

NATIONAL PARK SERVICE

midwest archeological center

AN ARCHEOLOGICAL SURVEY OF THE
HOMESTEAD NATIONAL MONUMENT OF AMERICA

by

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and
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In Cooperation With

The Midwest Archeological Center
National Park Service
100 Centennial Mall North
Lincoln, Nebraska

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ABSTRACT

In April, 1985 the Midwest Archaeological Center, National Park Service, contracted with the Department of Anthropology, University of Nebraska, Lincoln, for a cultural sites survey of the Homestead National Monument of America, Beatrice, Nebraska. The survey resulted in the accumulation of additional information about the nature and distribution of artifacts associated with the Daniel Freeman homestead (25GA91) and the documentation of a Central Plains Tradition site (25GA89) at the Monument. Because of the limited subsurface testing conducted at the Monument only site interpretations of a more general nature could be proposed. Nevertheless, the cultural resources at the Homestead National Monument have the potential for contributing to our understanding of late prehistoric occupation of the Central Plains and of the historic settlement of the Plains following the Civil War.

ACKNOWLEDGEMENTS

This report is the result of the combined interest and efforts of a number of individuals. Superintendent Randall Baynes of the Homestead National Monument and Dr. F.A. Calabrese and Dr. Mark J. Lynott of the Midwest Archaeological Center provided for the survey funding. Additionally, the Midwest Archaeological Center provided the space and technical equipment used for the artifact analysis and preparation of the report. Additionally, a debt of gratitude must be paid to the Homestead National Monument staff, who offered every assistance to facilitate the completion of this report.

The field survey was conducted daily by three crew members, Linda Woodbury, Giselle Barrett, and Jennifer McNeil under the supervision of Christopher Schoen. Occasional volunteer assistance was given in the field by Dr. Peter Bleed, Georgia Panos and Melissa Connor.

Sections on the background of the project, field and laboratory methods, and analysis of the historic artifacts were completed by Christopher Schoen. He also oversaw final assembly and editing of the project report. Dr. Peter Bleed prepared the analysis and discussions of the prehistoric materials collected at the Monument. Dorothy McEwen prepared the final draft of the report. Melissa Connor assisted with the research and survey designs. The line drawings were drafted by Nancy Hartman and Giselle Barrett, under the supervision of Debbie McBride.

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INTRODUCTION

Scope of Work

On April 12, 1985 the Midwest Archaeological Center, National Park Service contracted with the University of Nebraska, Lincoln to conduct a Cultural Sites Inventory survey for Homestead National Monument in accordance with Executive Order 11593 and Section 110 of the National Historic Preservation Act of 1966, as amended, and the Cultural Resources Management Guideline NPS-28.

Under the prescriptions of these legislations, the Midwest Archaeological Center, National Park Service, Lincoln, Nebraska requested a proposal for a systematic inventory of prehistoric and historic archeological resources within the boundaries of the Homestead National Monument of America. The proposed work was "not to include further study of previously investigated sites other than to relocate them and document the nature of their surface evidence" (NPS 1985:1).

The scope of work for the archeological inventory at Homestead National Monument, Nebraska was to include three parts: (1) a systematic pedestrian visual examination of 100% of the Monument lands and subsurface site identification or evaluation if warranted and as proposed by the archeological contractor; (2) the documentation of the location and nature of the evidence for each site or isolated find, including the systematic recording of the related information on a Nebraska Archeological Survey site form, and maps with sufficient detail and scale to plot all forms of surface evidence of each site so as to permit easy relocation of the site by National Park Service personnel; and (3) a formal analysis of the results of the project and the preparation of a technical report (NPS 1985:2).

Four technical goals were identified for the project by the University of Nebraska - Lincoln, Department of Anthropology: (1) identify the nature and distribution of the prehistoric and historic artifacts, artifact concentrations, and surface features within the Monument boundaries; (2) determine and record the exact location of all NPS markers which have been established within the Monument; (3) locate and record the currently known archeological features within the Monument; and (4) isolate the locations and extent of areas within the Monument which have been archeologically investigated in the past.

In addition to the four technical goals, four other research objectives were identified in the University of Nebraska proposal. First was the clarification of historic and

prehistoric patterns of land use with the Monument by relating patterns of artifact distribution to land form and vegetation patterns. Second was the identification of diachronic changes in the household clusters and other residential or functional units which were recognized archeologically. The third and fourth goals had regional applications. The third objective was to collect window glass thickness data which could be built into a seriation model developed for 19th century Plains historic archeological sites (Schoen 1985). Fourth was an identification of probable sources of lithic debris recovered from the Monument. This information would contribute to discussions about prehistoric lithic procurement patterns of the prehistoric occupants of the Monument and would be useful for Park interpreters and Plains archeologists.

The following report describes the archeological survey made at Homestead National Monument between April 15 and May 1, 1985. This report also discusses the artifactual materials collected during this survey. It describes a previously unreported prehistoric site located within the park boundaries. Finally, it discusses the results of the archeological site survey in terms of the objectives outlined above. Prior to these discussions, however, is a brief summary of the natural setting, the historical significance of the Monument and the previous archeological investigations conducted at the Monument.

Environmental Setting

Homestead National Monument is located in southeast Nebraska in Gage County, about 4.5 miles northwest of Beatrice, Nebraska. The Monument is a memorial to the pioneers who settled the Plains and commemorates the influence of the homestead movement on United States history. It encompasses a T-shaped quarter section (160 acres) of prairie and woodland originally claimed by Daniel Freeman, together with a 1 1/2 acre tract containing a brick schoolhouse (the Freeman School) and 0.5 acres of virgin prairie. Cub Creek meanders 1 1/2 miles through the wooded north and west 40 acre tracts of the Monument proper.

Topography

The Monument lies within the glaciated Drift Hill Region of southeastern Nebraska. Interbedded limestone and shale indicate that this region was once covered by an inland sea. The area was uplifted and glaciers deposited large masses of earth material, called "glacial till". Water and wind erosion has resulted in the current landscape (Beesley et. al. 1964:68).

The southern boundary of the Monument is characterized by a

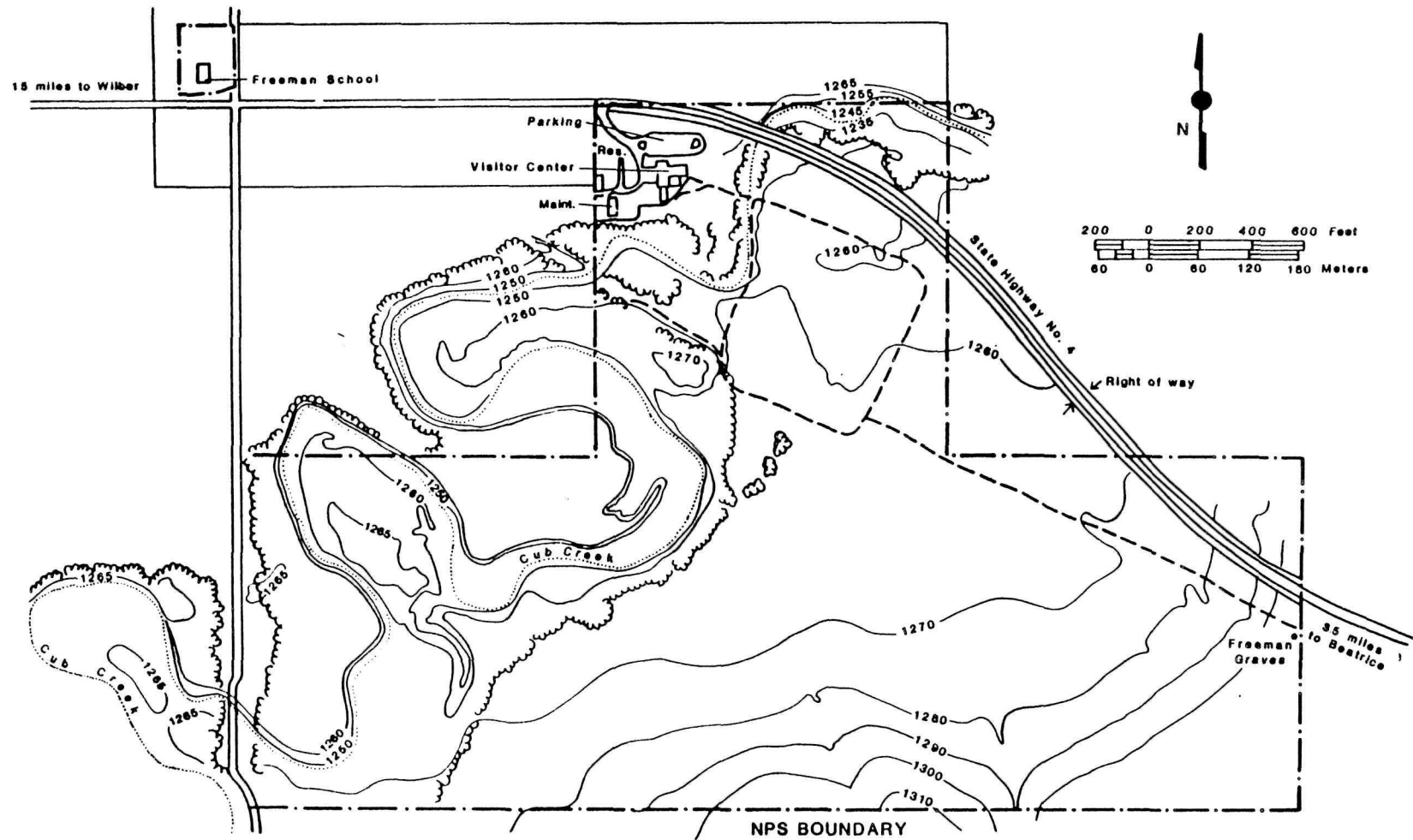


Figure 1. Map of the Homestead National Monument of America.

medium-steep, north-facing upland slope. Along the gentle slopes, a mantle of dark brown silty loess overlies a brown clayey loam (Beesley et. al. 1964). In the steeper areas of the slope, the silty loess gives way to coarse sand. At the base of the slope, in low swales, and along the second terraces the predominant soil is a dark brown clay loam at least 30 cm deep. The lower terraces and bottom lands of Cub Creek are composed of mixed alluvium (Beesley et. al. 1964). The banks of the creek are steep-sided and are between four and twelve feet high.

In general, the soil belongs to the Hobbs-Judson association: it is composed of level or nearly level soils of flood plains and foot slopes. The Hobbs soils of the bottom lands are of medium-textured alluvium and well drained. The surface layer is 10 to 14 inches thick and is of dark, slightly acidic silt loam. The subsoil is very dark, friable, yet heavy silt loam (Beesley, et. al 1964:11-12). Muir and Rokeby soils are found on low terraces. The Muir soils have a thick surface layer of dark, slightly acid, silt loam and a subsoil of friable, dark silty clay loam (Beesley et. al. 1964:16-17). Rokeby soils have a thick surface layer of dark, slightly acid silty clay loam and a subsoil of very firm, dark-colored clay (Beesley et. al. 1964:18). The Judson soils have a 12 to 24 inch surface layer of dark silt loam or fine sandy loam and is medium acidic. The subsoil is friable, dark silt loam or clay loam. The alluvial land in this association consists of layered stream sediments. (Beesley et. al. 1964:3-4).

The slopes on the southern end of the Monument are Geary silty clay loam and eroded, with a 5 to 8 percent slope. These are upland loess soils which form under prairie vegetation and mid to tall grasslands. The southeast portion of the park is of severely eroded Morrill soils and has a 8 to 18 percent slope. Such soils have a surface layer of loam or clay loam 3 to 5 inches thick and a gritty clay loam subsoil. Along the southern boundary and towards the west, the soil is Judson fine sandy loam with a 3 to 5 percent slope or Muir silt loam on the prairie. In the woods, along Cub Creek, are alluvial deposits. At the base of the slopes are Judson silt loam with 3 to 5 percent slope. The center portion of the prairie is Rokeby silty clay loam. The northern sections of the Monument are Muir silt loam and Hobbs silt loam (Beesley et. al. 1964:Soil Map Sheet 6).

Vegetation

Approximately two-thirds of the area is prairie. The prairie is being restored to tall grass prairie and associated prairie plants including little bluestem (Andropogon scoparius), big bluestem (Andropogon gerardi), Indian grass (Sorghastrum nutans), lead plant (Amorpha canescens), switchgrass (Panicum virgatum), prairie rose (Rosa arkansana), milkweed (Asclepias sp.), and goldenrod (Solidago spp.) (Landers 1975). Currently a number of exotic grasses, such as foxtail (Setaria sp.) and

smooth brome (Bromus inermis), and weeds such as Russian thistle (Salsola kali), bindweed (Convolvulus sp.), mullein (Verbascum thapsus), and dandelion (Taraxacum officinale) have invaded the prairie (NPS 1983:15). Approximately 95 acres have been restored to native tall grass prairie (NPS 1983:36).

