photos to field notes. Data for MN3, for example, are on pp. 90-97 on the Canby Quad (presumably - though I don't see it marked - see p. 187) on p. 220 (profile) and 221 (site map - where test pits are not numbered, so you don't know which ones yielded the C14 material -- actually, you don't know that anyway, because only the second C14 date is identified as to provenience (which unit was the hearth in?), then on to p. 229 for one photo (bottom) and 230 for another (top), and to p. 317-319 for field notes, including soils description (test unit # not given), and <u>now</u> finally to p. 327 for the site form. According to the site map (p. 221) 15 auger tests were put in on this site. What were the results?

MINNESOTA HISTORICAL SOCIETY
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March 28, 1983

Sandy Blaylock
Environmental Branch
U.S. Army Corps of Engineers
St. Paul District
St. Paul, MN 55101

Dear Sandy,

In my brief review of Beissel et al. (DACW37-82-M-1508), I limited the review to chapters 1, 2 and 6 concerning the environmental, archaeological and historical overviews. I did not review the field methods and recommendations as you will be getting comments from the SHPO regarding those sections.

Overall, the chapters I reviewed were done quite well except for two aspects: the environmental sections tended to rely on somewhat dated sources and the archaeological/historical sections tended to rely on a few secondary sources. Specific comments are listed below and a References Cited page is attached.

The review of previous archaeological work done in the immediate vicinity of the project as described in Chapter 1 appears comprehensive and accurate, to the best of my personal knowledge.

In Chapter 2 (Environmental Background), no source is cited for the the climatic data (p. 18). The section on paleoclimatology and paleoenvironment is based on two primary sources; Watts and Bright (1968) and Bryson et al. (1970). I would suggest that the authors of this report also consult Van Zant (1979) for a more up to date overview. They also tend to rely on Flint(1955) or earlier sources for their geomorphology summaries on pages 13-17. They should use some references here to Matsch(1972) amd Wright(1972) as they did in Chapter 7. Much of Chapter 7 could have been incorporated into Chapter 2. In addition, good descriptions of the Minnesota rivers they discuss can be found in Waters(1977).

In Chapter 6, the overview of the human prehistory is largely based on Lass(1977, 1980b) and Anfinson(1979). Anfinson(1979) does not discuss the region in any detail and should be considered a secondary source. Lass(1977) is also a secondary source and I have reservations about the usefulness of Lass(1980b) since it was not based on excavated data. They may want to check Anfinson(1982a, 1982b),

Dobbs(1979) and Shane(1982). More specifically, on page 62, line 10-11, they state: "Culturally, the Northeastern Plains were occupied by band-level hunters and gatherers who shifted residence in response to available food resources." This certainly isn't true with respect to some late prehistoric groups in the subarea (e.g. Great Oasis, Over Focus, Cambria, Blue Earth Oneota) and may not be true even with regard to some Woodland groups. On page 64, lines 30-31, they state that bison was the primary subsistence resource during Woodland times. First of all, plant foods may have been just as important, but we haven't recovered their remains (if there are any) archaeologically, and, secondly, fish and small mammals (e.g. muskrat) seem to be as important as bison at some sites based just on recovered faunal remains (cf. Anfinson 1982a).

The overview of the historic period in Chapter 6 is especially weakened by its reliance on out-of-date or secondary sources. The ethnographic-early history summary is almost exclusively based on Robinson(1904) and Meyer(1967). The Dakota were not forced en masse out unto the prairie as suggested by their citation of Robinson (page 67). The Teton, Yankton and Yanktonai were already prairie tribes by the time the Ojibwa started moving into Minnesota. This is just one example of an inaccuracy that comes from relying on secondary or out-of-date sources. They should read Michlovic(1980) and Wedel(1974) to get a better idea regarding ethnographic occupation of the area. Their reliance on Meyer(1967) for the early white explorations of the region is also inadequate. Later explorations they fail to discuss include Catlin's and several dragoon expeditions. They note (page 70) that the Long expedition produced only the Keating and Beltrami narratives, failing to mention the date of the expedition (1823) and that Long's personal account has been published (Kane et al. 1978). The Nicollet expedition of 1838 is mentioned only in passing (page 72) which is surprizing since it produced the first comprehensive account of the region(Bray and Bray 1976), traversing even the area of the proposed project.

I do not know your current guidelines regarding the use of secondary as opposed to primary sources in writing the environmental, archaeological historical overviews so many of my comments may not be appropriate. I do feel, however, that accurate assessments of cultural resources of a given area cannot be made unless the region in question is adequately understood. I'll let somebody else decide what is adequate.

Sincerely,

Scott Anfinson
Archaeologist, Minnesota Historical Society

References Cited (and not in Beissel et al. bibiliography)

Environment

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Bray, E.C. and M.C. Bray
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1979 Archaic subsistence in southwestern Minnesota: the view from Granite Falls. Unpublished MA thesis, University of Minnesota.

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Shane, O.C.
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Wedel, M.M.
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25 March 1983

Mr. Wayne A. Knott
Chief, Environmental Resources
Planning Division
Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

Dear Mr. Knott:

RE: Planning Environmental Resources
Cultural Resources Investigations of
the Upper Minnesota River (€39) Project,
Devel and Grant Counties, South Dakota,
and Lac qui Parle and Yellow Medicine
Counties, Minnesota.