An osage orange (Maclura pomifera (Faf.) Schneid) hedgerow originally planted by Daniel Freeman is present along the south boundary of the Monument. Approximately 64 acres of woodland, featuring green ash (Fraxinus pennsylvanicus), oaks (Quercus spp.) and cottonwoods (Populus deltoides), covers much of the north and west 40 acre tracts along Cub Creek (NPS 1983:36). Common small trees are elm (Ulmus spp.), honey locust (Gleditsia triacanthos), plum (Prunus spp.), mulberry (Morus alba), and box elder (Acer negundo).

Wildlife

The variety of wildlife species is representative of southeastern Nebraska and includes muskrat (Ondatra zibethicus), beaver (Castor canadensis), squirrel (Sciurus carolinensis), cottontail (Sylvilagus floridanus), whitetail deer (Odocoileus virginianus), and coyote (Canis latrans) among the chief species. Garter snakes (Thamnophis sirtalis), bull snakes (Pituophis sayi sayi), tree frogs (Hyla sp.), and other common frogs (Rana sp.) and toads (Bufo sp.) are also present. Fish such as carp (Cyprinus carpio), channel catfish (Ictalurus punctatus), and several species of sunfish (Lepomis sp.) and minnows (i.e. Hybognathus placitus) inhabit Cub Creek.

Historical Background

On March 19, 1936 an act of Congress provided for the purchase of the Daniel Freeman homestead, the first homestead claimed and patented under the Homestead Act of 1862. On January 3, 1939 the land was designated as the Homestead National Monument of America (Bauxar 1948:1). The Freeman School, located a quarter mile west of the Freeman homestead, was added to the Monument on September 25, 1970 (Public Law 91-411). The school serves as "an example of rural education facilities directly associated with the homestead movement" and furthers "the interpretation and commemoration of the pioneer life of the early settlers of the West" (NPS 1983:1).

The Homestead Act of 1862 was intended to open much of the western lands in the public domain to settlers. The Act provided that any adult citizen or alien who filed his/her papers could claim 160 acres of the public domain for a ten dollar fee. It further stipulated that when the claimant resided or cultivated

his/her land for five years immediately succeeding the filing and paid the necessary fees he/she would obtain final title (Billington 1960:698). The Act became operative on January 1, 1863.

Daniel Freeman staked out a claim near Beatrice, Nebraska while on leave from military service during the War between the States in 1862 when the Homestead Act was passed. Rather than claiming a 160 acre square, Freeman chose four 40 acre tracts forming an inverted 'T' so as to take advantage of the timber and water of Cub Creek which winds through the north and west 40s. The east and south 40s were prairie lands to be cultivated. His claim also took advantage of a freight road which passed diagonally through the homestead. The road linked such Missouri River ports as St. Joseph with the Oregon Trail at Ft. Kearny, Nebraska (Bauxar 1948:3).

Freeman also bought out a squatter who was then living in a log cabin in the north 40 tract on the south side of the freight road near the ford. It has been said that a team of oxen was the agreed purchase price (Bauxar 1948:4).

Daniel Freeman was in Brownsville, Nebraska on New Year's Eve and was able to persuade the Government land agent to file his claim shortly after midnight, the first Homestead entry in the nation. The beginning of Freeman's residence on the claim was postponed until the termination of his military service in 1865 (Bauxar 1948:4).

When Freeman settled on his claim in 1865 he and his bride, Agnes Suiter Freeman, occupied the squatter's cabin. In 1867 Freeman completed a new log cabin on a knoll about midway along the east line of the north 40. About this time Freeman's brother-in-law, John W. Suiter, filed on the 40 acres immediately to the east. This tract was acquired by Agnes S. Freeman in 1872 (Bauxar 1948). A second log cabin was built near the Freeman cabin. The patent to the Freeman homestead was issued in 1869, the first issued under the Homestead Act (Bauxar 1948:5).

By 1876 Daniel Freeman had completed construction of a four room brick house on the south side of the freight road. The brick came from a kiln which Freeman operated for about two years. The kiln was situated on a high terrace on the east side of Cub Creek (Bauxar 1948:5). Freeman maintained his residence in the brick house until his death in 1908. A fire burned the brick house in 1916.

In the 1890s a group of farm buildings were built north of the brick house. These buildings were razed in 1928. A frame house was constructed in 1916 about 200 feet to the east of the burned brick house. The frame house was dismantled in 1930. After 1916, two other frame houses were built south of the first frame house. One was removed to Beatrice in 1939 (Bauxar 1948:5).

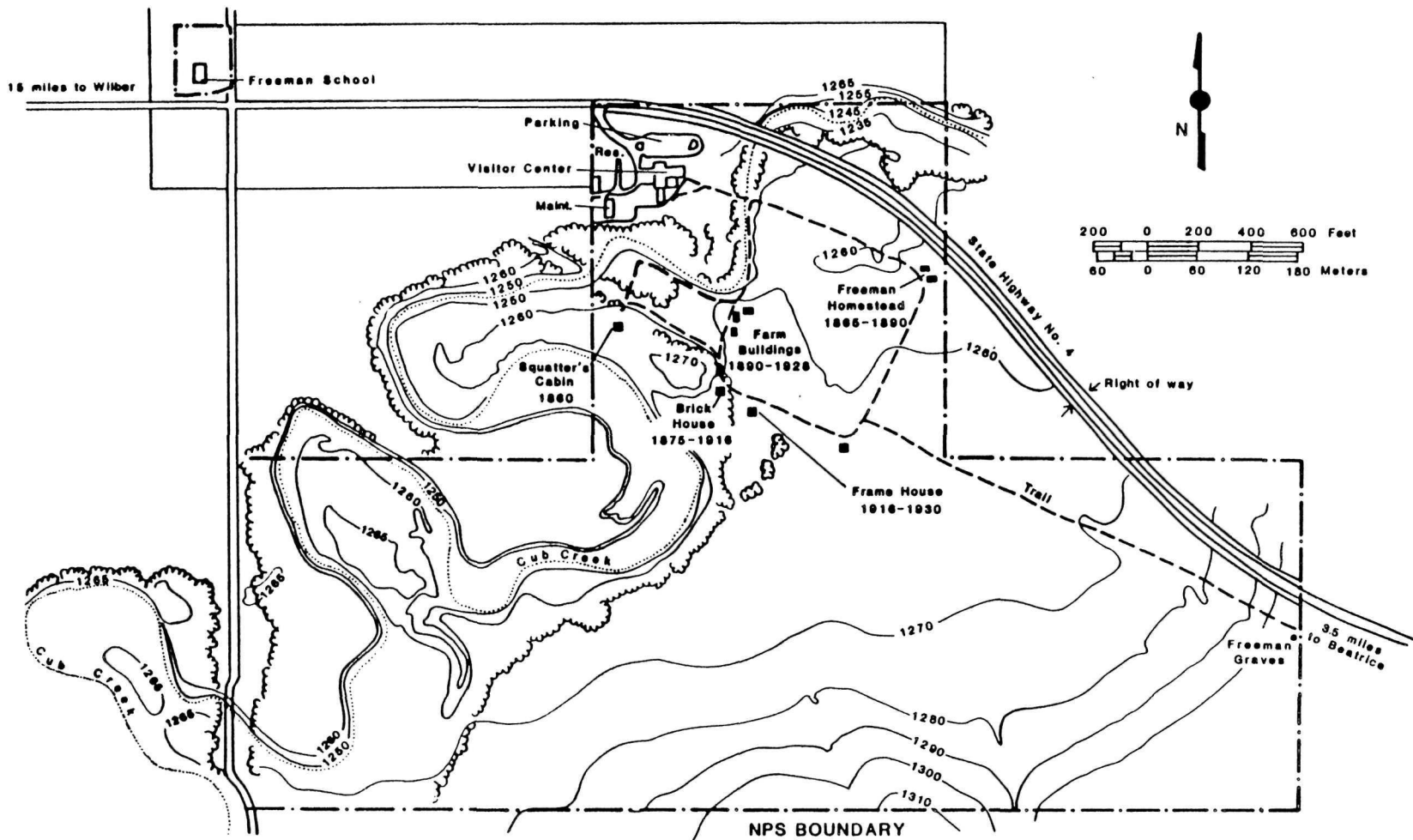


Figure 2. Locations of historic structures at Homestead National Monument.

The Freeman School was built in the fall of 1871 by Thomas H. Freeman for the Gage County School District 21. It opened in the spring of 1872 with an enrollment of 14 students (Riddo and Brown 1973:3-4). The school was in continuous use until 1968, making it the longest continuously used one-room schoolhouse in the state of Nebraska at that time (Riddo and Brown 1973:10).

From 1872 until the erection of the First Trinity Lutheran Church in 1879, the structure served as both school and church for the locale. But its relationship with the "sacred" did not end in that year. In 1899, Daniel Freeman filed suit in the Gage County District Court to put a stop to religious exercises being conducted during the school sessions by the school teacher, Miss Edith Beecher. The suit was denied by the county court judge. Daniel Freeman appealed the decision to the Nebraska Supreme Court, who in a landmark decision on October 9, 1902, ruled that the exercises constituted religious worship thereby violating the state constitution which forbids sectarian instruction in public schools (Riddo and Brown 1973:6-7).

Previous Archeological Investigations

In 1948, J.J. Bauxar conducted excavations at the Monument to acquire specific knowledge about the pioneer life of those persons settling, cultivating and "civilizing" the West (Bauxar 1948:1). Additionally, a description of the historic structures, their orientation, and the collection of utensils and implements related to the Homesteading period would be used for park interpretation of this part of American history.

Four areas were of historical interest at that time: the site of Freeman's cabin, built in 1867; the site of the squatter's cabin occupied by the Freeman family between 1865 and 1867; the site of the brick kiln which Daniel Freeman operated for about two years (1874-1876); and the site of the brick house, occupied between 1876 and 1916 (Bauxar 1948:2).

On the basis of his review of the relevant historical documentation of the Freeman homestead, interviews with the children of Daniel and Agnes Freeman (Sam Freeman and Mrs. D.W. Carre), and the distribution and nature of the archeological evidence, Bauxar (1948) made several conclusions. First, the Freeman cabin was located midway along the eastern side of the north 40 and that the Suiter cabin was placed across the property line to the east and slightly north (Bauxar 1948:16-17). Second, all evidence of the squatter's cabin, if it was located where informants have placed it, has been lost by periodic flooding in the area (Bauxar 1984:19-20). Third, the fire trench found southeast of the proposed squatter's cabin site suggests that a kiln was present at this location (Bauxar 1948:21-22). Fourth, no evidence of Freeman's brick kiln was found in the area

identified by Sam Freeman as the site of this kiln. If the kiln did exist at the proposed location (on a level terrace north of the freight road between Cub Creek and the approach road to the Monument utility building) the dismantling of the kiln and subsequent erosion have completely removed all archeological evidence of the structure (Bauxar 1948:24-25).

On August 7, 1984, Dr. Mark J. Lynott conducted limited shovel testing and excavation at the Freeman School, a brick schoolhouse constructed in 1872 and in use until 1967. The school is located a quarter mile west of the Monument proper. The purpose of the excavations was to evaluate potential impact on cultural resources resulting from proposed land grading on the west side of the schoolhouse (J. Richner, personal communication May 13, 1985). At present the ground surface drains towards the structure increasing the moisture around the brick foundation. In time, this moisture will undermine the stability of the foundation and hence the structure as a whole.

The testing was scheduled to contribute to the paraprofessional training program conducted by the Midwest Archaeological Center for National Park Service personnel. No formal report has been prepared to date.

In addition to two shovel test transects on the north side of the structure, four 1 m x 1 m test pits were excavated on the west side of the schoolhouse to a depth of about 1 m. Metal desk fragments, pencils, ceramics, nails, bottle and window glass, and brick and mortar fragments were among the artifacts recovered from the test units. The test unit closest to the schoolhouse, towards the northwest corner, contained the largest amount of cultural material (J. Richner, personal communication, May 13, 1985). The artifacts are curated at the Midwest Archaeological Center, Lincoln, Nebraska.

In 1979 and 1980 magnetic surveys were made at Homestead National Monument by Mr. Robert Nickel of the Midwest Archaeological Center, National Park Service. The data collected in these surveys were analyzed and reported by Dr. John Weymouth of the University of Nebraska (Weymouth 1983).

One area tested was the presumed brick kiln site tested by Bauxar in 1948. The second area was in the yard north of (behind) the Freeman School House. In the presumed kiln area four 20 m x 20 m blocks were surveyed in which magnetic readings were made at grid points spaced 1 m west-east and 2 m south-north (Weymouth 1983:1). No significant anomalous magnetic values were found in this test region that could be attributed to a kiln. A high anomaly was located on the north edge of the grid on the edge of a slope leading down to Cub Creek, but this is an unlikely position for a kiln (Weymouth 1983:2). Generally speaking, the data suggested that the sources of most of the anomalies recorded would be up to a meter deep.

A 40 m x 40 m area (four 20 m x 20 m blocks) was tested in

the school yard again spacing the readings at 1 m west-east and 2 m south to north. The presence of iron in the schoolhouse, in the privies and in the flagpole created strong magnetic disturbances. However, when these were filtered out, few anomalies were recorded which were likely to be of historical interest (Weymouth 1983:7).

II. METHODS

Survey Methods

A limited subsurface sampling strategy was implemented which would minimally disturb the integrity of those archeological sites situated within the park boundaries but which would provide the information necessary for cultural resource management and answer the research questions proposed for the project. A 100% pedestrian visual survey and systematic shovel testing were elected as the preferred testing methods to be used given the constraints of the project: limited funds allocated for the project; a restricted time period during which surface visibility was highest following the burning of the prairie grasses; extremely limited surface visibility in the wooded areas of the Monument; and the extensive surface area which needed to be investigated - 160 acres.

The field work was conducted by a four person crew from the University of Nebraska, Lincoln, under the direction of Dr. Peter Bleed and supervision of Mr. Christopher Schoen. Two weeks of field work were projected, following the burning of the prairie grasses by the park personnel. The burning of the prairie grasses were initially planned for the end of April or the beginning of May, 1985. Unseasonably warm weather made it preferable for the prairie to be burned prior to the proposed date and burning began during the first week of April. Field work began April 15 and completed by May 1, 1985.

The survey was designed to intensively test the 162.7 acres composing the Monument to determine the distribution of archeological remains and collect relevant information while minimally impacting archeological and natural resources. This was accomplished by using a combination of surface survey and systematic shovel test sampling.

Shovel Test Strategies

Shovel tests were aligned in transects paralleling the park's boundary fences and were numbered sequentially. The first shovel test of each test area was placed 5 m from the NPS boundary fence. Ten meters separated each transect. The interval between shovel tests varied according to changing circumstances, but were oriented within the overall 10 m by 10 m grid. For example, in the wooded areas of the park, shovel tests were made every 10 m. In the open prairie areas, where the grasses had been burned off, the shovel test interval increased

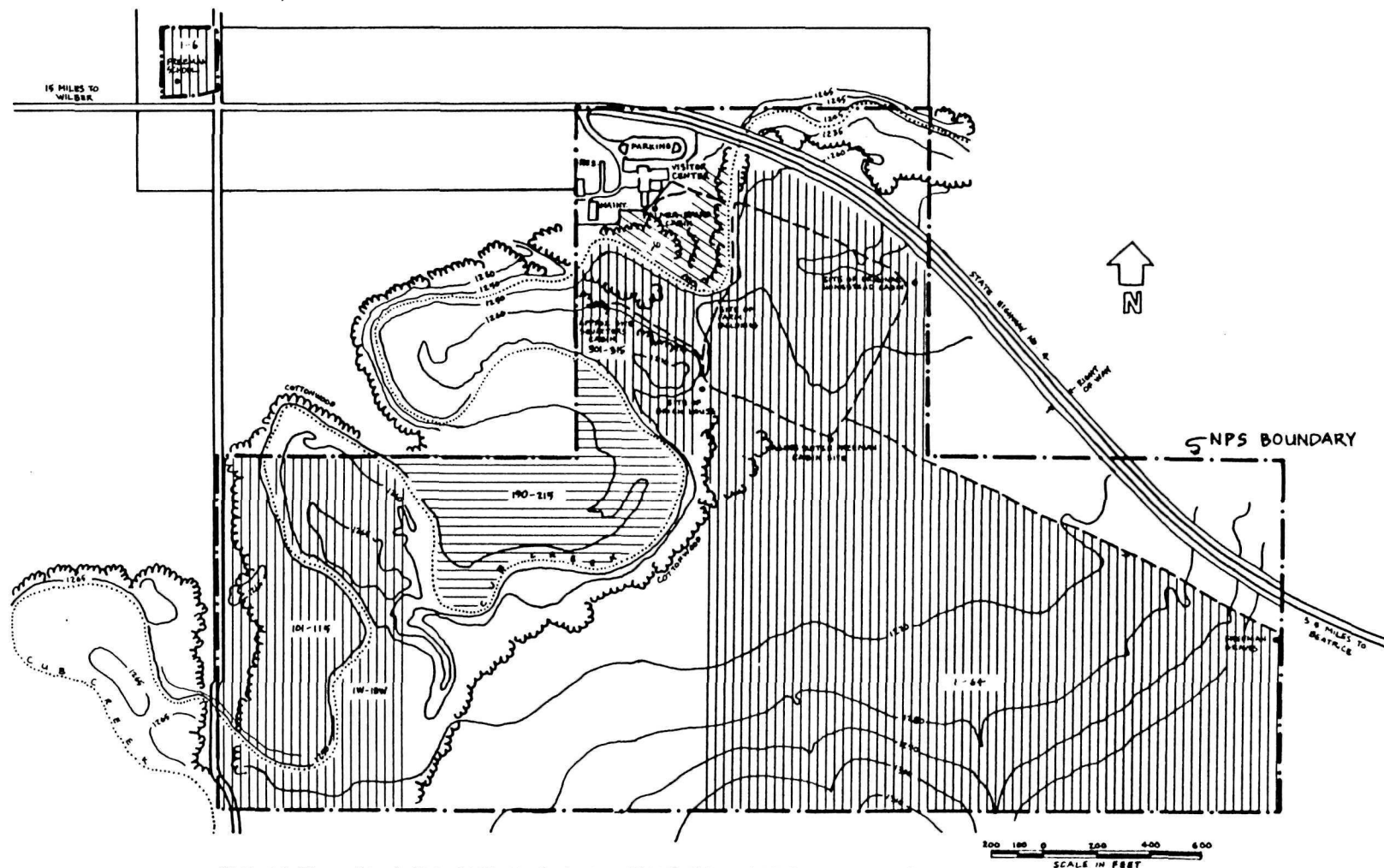


FIGURE 3. MAP INDICATING SHOVEL TEST TRANSECT SECTION AREAS.

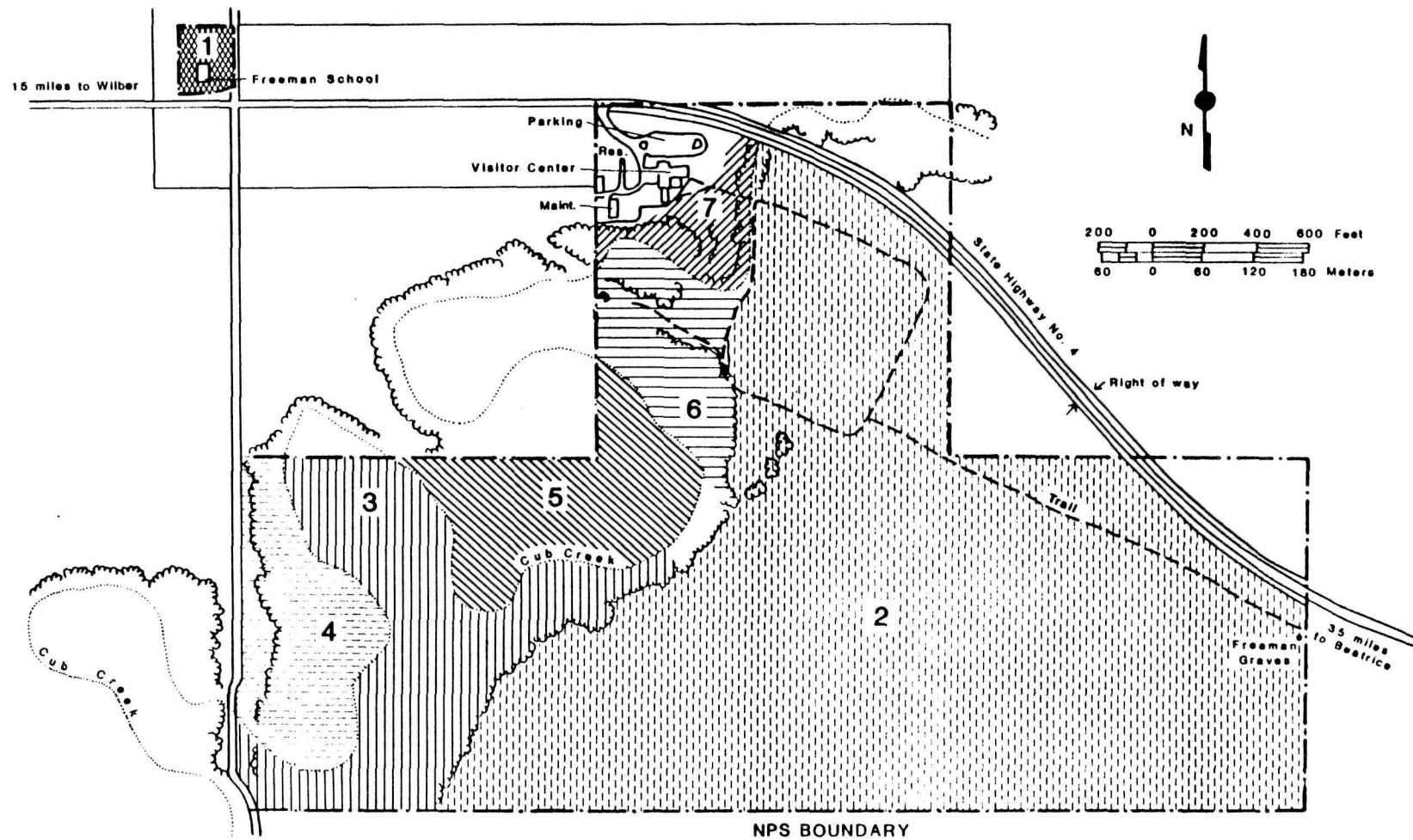


Figure 4. Locations of the seven analysis sections.

to 50 m but the transects continued to be 10 m apart.

The Monument lands were divided into seven sections for testing and analysis because of their relative geographic location (See Figure 4). For example, it was convenient to separate the Freeman School and adjacent prairie "schoolyard" (Section 1) as they were located west of the Monument proper. The open prairie lands in the Monument proper were designated Section 2. Because Cub Creek wound through the wooded western third of the Monument, the area was divided into five sections (3 through 7).

Each section was shovel tested separately. However, as the transects and shovel test rows were oriented to the overall 10 m grid, they relate to one another within that generalized grid.

Each shovel test, measuring about 30 cm in diameter, was dug to a depth of about 30 cm or into sterile subsoil to ascertain the presence of cultural materials and the presence of any unusual soil changes suggesting cultural activity. The soil from each shovel test was carefully troweled for artifacts and other evidence of prehistoric or historic activity. Artifacts found in shovel tests were bagged with the provenience information (i.e. transect and shovel test number and approximate surface depth). Each shovel test in a particular transect was recorded on a survey record form, whether or not it contained evidence of cultural activity.

Areas Not Surveyed

Three portions of the Monument lands were not surveyed by shovel testing and recieved only cursory pedestrian visual examination because of their documented disturbed nature. The three areas are: (1) the Highway 4 borrow area along the north side of the Monument lands; (2) the Old Highway 4/Freight Road which bisects the Monument and on which some of the trails are located; and (3) the Visitor Center - Staff Housing Complex in the northwestern part of the Monument (Figure 4). Several feet of topsoil was excavated from the borrow area to when the new State Highway 4 was relocated in the 1960s. Gravel and some asphalt fragments were observed along the Old Highway 4/ Freight Road. Presumably the roadbed was graded prior to constuction and thus disturbed. Construction of the Visitor Center, the parking lot, and the houses and maintenance buildings west of the Visitor Center would have resulted in the destruction of sites located in this portion of the Monument and so were not tested.