MHS Referral File Number: P-528
(PLEASE REFER TO THIS NUMBER IN
ALL FUTURE CORRESPONDENCE)

Thank you for the copy of the above referenced report. Having reviewed the report, the following comments are in order:

1. Maps are needed within the text in order to reference the discussion.

2. Information on climate, vegetation, and fauna, while interesting, is not linked with the discussion of cultural resources.

3. Where is the discussion of prehistoric ground stone artifacts?

4. The discussion of natural transformations is also interesting, but again not utilized beyond its presentation.

5. There is no map showing where the 10% Valley sample was taken nor the methodology of how the sample was determined.

6. The statement (p.43) that "Lac Qui Parle County records were not searched..." does not correspond with the statement of research methods indicating a record search before field work. Additionally, these records may have indicated historic features to be field researched. The procedure as shown on p.43, item 1 is not a logical one.

7. The additional references (e.g. MN 17, MN 18, etc.) are confusing since it was stated that no sites were recorded in Minnesota.

8. Field methods and field notes (see p.317 Paragraph 1) do not correlate. If shovel tests are only 40 cm deep and Holocene deposits are approximately 90 cm. deep how can one justify this sampling methodology?

9. Shovel tests (at least the positive ones) are mapped, but not tied into anything beyond the local datum.

10. An unpublished study was conducted of dug outs in Western and South Western Minnesota. This report was written by Jean Caspers and a copy is available for reference at the MNSHPO office.

11. Use of the name "Native American" should be changed to American Indian as requested by the Minnesota Indian Affairs/Inter-Tribal Board.

12. Furthermore, documentation is insufficient to determine eligibility of dugout sites. The MnSHPO recommends that substantive records research and field testing be done in order to determine historical and archaeological significance. It is not the opinion that the current absence of archaeological information makes a suspected site eligible for nomination to the National Register.

13. The MnSHPO concurs with the report that none of the standing structures (farm buildings and bridge) located in the Minnesota portion of the study area meets the criteria necessary for listing on the National Register.

In summary, while there are some good aspects to the report, it is felt that the manner of presentation is difficult to follow. Superfluous data abounds in the report, but only because it is not put in cultural or methological context. Additionally the field methodology may in fact not have been appropriate to the geomorphic setting of the project.

If these and other items are addressed in the final draft of the report it is suspected that an acceptable report will be generated.

If you have any questions regarding this review, please do not hesitate to contact me.

Sincerely,

Robert Clouse
Environmental Assessment Officer

RC/fr

Response to Corps of Engineers

1. All figures have been incorporated into the report.

2. More detailed site descriptions have been written.

3. Field notes have been incorporated into the report and have been changed in regards to derogatory statements.

4. Background information has been revised, trimmed.

5. Field methodology has been completely rewritten.

6. The photographs in the final report will be much clearer than in the first draft report.

7. Maps and figures have been added. Quad maps will be sent separately.

8. The use of testing forms is explained in the field methods.

9. Project impacts are discussed in relation to specific requirements within each project area.

10. Eligibility recommendations are more clearly stated in Chapter 7.

Minnesota State Archaeologist

1. Comment addressed in revised report.
2. Comment addressed in revised report.
3. Comment addressed in revised report.
4. Comment addressed in revised report.
5. Comment addressed in revised report.
6. Comment addressed in revised report.
7. Comment addressed in Chapter 4 of revised report.
8. Comment addressed in revised report.
9. Comment addressed in Chapter 3 of revised report.
10. Comment addressed in Chapter 3 of revised report.
11. Comment addressed in Chapter 3 of revised report.
12. Comment addressed in Chapter 3 of revised report.
13. Comment addressed in revised report.
14. Comment addressed in revised report.
15. Comments addressed in Chapters 4 and 5 of revised report
16. Comment addressed in revised report.
17. Comment addressed in revised report.
18. Comment addressed in revised report. Use of radiocarbon dating techniques is a valid, usually reliable method, for ascertaining the approximate absolute age of a site when culturally diagnostic artifacts are lacking. Otherwise, how is one suppose to place a site chronologically if the site's function (such as a quarry) does not lend itself to the presence of temporally diagnostic artifacts? Temporal control, in the Plains, is fair at best with most Archaic and Woodland projectile points and Woodland pottery styles.

19. Comment addressed in revised report.
20. Comment addressed in revised report.
21. Comment addressed in revised report.

Minnesota Historical Society
Scott Anfinson

Comments are all addressed within the revised report.

Robert Clouse

1. Comment addressed in revised report.
2. Comment addressed in revised report.
3. If ground stone artifacts had been found they would have been discussed in the report. None were found.
4. Comment addressed in revised report.
5. Comment addressed in revised report.
6. Comment addressed in revised report.
7. Comment addressed in revised report.
8. Comment addressed in revised report.
9. Comment addressed in revised report.
10. The report on dugouts was read and is referenced in the revised report.
11. Comment addressed in revised report.
12. Comment addressed in revised report.
13. Comment incorporated into revised report.