Surface Collection Strategies

Two surface collection strategies were used in the areas with high surface visibility. First, careful surface inspection

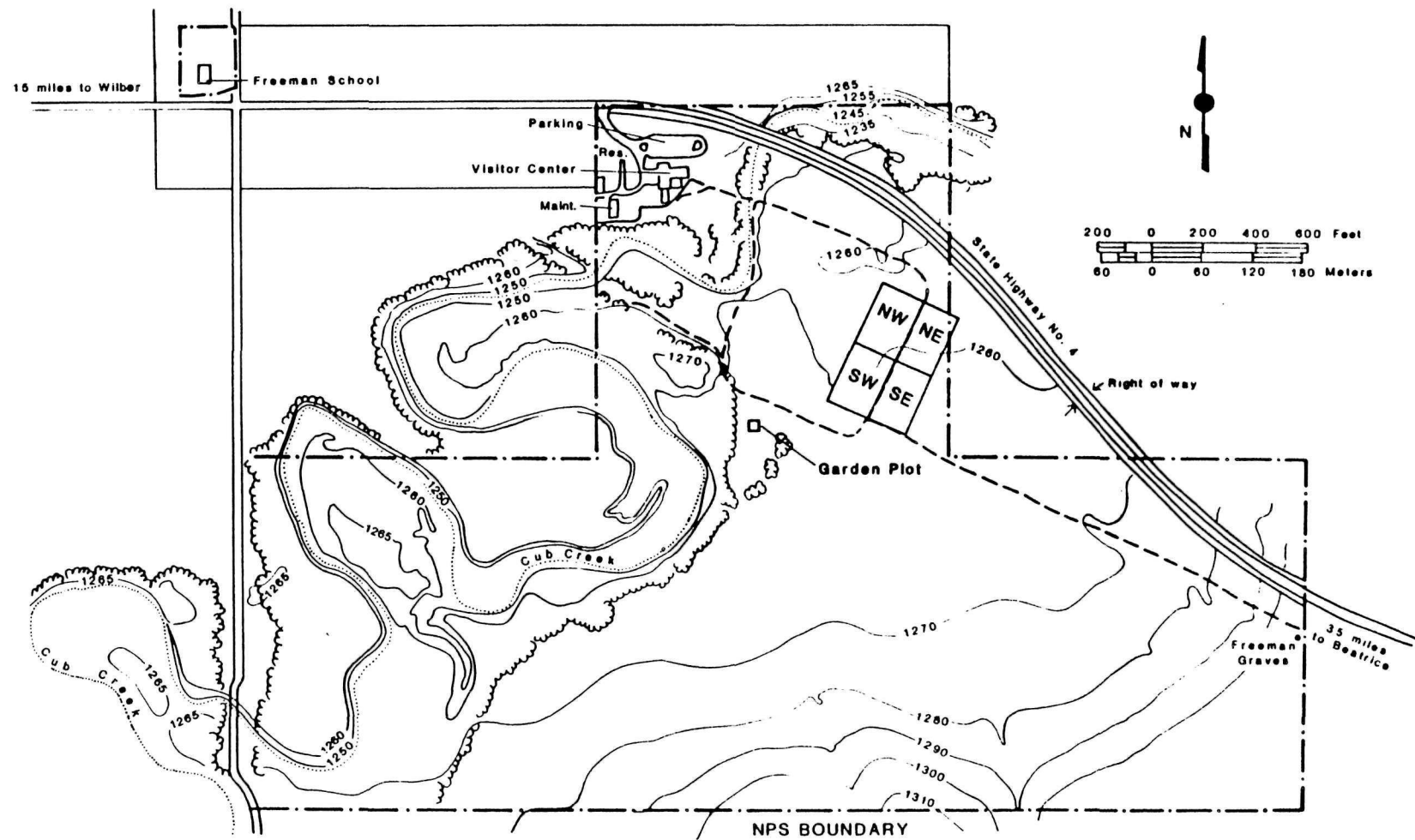


Figure 5. Locations of the controlled collection areas.

was made between the transects and the shovel tests during the shovel testing. Cultural material found on the surface at this time was collected and provenienced with reference to transect and nearby shovel tests. In addition to pedestrian survey collections, two other, specific and controlled surface collections were made. Each is discussed below.

Before the formal survey of the Monument lands began prehistoric cultural material was observed along the path between the original homestead cabin and the site of the southeastern-most frame house (removed in 1930). Controlled surface collections were made over the portion of this area which appeared to have a high surface artifact density in order to (1) begin to identify distribution patterns, (2) collect lithic debris for source material analysis and (3) identify probable cultural affiliation of the site.

A large block measuring 150 m north to south and 100 m east to west, was superimposed over the prehistoric site area (Figure 5). The portion of the trail south of the original Freeman Cabin site and north of its juncture with the trail east to the Freeman graves was used as the north-south mid-line. A 100 m east-west datum line (X axis) was taped at a right angle to the north-south trail datum line (Y axis). The midpoint (50 m) was located at 75 m north of the juncture of the two trails. Thus, the two axis lines divided the collection block into four quadrants, each measuring 75 m north to south and 50 m east to west. The old Highway 4/Freight Road, which serves as the trail to the Freeman Graves to the east, was the southern boundary of the collection block.

Each quadrant was surface collected and provenienced as a separate unit. Three crew workers lined up along the X axis beginning about two meters from the Y axis. Each person was separated by 3 to 4 m. All three persons slowly walked in a straight line (transect), carefully examining the surface in their transect and 1.5 to 2 m on either side of their path. Both prehistoric and historic cultural materials were collected from the surface and bagged. Where concentrations of artifacts were observed, the artifacts were bagged separately and the approximate dimensions of the aggregation was determined. Concentrations were those areas which had an observable higher density of surface finds ("aggregations") than the immediate surrounding area. Five passes (fifteen transects) were made across each quadrant walking north-south. Careful attention was applied to maintaining straight transects so that all areas of each quadrant were equally inspected. Between 30 and 40 minutes were required to collect each quadrant, depending on the density of the surface finds. Faunal specimens were not collected because the skeletal elements appeared to be "recent" depositions and were often still articulated. Bird and rodent skeletal elements composed about 90% of the observed bone.

A second controlled collection was made in the tilled garden (cash crop) plot located south of the Old Highway 4/Freight Road

and in the area of the first frame house built in 1916 (Figure 5). Both historic and prehistoric artifacts were observed in the furrows of the garden plot. Visitors to the park have often picked up historic artifacts from the garden and given them to the park personnel who have then thrown them back into the garden. The artifacts, therefore, are not in situ but they can serve to provide a general sample of the kinds of cultural material associated with the various occupations of the area, their density across the site area, and an indication of the time in which these occupations occurred.

The garden plot measured 14.5 m north to south and 23 m east to west. Collection transects were made east-west at an interval of 3 m, parallel to the tilled furrows. The collection was made by one person slowly walking along each transect and carefully examining the ground surface before and on either side of the transect line. All artifacts observed on the surface were collected and bagged. Because the material distribution was generally even, all artifacts were bagged together.

All positive and negative shovel tests and surface finds were plotted on large scale land use maps showing relevant topographic and man-made features. These maps are on file with the Midwest Archaeological Center, National Park Service, Lincoln, Nebraska. Site boundaries were delineated by the distribution of surface artifacts and positive shovel tests. Black and white and color photographs, using a 35 mm camera, were taken of surface artifact concentrations, specific artifacts in situ, topographic features and changes in the vegetation from area to area in the park.

Laboratory Methods

The artifactual materials collected at Homestead National Monument were carefully washed by hand, air dried, sorted by artifact material and class, and rebagged in clear plastic zip-lock bags with the appropriate provenience information clearly marked. A card also containing the relevant provenience data was included in each bag. Provenience information included the field catalog number for each specific provenience. The field catalog number was given to a group of artifacts in the same lot (such as those found in a single shovel test or in a surface collection "concentration"). It consisted of a 6 digit number. The first three digits referred to the horizontal provenience, but also reflects the order in which a lot grouping of artifacts was recorded. The second three digits (separated from the first three by a slash mark) referred to the vertical provenience of the artifact lot; where 000 equaled a surface find and 001 represented a shovel test (0-30 cm). The catalog numbering system was compatible with the catalog system used by the Midwest Archaeological Center.

Metal objects were stabilized prior to curation using electrolysis, glycolic acid baths, and where necessary, abrading with a wire brush. The cultural artifacts were curated at the Midwest Archaeological Center, Lincoln, Nebraska.

After the artifactual materials were cleaned and stabilized, they were separated into material classes (i.e. bottle glass, metal, lithic debris, ceramics) and collection area for analysis.

Three general areas of analysis were made. First, items were described in terms of their material and their count, dimensions, and weight where appropriate. For example, brick fragments were counted and weighed and their color and relative hardness were recorded. Bottle glass fragments were separated by color and by manufacture characteristics to determine the minimal number of bottles represented by the collected sample. Lithic debris was sorted by raw material and type and weighed and counted. Lithic tools were described by raw material and dimension.

Second, historic objects were identified as specifically as possible as to their function and name. For example, historic ceramics were identified as plain whitewares, transfer print wares, edgewares, etc., the kind of vessel they represent (plates, bowls, saucers), and the name of the decorative pattern where possible. Similarly, prehistoric tools were identified as to type and function. The results of the activities are described below.

Finally, the artifacts, singularly and as a group, were identified as to their known dates of manufacture and use and the cultural affiliation/ cultural setting with which they were associated.

III. SURVEY RESULTS

Historic Surface Features

Five historic features were observed on the surface of the Monument lands. Each is briefly described below.

Old State Highway 4/ Freight Road

The Old State Highway 4/Freight Road diagonally bisected the Monument from east to west and was incorporated in the current trail system. This freight road, linking Missouri River towns to the Oregon Trail, was in use prior to 1862 when Daniel Freeman staked out his claim (Bauxar 1984:3). Later, the road was redeveloped into State Highway 4 west from Beatrice, Nebraska. By 1957 State Highway 4 was modified so that it crossed over the Monument in the northeast corner of Section 26, north of the original Freeman cabin site. Evidence of the abandoned highway was observed in the gravel found along the roadbed and a low berm. In the wooded area to the west, the roadbed cut through a low knoll leaving an exposed bank on either side.

Access Road and Trail

A second surface feature connected with the Old Highway 4/Freight Road on the north side of the road on the east side of the exposed bank. This feature, cut into the low knoll/bank, was an abandoned access road and trail which led south from the Visitor Center and parking lot, across Cub Creek and joined with the old highway. Wooden steps were seen on both banks of Cub Creek. Concrete supports and pilings, the remains of a bridge which spanned the creek at this point (ca 390 ft. due east of the western boundary line), were also noted.

Diversion Canal

In the mid-1950s, a water diversion canal was excavated across the western quarter of Section 26 (Figure 6). The canal was a joint Gage County and Soil Conservation Service project which included a water diversion ditch and a 12 foot drop culvert draining into Cub Creek at the SW corner of the Monument. The canal was excavated to help drain cultivated fields to the east and south.

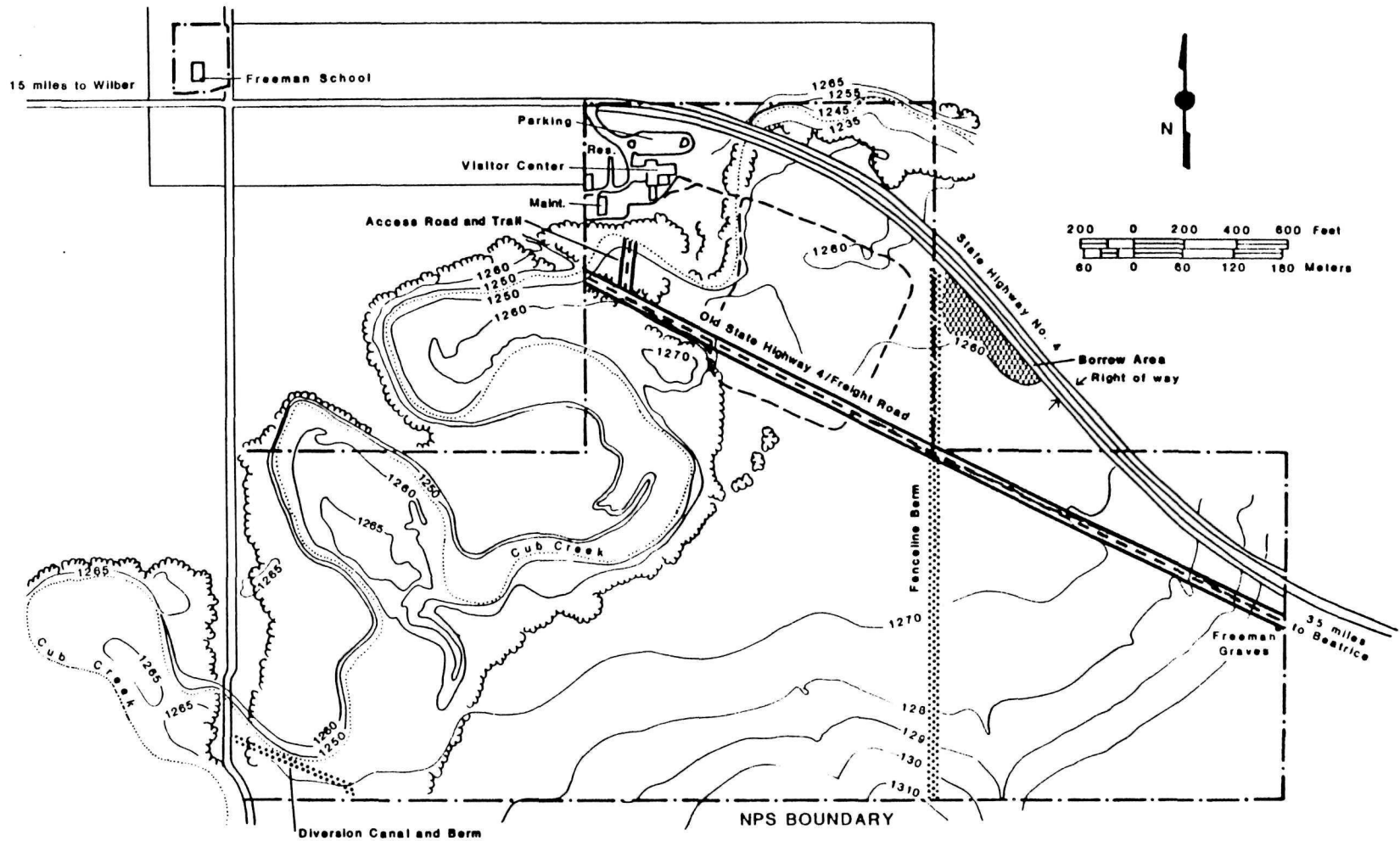


Figure 8. Locations of the historic surface features.

Evidence of the canal was observed in a linear depression on the south side of an earthen embankment ranging from 0.6 m to 2.5 m in height. The embankment extended east for 169 meters, beginning 62 m north and 7 m east of the southwestern most corner of the Monument and ending at 2 m north and 176 m east. Brush and small to medium sized trees had grown into the embankment and the depression. The embankment was more pronounced towards the eastern end and the depression was barely discernable. The depression became more pronounced toward the west end where the canal cut deeper into the natural ground surface. Here the height of the embankment over the natural ground surface was diminished. The soil at the base of the canal was brown clay loam. The soil of the surrounding area, including the embankment, was very dark brown loam.

Borrow Area

The State Highway 4 borrow area was a fourth surface feature present at Homestead National Monument. The area laid between the Old Highway 4/Freight Road and the current route of State Highway 4, along the highway right of way. It was observed as a low swale which ran east about 30 m from the old fenceline berm and measured approximately 200 m (maximum length) by 50 m (maximum width).

Fenceline Berm

A low linear berm extended south from the NPS boundary marker near the site of the original Freeman cabin to the southern boundary fence of the Monument. The berm represented a fenceline along the eastern side of the two central quarter sections associated with the Freeman homestead. It was unknown whether the fence was associated with the original homestead or with later occupants of the lands.

Artifact Distributions

Seven areas of high artifact aggregation, or "concentration" were identified at the Monument (Figure 7). One artifact concentration was identified about the Freeman School. Although artifacts were recovered from shovel tests all across the 75 m by 55 m site, much more material was found in the shovel tests closer to the school. Twenty-two of forty-eight shovel tests (46%) at the school yielded artifacts, the highest ratio of "positive" to "negative" shovel test anywhere at the Monument. The building and the school yard were the scenes of considerable activities during the 96 years of its use. The amount of

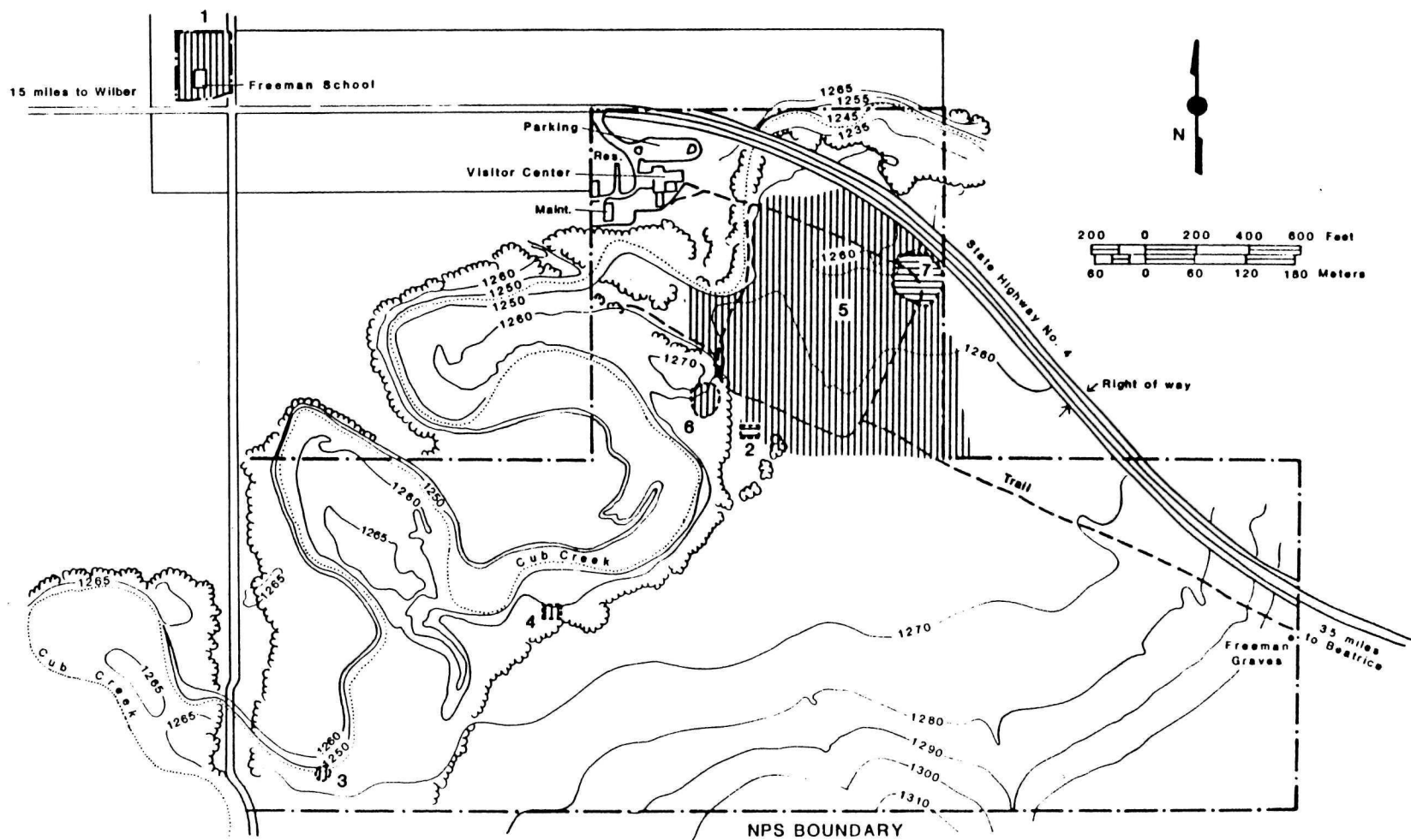


Figure 7. Locations of the seven artifact concentrations.

artifactual material collected in this area reflected its intensive utilization.

The garden plot constituted a second artifact concentration. Both historic and prehistoric objects were collected from the surface of the garden and similar items were observed all around the plot. The prehistoric artifacts were only found in the eastern half of the garden while the historic items were distributed fairly equally across the plot.

A third artifact concentration was the historic midden, or "dump" located on the south side of Cub Creek in the SW quarter section of the original homestead, around Transect 9W/Shovel Test 4. Brick, window and plate glass, bottle glass and tin cans were collected from the trash deposit. The debris appeared to be localized in distribution, in an area measuring approximately 10 m by 5 m. Some of the deposit may have already eroded into the creek.

The farm vehicles and machinery and the historic debris immediately to the east and south formed a fourth concentration. A two-wheeled cart, a wagon filled with machinery parts, a harrow and a mechanical reaper sat on the eastern edge of the woods along Cub Creek (Figure 7). Lumber, tarpaper shingles, window glass, nails, and other structural materials laid nearby. These materials have been removed by the Monument personnel. The farm vehicles and machinery remain. These items are included as part of the Monument's museum collection. They will be moved inside for storage once the collection room addition to the Visitor Center is completed.

The fifth identified artifact concentration was the prehistoric site in the north and central quarter sections. The prehistoric site extended from the eastern boundary of the north quarter section west to Cub Creek and from the original Freeman cabin south to the NPS garden plot. Additional testing at the Monument may extend these parameters. Although prehistoric artifacts (lithic tools and debris and ceramics) predominated the area, historic artifacts were found as well.

A sixth artifact concentration was in the vicinity of the 1876 brick house. The house was built about 50 m south of Cub Creek where the creek turned west in a large loop. A cap pistol (TR313/ST6 South), an 8d square cut nail (TR313/ST3), and 21 brick fragments (TR313/ST5 South) were recovered from shovel tests in the area. Three other whole bricks were present around TR313/ST6 but were not collected.

The seventh artifact concentration was found in the area of the original Freeman cabin in the northern quarter section. Bottle glass (ca TR42/ST60), nails (TR40/ST63.2, TR44/ST60), and brick, whiteware fragments, and clay pigeon fragments (the NW and NE quadrants of the collection area on the prehistoric site) were all collected from this area. Not all of the artifacts, however, were associated with the occupation of the cabin.

Historic Artifact Descriptions

Historic Artifacts

The following section of this report describes the various historic cultural material remains collected at Homestead National Monument. The sample collection, derived by surface collection and shovel testing, was divided by area. Separation in this manner facilitated discussions of the various occupation/activity episodes which occurred within the Monument lands.

Freeman School

The cultural materials from the Freeman School were collected solely from the shovel tests and included only historic artifacts. Many of these artifacts were construction materials. Other items, such as ceramic and bottle glass fragments, were representative of the social activities which took place at the schoolhouse. There were few datable artifacts in the schoolhouse sample and they generally were attributable to activities which occurred after about 1938. The school was in use from 1872 through 1968.

Ceramics. Only one ceramic fragment was recovered from the shovel tests (TR2/ST4), a piece of crockery/earthenware having an opaque dark brown Albany slipped interior and exterior. Albany slipped crockery was commonly used between ca. 1830 and 1910, but continues to be produced today. The use of Albany slip on both surfaces occurs on later (1870 - 1900+) crockery vessels (Derven 1980:141).

Bottle Glass. One complete bottle and glass fragments from at least three other bottles were collected at the school. The complete bottle (Figure 10:f) was a small machine-made cologne or aftershave bottle of clear glass with a continuous thread finish and a black plastic screw cap (TR6/ST7). An 'H' superimposed over an anchor lying on its side was embossed on the bottom at one end, the word "PATENT" along one side with "D-158, 219" below, and "3-9" opposite the maker's mark. The Anchor 'H' maker's mark was used by the Anchor-Hocking Glass Corporation, Lancaster, Ohio after 1938 (Toulouse 1971:48).

Sixteen clear glass fragments were collected from a machine-made, crown finish soda bottle (TR6/ST7). The upper body/shoulder portion was embossed "12 oz." and below, "NO DEPOSIT * NO RETURN". Twelve ounce soda pop bottles were widely used after 1954 (Coca-Cola Company 1977). Nonreturnable soda

bottles began to be marketed in 1948 (Holscher 1965) but were not common until after 1961 (Coca-Cola Company 1977:18).

A third bottle was represented by a clear body sherd from a panel bottle embossed "RACTS"; probably from an extract bottle (TR2/ST8). Embossing on bottles was not common until after 1867 (Lorraine 1968:44; Kendrick 1966).

A fourth bottle was represented by one body fragment of brown bottle glass, probably from a beer bottle (TR2/ST8). Finally, three additional clear body fragments were recovered from three separate shovel tests (TR1/ST2; TR2/ST4; TR4/ST3). The sherds were too small to identify.

Metal. One button was collected at the schoolhouse (TR3/ST2), a circular ferrous button 17.5 mm (11/16 in.) in diameter (size 30) and with an omega shank. Four wire nails/nail fragments were found in shovel tests. Two wire nail fragments (TR4/ST5, TR6/ST4), measuring 1 inches in length, appeared to be 2d common nails. One "American Felt" nail (TR2/ST8), used for tarpapering roofs, measured 1-1/4 in. (size 3d). One flooring nail, measuring 3 inches in length (10d), was also found (TR3/ST6).

A number of unidentified ferrous fragments were collected as well. One piece of wire measured 38.1 cm (15 in.) in length and 3 mm in diameter (TR3/ST5). Eleven pieces of amorphous metal (TR4/ST8, TR6/ST4, TR6/ST7) and two strap fragments were also found.

Brick. Fifteen brick fragments, distributed over seven shovel tests, were found weighing a total of 13.3 grams. Two fragments were tan in color (TR5/ST3). The remaining 13 pieces were orange in color and were "soft" brick. Most of the fragments were collected in transect 6 (TR6/ST1, ST2, ST4, ST7). Pieces from the other transects were found in the vicinity of the schoolhouse (TR1/ST5, TR4/ST5).

Mortar. Five pieces of mortar were found in two shovel tests (TR1/ST5, TR5/ST5) weighing 10.3 grams in total. One fragment was white in color and the other four pieces were grey and appeared burned. One piece of greyish plaster weighing 1.0 grams was also collected.

Tarpaper. Fourteen pieces of tarpaper were recovered from three shovel tests (TR3/ST4, TR5/ST6, TR6/ST6). Together they weighed 1.8 grams. The tarpaper came from shovel tests adjacent to the schoolhouse.

Clinker. Nine pieces of coal-fire debris, or "clinker" were collected from Transects 5 and 6, on the west side of the schoolhouse (TR5/ST5, TR6/ST4). They had a combined weight of 11.5 grams.

Charcoal. Charcoal fragments were collected from shovel tests on the south and west sides of the schoolhouse. One shovel test (TR5/ST5) contained 108 pieces weighing 28.6 grams, largely from a small ash lens 16 cm below ground surface. Twenty-two other charcoal pieces were recovered from four shovel tests (TR3/ST8, TR4/ST8, TR5/ST5, TR6/ST4, TR6/ST7) with a combined weight of 7.1 grams.

Open Prairie Lands

The artifacts from this section included general surface collections (artifacts found on the surface during pedestrian visual survey) and shovel tests in Transects 1 through 64.

Ceramics. The historic ceramics collected from this section of the Monument lands may be associated with either the original or the post-1900 (frame house) occupations. The ware types (plain whitewares, transfer print, and repousse) were popular in the latter half of the 19th century but continue to be made today (Derven 1980). A total of nine vessels appear to be represented.

Two transfer print wares were collected at Homestead. One ware was represented by a "soft" porcelain body sherd featuring a rose colored flower printed under glaze on the interior (TR61/ST50). The paste is a greyish and granular and may be a Bone china, first produced by Josiah Spode in 1800 (Berge 1980:211). During the 18th century soft porcelain wares (Frit porcelain, Bone porcelain and Glass porcelain) were made to simulate Chinese hard porcelain (Berge 1980:211).

The second was a polychrome transfer print vessel. It was represented by a basal whiteware fragment with an interior floral design also collected from the surface by a visitor in the area of the 1916 frame house. Transfer printed whitewares were common between 1840 and ca 1900 (Derven 1980:138; Berge 1980:174).

At least three whiteware vessels were represented by sherds having a raised molded, or repousse, decorative pattern. One vessel was a bowl with a wavy or serpentine rim and with a series of arch-like designs below the rim (TR63/ST45). Four plain body sherds were found in association with this sherd. A second body fragment had a raised arch-like design but was dissimilar to the sherd above (TR50/Between ST35 and ST40). The third vessel was a probably a large bowl. One sherd had a raised "ribbed" or

"fluted" pattern with a band below (TR54/ST40). The second sherd was undecorated (TR54/ST40).

One rimsherd from a plate or saucer was found (TR53/ST45) which had a slightly undulating edge and a thin incised line below on the interior (upper) surface. The sherd represented a sixth vessel.

Three whiteware fragments were recovered from the area. One was a rimsherd (surface between TRs 48-49 and STs 35-40). Another was a plain white body sherd (TR53/ST45). The third was a body sherd (TR62/ST40) yellowish in color. The fragments appeared to be from three vessels, either cups or bowls.

The last ceramic item (TR50/Between STs 35 and 40) was not a table ware. It was an unglazed, undecorated disk approximately 37.4 mm (1-1/2 in.) in diameter and 4.7 mm (ca 3/16 in.) thick with beveled edges. It resembled a poker chip but lacked any suitable markings or color (Herskovitz 1978).

Bottle Glass. At least four bottles and one lamp chimney were represented by the curved glass collected at the site. The first bottle (surface collection by visitor near the garden plot) was represented by a light aqua blue body fragment embossed "GE" and "BE" in a raised ring (plate mold). The fragment came from a quart size beer or soda water bottle (see Figure 10:e).

Two light aqua blue fragments of a second bottle were collected in the vicinity of the original Freeman cabin (TR42/Between STs 60 and 63.2). The heel fragment had an embossed "N". The body sherd was embossed "ANO" or "ANC". They appeared to have come from a small cylindrical medicine bottle.

Two body pieces of clear glass, one with a slight purple tint, were also recovered from the surface (TR53/ST45). They had no distinctive features to suggest the type of bottle they represented. A large melted piece of clear glass was also undiagnostic (TR61/ST45).

The last piece of curved glass was a glass chimney fragment, probably from a hurricane lamp (TR63/ST45). It was made of clear glass and was very thin (0.7 mm).

Window Glass. Four pieces of flat (window) glass were collected from the surface between TR50/35 and TR50/40. They measured 2.5 mm, 2.4 mm, 2.5 mm, and 2.5 mm in thickness, respectively. The mean thickness value 2.475 mm was (0.0974 inches), the median was 2.5 mm and the mode was 2.5 mm.

Rubber. Two flat fragments of rubber were found (TR53/ST45). Their functions were not determined.

Bone. A snake vertebra was found in a shovel test (TR4/ST14) near the eastern edge of the upland prairie.

Brick and Mortar. Seven brick fragments having a combined weight of 963.0 grams were found in this area. All of the pieces were found in the vicinity of the frame structures and brick house. One fragment (TR53/ST45) was hard and brown in color and weighs 31.7 grams. The remainder were soft orange brick (TR50/Between STs 35 and 40, TR52/ST40, TR63/ST45). One cement fragment weighing 4.9 grams was collected from a shovel test (TR62/ST45) in the area of the brick house.

Charcoal. One piece of charcoal weighing 9.7 grams was found on the surface in the area of the frame structures (TR50/Between 35 and 40).

Metal. A number of metal (ferrous) objects were collected in the open prairie area. A few were related to farming activities. Others were structural in nature. Some were associated with foodstuffs and date after 1910.

Three cast iron objects found in this section of the Monument were related to machinery; probably farm machinery. The first was a broken open-end box wrench (Figure 11:a) designed for square rather than hexagonal nuts (TR49/ST45). The partial wrench measured 10.9 cm (4-3/4 in.) high and had an box interior width of 2.9 mm (1-3/8 in.).

The second item was a cylindrical piece of cast iron 50 mm long and 17 mm in diameter (TR51/ST35). Both ends of the object had an hexagonal exterior and a circular aperature 10 mm in diameter. It was threaded the entire length of the interior and had a broken off piece of iron rod inserted at one end. The object appeared to be a device for connecting two threaded rods.

The third object was an L-shaped piece of iron rod, 5.1 mm (2 in.) in length and tapered at the end of the longer side. A hole with a large locking pin lay below the tapered end. It appeared to be a hitch pin. It was collected from the surface 1 m north of TR60/ST50.

Seven wire nails and two square cut nails were recovered. One square cut nail fragment was an 8d common nail (TR44/ST60). The second was about 69.9 mm (2-3/4 in.) and was a 9d or 10d

common nail (TR61/ST55). Square cut nails were manufactured from about 1840 and continue to be made today, but were largely replaced by wire nails after 1890 (Nelson 1968).

Five wire nails were all found in the vicinity of the 1916 frame house and the 1876 brick house (TR61/ST45, TR61/ST50, TR62/ST45). Two (8d, 20d) were collected in the area of the later farm buildings (TR64/ST58). Of the seven wire nails collected, six were medium sized nails: four 8d (2-1/2 in.), one 9d (2-3/4 in.), and one 10d (3 in.). One is a 4 inch (20d) common nail. One 8d nail was a finishing nail, the others were common nails.

Four fragments of barbed wire were found in a shovel test (TR40/ST63.2) at the end of the old fenceline, near the present northernmost and east Monument boundary marker. The wire was possibly "The Winner" brand, patented by Joseph F. Glidden in 1874 or a similar double strand, two barbed variety patented between 1874 and 1879 (McCallum and McCallum 1965:244).

Two pocket tobacco tins were surface collected on the eastern uplands (along TR 25 and near ST 10). Both were too rusted to identify the specific brand. One was complete, measuring 4-1/2 in. by 3-7/8 in.. The other was incomplete but was similar in size. Pocket tobacco tins were first produced in 1913 (Music 1971:54).

One tin can and fragments of another tin can were also found in the open prairie section. The whole tin can, found on the surface near TR54/St40, was a double seamed sanitary can with an edge seal. It was flattened but would have measured ca 6 inches in height. The tin can fragments (TR64/ST45) also came from a crimped, double seamed sanitary can. Sanitary cans were produced in the U.S. after 1919 (Fontana and Greenleaf 1962:71-71; Cobb 1919:9).

A piece of an iron rod, 280 mm long and 6.4 mm (1/4 inch) in diameter, was found in the farm buildings area (TR64/ST58). It was threaded on one end and a square 1/4 inch nut was rusted in place.

Three metal strap fragments were collected from TR63/ST45. All were folded over and riveted. The rivets were split "clinch" rivets, folded back for attachment. One piece had a hinge riveted to one end. A second piece was attached to the opposite end of the hinge by rivets. The third piece had broken off of the first. The metal straps and hinge appeared to have been from a wooden chest or perhaps a thin wooden door.

The final metal artifact was a piece of wire 4.2 mm in diameter and about 30 cm long found in TR64/ST10. Its function was unknown.

Historic Midden Area

The artifacts collected from this section of the Homestead National Monument were derived from a midden or dump on a slumped portion of the south bank of Cub Creek in the southwest corner of the Monument lands. The artifacts, almost exclusively bottle and window glass, indicate that the midden cannot date prior to 1890 and probably date between about 1930 and 1955. Additional investigation of the midden will be necessary to verify this conclusion.

Bottle Glass. Four bottle glass vessels were identified from the midden. The first was a small, clear glass, machine-made medicine or extract bottle with a continuous thread finish (Figure 10:c). The embossed makers mark (an 'I' within an oval and flattened diamond) on the bottom of the bottle indicated that it was made by the Owens-Illinois Glass Company, Toledo, Ohio between 1929 and 1954 (Toulouse 1971:403).

Three clear glass fragments (two basal and one body) represented the second bottle. The embossed makers mark on the base showed that it also was machine-made by the the Owens-Illinois Glass Company between 1929 and 1954 (Toulouse 1971:403).

Vessel three was represented by two light green bottle glass body fragments. There were no mold marks or other chronological indicators. The type of bottle could not be determined.

The fourth object was a glass chimney lamp. It was represented by one clear body fragment.

Window Glass. Twelve pieces of standard window pane glass and one piece of plate glass were collected from the midden along with the bottle glass. The plate glass was thick and measured 5.5 mm in thickness. The other window glass fragments ranged in thickness: 2 at 1.9 mm, 3 at 2.0 mm, 1 at 2.3 mm, 2 at 2.7 mm, 1 at 2.8 mm, 2 at 2.9 mm, and 1 at 3.0 mm. The mean thickness value of the sample was 2.43 mm, the mode was 2.0 mm and the median was 2.3 mm. The mean thickness value suggested a date 1889 (Schoen 1985) for the sample.

Metal. One intact small paint can and fragments from another tin can were recovered from the midden. Both cans had crimped, double side seams. The small can had a flanged top and bottom soldered to the can sides. The circular aperture was 44 mm in diameter. The can was 52.3 mm high and 64 mm in diameter. The tops of both cans were designed for paint can closures. The small can had an 8 oz. volume and the large can one gallon.

Brick House - Squatter's Cabin Area

Very few artifacts were found in this section of the survey. Only one item had chronological value; a toy cap pistol recovered from a shovel test (TR313/ST6 South) not far from the site of the Brick House built in 1876. The cap pistol (Figure 11:a) was simply made, using tin and a two piece mold and soldered together. It had a spring trigger action and a slot for the caps. Two small shot, 2.8 mm in diameter, were found in the barrel against a semicircular piece of metal blocking half of the barrel. The cap slot did not seem to be vented to the barrel and it was unknown whether the pistol was able to fire the small shot. The handle grip was embossed on both sides: each with a bulls-eye, a star, an unidentified plant, and a wavy border around the word "STAR". O'Brien (1982:464) dated a Star brand cap pistol at 1878.

Metal. Two other metal objects were collected from shovel tests in this survey section. One was an 8d common square cut nail fragment (TR313/ST3) 40.3 mm long. The other was a carriage bolt fragment (TR308/ST3 South) 47.8 mm (1-7/8 in.) long and 6.4 mm (1/4 in.) in diameter. It had a flat oval head.

Brick and Mortar. One complete brick and 32 brick fragments were collected from the area. The complete brick (TR313/ST5 South) was a "face brick" used on exposed surfaces because of its better durability and appearance (Szykitka 1974:584). It measured 8 in. by 3-1/2 in. by 2 in., weighs 1701.0 grams, was brown in color and had a white glaze on one large side. The brick was a little smaller than the brick standard of 8-1/4 by 4 by 2-1/4 adopted by the National Brickmaker's Association in 1887 and by the National Traders' and Builders' Association in 1889 (Kelly and Kelly 1977:85).

Three soft, orange brick fragments weighing 8.3 grams were found in shovel test (TR304/ST6), north of the suggested location of the squatter's cabin/brick kiln. Eight other soft orange brick fragments weighing 16.4 grams were collected in a second shovel test (TR305/ST9) ten meters east and 30 meters north of the first three fragments.

The remaining 21 brick fragments were recovered from the shovel test (TR313/ST5 South) containing the complete brick. Other subsurface brick (not collected) were observed surrounding the brick found in this shovel test. Ten brick fragments were soft and orange and weighed 137.0 grams. Seven were yellow-orange in color and weighed 163.4 grams. Four fragments were tan and weighed 129.3 grams. Two cement fragments were collected together with the brick in TR3213/ST5 South weighing 21.5 grams.

Garden Plot.

The artifacts recovered from the cash crop garden were surface collected as described above. The garden plot was located east of the 1876 brick house and south of the first (1916-1930) frame house. The artifacts, therefore, were associated with one or both structures.

Ceramics. At least fifteen historic ceramic vessels were represented by the sherds collected in the garden. Only one ceramic sherd had any indication of the manufacture. A whiteware sherd had an edge of an unidentifiable maker's mark under glaze.

One vessel was a redware, probably from a flower pot or drainage tile. It was 3 mm thick and has a clear glaze on both surfaces. One creamware body sherd was collected. It had no glaze on either surface and the vessel form was unidentified.

One body fragment of porcelain from a plate was collected. The upper (interior) surface had a transfer print decoration under glaze featuring large green leaves and red and pink blossoms.

The remaining ten vessels were whitewares. Vessel five was represented by an undulating rim fragment with a teal green edge decoration under glaze on the upper surface. A small bit of a gilt band remained on the edge applied over the glaze. The vessel was a shallow bowl.

Two body fragments with decal floral decoration represented vessel six. A pink rose was on one sherd. An unidentified blue flower decorated the second sherd. A third fragment of decal ware featuring a mocha brown line over glaze came from a seventh vessel.

Three whitewares had incised line decoration. Vessel eight was represented by a whiteware plate rim fragment having a slight undulating edge and an incised line near the edge on the upper surface. Vessel nine had a more pronounced undulating edge and two shallow parallel, undulating incised lines near the edge. The tenth vessel was a plate represented by a straight edged rim and a shallow incised line parallel to the edge.

Two cups or mugs or bowls (vessels 11 and 12) were represented by two plain whiteware rims. Two other unidentified vessels were also represented by two varying rimsherds.

Thirty-nine plain, body sherds were collected from the garden area. One base fragment had a footring and one sherd with the base of a handle were also collected from the garden.

The fifteenth was a grey crockery vessel, possibly a butter churn with a clear lead glazed interior and exterior. One basal

fragment was glazed on the interior and had a plain brown-colored exterior. One upper body fragment had a yellow band at the shoulder. One fragment had a cobalt blue line under glaze.

Bottle Glass. Ten bottles, one tumbler, and three glass closures were identified from bottle glass fragments collected from the garden plot. Many were machine-made and date after ca 1917. Others had attributes such, as an improved applied finish or a purple tint, which date between ca 1880 and 1914 (Lorraine 1968; Kendrick 1966). A few had embossed lettering, an common attribute of bottles dating between 1869 and the early 1900s (Kendrick 1966).

The tumbler was represented by a single rim fragment of clear glass. It had a series of vertical incised lines forming a band near the rim.

Five brown glass fragments were collected from one bottle; three body sherds, one neck and one base sherd. The base was embossed "Duraglass" in script and had part of the Owens-Illinois Glass Company maker's mark (Figure 10:g). "Duraglass" was a trademark used by the Owens-Illinois Glass Company between 1940 and 1954 (Toulouse 1971:403).

Nine blue glass fragments from a Mason jar were found. Eight were body sherds and one was a neck/finish sherd. The finish was machine-made and was a continuous thread type with a beaded seal. This form of closure was manufactured on preserve jars after 1915 (Toulouse 1969:106).

Ten fragments of light blue glass made up vessel three. The nine body sherds and one finish sherd were from an extract bottle. The applied finish was made by an "improved" lipping tool. This finish technique was used from ca 1880 into the early 1900s (Kendrick 1966; Toulouse 1971).

A clear glass neck and finish bottle fragment represented the fourth vessel. It was a machine-made, ballneck extract finish, possibly from a sauce bottle (Figure 10:b). Ten clear glass body fragments were probably related to this vessel.

Vessel five was represented by one base fragment of green-blue glass. The base had a machine-made valve mark characteristic of bottles made after 1914 (Toulouse 1971).

Vessel six was represented by two clear glass fragments with a greyish tint. One fragment was a melted body sherd; the other was a basal sherd.

Six fragments of clear glass with a purple tint made up vessel seven. One was a neck sherd and five were body sherds. One body sherd was embossed with three unidentified letters. The embossing and purple color suggest that the bottle was probably

made between 1869 and 1917 (Kendrick 1966).

Vessel eight was represented by four dark, olive colored body sherds. Five body fragments of clear glass with a purple tint from a panel bottle formed the ninth bottle. Finally, a tenth bottle was represented by two fragments of clear glass from a second panel bottle.

In addition to the identified bottles, seven clear glass fragments and eight melted clear glass sherds were collected. It was not known if the sherds were associated with the identified bottles or with one or more other bottles.

Portions of three glass, bottle closures were collected from the garden surface. One was a partially melted, dome-shaped preserve jar lid. It was held against the mouth of the fruit jar with a wire bail and was called a Putnam "lightning" closure because of the ease with which it could be opened and closed (Lief 1965:13). Lightning closures on fruit jars were used from 1882 into the 1900s (Lief 1965:13; Toulouse 1969:126).

The other two closures were Mason (preserve) jar lids. Five fragments of opaque white "milk" glass made up one closure embossed "GENUINE BOYD MASON CAP" (Figure 10:d). The Boyd lids were manufactured from 1900 to the present (Toulouse 1969:92). Two plain milk glass fragments represented the second preserve jar lid.

Window Glass. Twenty flat (window) glass fragments were collected from the garden plot surface. The thickness distribution of the sample was as follows: 1 at 1.7 mm, 1 at 1.9 mm, 2 at 2.1 mm, 3 at 2.2 mm, 6 at 2.3 mm, 4 at 2.4 mm, and 3 at 2.5 mm. The mean thickness value was 2.65 mm, the median was 2.3 mm and the mode was 2.3 mm. The estimated date of the window glass sample based on the mean thickness value was 1879 (Schoen 1985).

Brick and Mortar. One hundred brick fragments were collected from the garden surface. The fragments were of five colors: 18 brown fragments weighing 530.1 grams; 18 yellow-orange pieces weighing 76.7 grams; 22 orange pieces weighing 306.2 grams; 36 red fragments at 239.4 grams; and 6 weighing 70.4 grams. Two fragments of cement were collected weighing 180.0 grams.

Glass Button. One white glass button was found in the garden. It had four holes and measures 13.3 mm in diameter. It appeared to be heat warped.

Rubber. One unidentified rubber fragment was collected from the garden. It was black in color with one thin, white, textured surface. It measured ca 19 mm square and 2.5 mm thick.

Metal. Eleven metal items were collected from the garden surface. One was a cast iron bracket for farm machinery (Figure 11:f). It was V-shaped with a bolt hole on either end and measured 9.8 cm long, 5.6 cm wide and 5.2 cm high.

A brass grommet snap, measuring 15 mm in diameter was found. A third metal object was a ferrous curtain hook-like artifact 22.7 mm high and 16.5 mm wide.

Three ferrous harness buckles were collected (Figure 11:c-e). The largest measured 54.8 mm by 38.0 mm. The medium buckle measured 43.2 mm by 36.3 mm. The smallest buckle measured 46.8 mm by 27.5 mm.

One flat oval head carriage bolt was collected measuring 80.8 mm (3-3/8 in.) long and ca 8 mm in diameter (5/16 in.). A square headed bolt was found measuring 137.0 mm (5-7/16 in.) long and 11.0 mm (15/32 in.) in diameter.

Two square cut nails were collected. One was a 7d nail (2-1/4 in. long). The second was an 8d (2-1/2 in. long). Five common wire nails were found on the garden surface. They were a 30d (4-1/2 in.), a 25d (4-1/4 in.), 16d (3-1/2 in.), and two 8d (2-1/2 in.). One fence staple measuring 1 in. in height was also collected.

Finally, a piece of copper tubing was collected. It measured 6-1/2 inches in length and had an 1/8 inch bore diameter.

Prehistoric Site (25GA89)

The historic artifacts described below were recovered from the surface of the prehistoric site area during the controlled surface collection.

Ceramics. At least two historic ceramic vessels were identified from this area. Two undecorated whiteware fragments from the NW Quadrant (one body and one rimsherd) represent vessel one. One redware rimsherd fragment was found in the SW Quadrant. It had no glaze and was from some utilitarian vessel. A third body whiteware sherd which was found in the SE Quadrant had a small embossment at one end and may be related to the two other

whiteware sherds.

Clay Pigeon Targets. Sixty-six fragments of clay pigeon ("blue rock") were distributed across the four quadrant collection areas. Several fragments were melted from the prairie fire. Clay pigeon targets were patented by George Ligowsky of Cincinnati, Ohio in 1880 (Munsey 1970:201). By 1893 they had replaced glass ball targets (Ketchum 1975:203) and continue to be popular today.

Eight fragments weighing 15.5 grams were collected from the NE Quadrant. An additional eight fragments weighing 9.1 grams were found in a concentration in the NE Quadrant. The NW Quadrant contained 47 fragments weighing 52.4 grams. Three fragments weighing 5.8 grams were collected from the SW Quadrant.

Bottle Glass. At least seven bottles were represented by the curved glass fragments collected from the collection area. The bottle glass generally seemed to date from about 1869 to about 1917. A few fragments may have been more recent.

Three bottles were represented in the NW Quadrant. One small body fragment of brown glass made up vessel one. Vessel two was represented by a clear fragment with a purple tint. Two body fragments of light blue glass were from vessel three. One was embossed with an underlined small 'o' and part of a 'C' ("Co.").

The SW Quadrant contained three fragments from three bottles. One upper body/shoulder fragment of brown glass may have been related to that in the NW Quadrant. One body fragment of clear glass was embossed 'MA'. One body fragment with two unidentified characters represented vessel five.

Four bottle glass body fragments were collected in the SE Quadrant. One was a brown sherd. The second was a light blue sherd with a mold seam. A third fragment was clear with a purple tint and also had a mold seam. The fourth fragment was green in color and represented a sixth vessel.

The seventh vessel was a flask, represented by a body fragment of clear glass and was found east of the SE collection quadrant.

Brick And Mortar. One complete brick and four brick fragments were collected from the site collection area. One brown brick fragment weighing 1.9 grams was found in the NE Quadrant. One orange fragment weighing 1.0 grams was collected from the SW Quadrant. The complete brick was found in the SE Quadrant next to the Old Highway/Freight road. It was red in color, measured 8-1/4 in. by 3-7/8 in. by 2-1/8 in., and weighed 2268.0 grams.

One fragment of cement was found in the SE Quadrant near the complete brick. It weighed 107.3 grams.

Metal. Three metal artifacts were collected from the NE Quadrant. One was a cast iron sickle bar guard (Figure 11:g) with a maximum length of 20.0 cm (7-7/8 in.) and a maximum width of 7.62 cm (3.0 in.). The guard was part of a mechanical sickle.

The second item was an iron "triangular" plate, with an irregular hole (25.4 mm by 31.8 mm) in the center of the widest third and three bolt holes 6.4 mm (1/4 in.) in diameter along each side. The widest end measured 11.4 cm (4-1/2 in.), each side 8.3 cm (3-1/4 in.), and the apex 6.4 cm (2-1/2 in.).

The third metal artifact from this area was a threaded stove bolt 64.0 mm (2-1/2 in.) long and 6.4 mm (1/4 in.) in diameter with a round, standard head.

Prehistoric Cultural Materials

Artifact Distributions

Since many prehistoric sites were known from the vicinity of the Homestead Monument, plans for Monument survey were made to accomodate the possibility that prehistoric Indian materials might be discovered. Still, since no prehistoric artifact had previously been reported from the Monument itself, discovery of a scatter of stone chipping debris and other prehistoric materials very early in the survey came as a surprise.

The prehistoric materials were initially discovered to the west of the foot path running between the sites of the original homestead cabin and the post-1916 frame house designated on Monument maps as the "Agnes Suiter Freeman Cabin." Since the extent of the prehistoric materials was unknown, it was decided not to treat this area separately from the other areas to be surveyed and no surface collection was made of this area until the regular survey transects had reached it.

Two isolated flake fragments (Cat #'s 36, 37) were found on the soil surface slightly to the west of the "Freeman Graves". Aside from these, though, neither the pedestrian survey nor shovel testing in the upland prairie areas on the eastern and south central portions of the Monument yielded any prehistoric material. Since survey conditions in these areas were excellent, these negative results strongly indicate that there is very little if any prehistoric material present in these areas. In any case, the survey revealed that many portions of these uplands are so heavily eroded that any prehistoric sites that may have

been present there, have likely been destroyed.

Shovel testing in the tree-covered bottom of Cub Creek also failed to produce any prehistoric materials. Survey conditions were far from ideal in this area, though, and so it was impossible to conclude that Indian materials and prehistoric sites are not to be found here. The negative results, together with the fact that the prehistoric artifacts which were found all came from an elevation slightly above the level of the creek bottom, may suggest that this area was not heavily occupied in prehistoric time.

The pedestrian survey and shovel testing along the regular survey transects showed that prehistoric materials were concentrated in, but not restricted to, the area of the original discoveries. In addition to material in that area, seven flake fragments (Cat #'s 40, 41, 43, 44) were found slightly to the north in the area northwest of the "original cabin" site. These flakes were found on a slightly lower lying surface very near the margin of the Highway 4 right-of-way. Two flake fragments (Cat #'s 34, 46) were found in what appears to be the heavily disturbed area to the south of the post-1916 frame house site. Finally, several pieces of prehistoric debitage and other prehistoric artifacts (Cat # 77) were found mixed with historic artifacts in the cultivated soil of the "cash crop garden" which is maintained to the west of the post-1916 frame house site.

The regular survey transects showed clearly that the heaviest concentration of prehistoric material was in the area of the initial finds - along the path between the original cabin and the post-1916 frame house site. This concentration was located near the top of a low terrace ridge which runs roughly parallel to Cub Creek. This terrace lies 2 to 3 m above the roughly level land between it and the top of the Creek bank. No prehistoric artifacts were found immediately west of this concentration area, although plant cover in much of this area had not been burned so that the soil surface was not visible. As will be noted below, after our survey was completed, Monument workers did find a number of prehistoric artifacts in this area.

None of the shovel tests in the terrace area showed any clear mottled soil or other evidence of sub-surface features and, although all of the tests were dug to at least 30 cm, none of them showed either a clear plow zone or sub-soil level. The soils which were observed in the shovel test was dark, massive, and undifferentiated indicating that buried features which are present at the site will be hard to observe.

The survey transects yielded only a relatively few artifacts and gave no clear indication of the center or extent of the distribution of prehistoric materials. It was, therefore, decided to augment the transect data with a controlled surface collection of the area which contained the bulk of the prehistoric materials. By the time this collection could be made, though, the field season was drawing to a close and

vegetation was growing back rapidly. To accomplish the collection as rapidly as possible, therefore, fairly gross control units were used.

The center of the collection area was arbitrarily set on the path between the original cabin and the post-1916 frame house site at a point 75 m north of where the foot path leads off to the Freeman Graves. As previously described, four, 50 by 75 m units were laid out around this point. These units were designated by their direction from the central point (Figure 5). Collections were made in each of the units by groups of 4 field workers. Field workers spent at least 30 minutes in each unit. When the collectors felt that they could identify a distinct concentration of cultural debris, its center and size were noted and the artifacts from it were separately collected. These concentrations were indistinct and their recognition highly subjective so that in this report artifacts are linked only to the larger units. Still, the surface concentrations may reflect the presence of buried features at the site.

After the UNL field party had completed its field work, Monument workers planted small fields of corn around the area designated the "site of the Freeman farm buildings". This area had been examined by the archeological surveyors and had been crossed by several shovel transects with entirely negative results. Since the burn off had been very spotty in this area it was suspected that the survey results were incomplete in this area. Still, since the area was much closer to Cub Creek and somewhat lower than areas in which prehistoric material had been found, it was assumed that it was not part of the prehistoric site. This conclusion had to be altered after the corn planting because a number of stone tools were discovered in the tilled soil. This collection is important because it augments the collection obtained earlier and because it significantly increases the apparent size of the Monument's prehistoric site. Because this collection was obtained and catalogued separately, the artifacts in it are separately described.

Raw Material Types

Since one of the research goals of the Homestead survey was to identify the stone sources drawn on by the prehistoric occupants of the Monument, identification of the raw material of each item recovered was an important part of this analysis. For this purpose a number of different stone types were recognized. These types were defined to parallel categories used by other researchers (Holen 1983, Blasing 1984) and the types recognized by archeologists from the Nebraska State Historical Society. Actual identifications were made with reference to a "type collection" of stone specimens borrowed from the Nebraska State Historical Society. Thus, although the categories used in this

analysis are not entirely identical to categories established by others, they can be easily related to those categories. The stone type used in this analysis are described below.

I. PERMIAN CHERTS A number of chert deposits outcrop in the Permian limestone outcrops of the Flint Hills region of Kansas and Nebraska. The northern-most of these outcrops are found along the Blue River valley near the southern border of Nebraska. From there, outcrops continue southward in a 100 mile wide band across Kansas. Within the broad area, innumerable specific chert outcrops from several different deposits have been discovered (see Blasing 1984). Chert from these deposits also occur as nodules in streams and rivers of the Flint Hills. Beside outcropping across a wide area, a number of different types of chert occur in the Permian deposits. These are generally different from silicious stones from other sources but they do not form a very neat category. In this study three sub-types of Permian Chert are recognized.

a. Blue Chert. This stone is similar to the banded type but occurs in fairly homogenous, massive pieces apparently detached from layered deposits. It is dark blue grey in color and usually has many small white fossil inclusions scattered through it.

b. Blue-Banded Chert. This stone typed appears as either nodules or layers which show bands of blue and grey stone often alternating several times. It may contain small scattered white fossil inclusions.

c. Green Chert. This type is generally similar to the Blue Chert variety but is identifiable by a distinctive olive-drab color. Most flakes of this stone seem to have been struck from cobble size nodules which had limestone cortex.

Since these sub-types can neither be linked to specific source areas, nor identified without some subjectivity, they are presented in this analysis for discriptive purposes and reported, where appropriate, with information on the total amount of Permian chert.

II. NEHAWKA CHERT. Nehawka Chert is the name given to flinty stones which occur among the the Pennsylvanian limestones that outcrop in the lower Platte River drainage of eastern Nebraska (see Holen 1983). The name itself derives from the fact that a great many prehistoric quarry sites have been reported near Nehawka, Nebraska. This chert occurs as cobble to boulder size nodules in the limestone. Lag deposits have also been reported from stream and river beds in the lower and Weeping Water Creek areas.

Nehawka chert is grey to light grey-brown in color. It is

usually marked by a large number of small white fossil inclusions which do not interrupt artificial flake planes. Experiments by Maudiville and Flenniken (1974) indicate that Nehawka chert is rendered much easier to flake after mild heat treatment.

III. REPUBLICAN RIVER JASPER. Republican River Jasper comes from the Cretaceous age Niobrara Formation which outcrops at several locations along the border between Nebraska and Kansas. Outcrops are known from along the Republican River in Franklin, Nuckolls and Webster counties of Nebraska and also along Beaver and Sappa Creeks in Furnas County. It has also been reported from other areas in western Nebraska and Kansas. The stone itself is silicified chalk which occurs as layers in softer chalk beds. It is quite variable in texture from almost flinty to very porous and chalky. Usually it has a distinctive yellow-brown color but it can range to olive drab and - perhaps with heat treatment - to dark red brown.

IV. GREEN QUARTZITE. The best known outcrops of green quartzite occur in the Missouri River trench northward from the northeast corner of Nebraska. In that area it is called "Bijou Hills Quartzite". The same stone also outcrops much farther south in small localities in the Republican River drainage of Nebraska and in several spots in western Kansas (see Holen 1983). The stone itself is silicified sandstone. It is usually coarse grained although fairly variable in both texture and color. Color ranges from olive drab to green to grey. The stone weathers easily and, thus, is often seen as a light grey poorly consolidated sandstone.

V. MISCELLANEOUS "WHITE" CHERT. This is a residual category composed of fine grain, light colored cherts not assignable to either of the fairly homogeneous Permian cherts. Holen (1983) suggests that this chert may originate in the central Iowa and Missouri.

Chipped Stone Tools

In this section the prehistoric artifacts collected during the UNL survey are described. Because the collection made by the Homestead Monument personnel was found and catalogued separately, it is described as a separate collection.

Projectile Points. Two projectile points were recovered from the Monument lands. The first was a stemmed triangular point (Figure 12:b, Cat # 79) found in the NW quadrant of the surface collection area. It was finely chipped of grey Permian chert and had a triangular blade with approximately straight lateral margins. The base was also straight. Notches were chipped into both lower corners to form a slightly expanding base. All margins were well formed with fine pressure flaking. Along the lateral margins, flake scars extended well onto the surfaces so that the point had a lenticular cross section. Maximum length was 3.41 cm. The maximum width of the point occurred just above the corner notches. It measured 2.64 cm, although one of the corners appeared to have been broken away. The minimum width between the notches was 1.13 cm. The maximum width of the stem, which occurred just above the basal margin, was 1.50 cm. The point was 0.5 cm thick and weighed 3 grams.

The second was a triangular point (Figure 12:a, Cat # 78) also found in the NW quadrant of the collection area. It was finely chipped of banded blue/grey Permian chert. The tip was broken away. It had a simple triangular outline with straight lateral margins and a slightly concave basal margin. The portion that remained was 1.46 cm long. Maximum width occurred at the base and measured 1.14 cm. It was .28 cm thick and weighed 0.5 grams.

Scrapers. Three scrapers were collected. The first (Figure 12:h, Cat # 71) was a small scraper was found in SW collection quadrant. It was unifacially formed of lustrous grey chert. The working margin was placed on the proximal end of an irregular flake. The ventral surface was the bottom of the scraper. Unifacial retouch occurred on the dorsal surface. It extended both along the working margin and along both lateral margins. The dorsal (or top margin) of the scraper was almost covered by retouch flake scars. The only removals from the ventral surface were made near the proximal end of the tool to remove a ripple in the flake surface. The piece was 2.14 cm long and 1.57 cm wide across the working margin. It weighed 4 grams.

A second scraper (Figure 12:f, Cat # 81), made of Republican River Jasper, was found in the NW collection quadrant. It was formed on a large flake. Steep unifacial retouch was restricted to the dorsal flake surface. It was formed on both working margins and extended along both lateral margins. The ventral flake surface formed the underside of the scraper and had no retouch. The proximal flake margin was opposite the working surface of the tool. The working margin was 2.11 cm wide and the maximum length of the scraper was 3.69 cm. It weighed 11 grams.

The largest scraper (Figure 12:e, Cat # 80) was made on a large generally flat spall of mottled grey chert. The spall was shaped with irregular retouch which was concentrated on one margin. The working margin was generally straight with round

corners. Retouch extended only slightly beyond the corners. The retouch was bifacial but much more extensive on one surface to make an asymmetrical "unifacial" margin. The maximum width of the working margin was 4.54 cm. The maximum length of the scraper was 5.52 cm. It weighed 38 grams. This piece was found just east of the southeast quadrant of the collection area.

Fluted Cores. Three "fluted" or band cores were included in the Homestead collection. All were exhausted but appeared to have been systematically used to produce regular long, narrow flakes. One of the cores (Figure 12:i, Cat # 42) was found near the path running along the northern edge of the Monument, west of the original cabin site. The two other cores were found respectively in the NE (Cat # 68) and SW (Cat # 71) collection quadrant. All were made of nodules of blue-grey chert. In removing flakes the cores had been rotated so that they had at least two striking platforms. The flake scars that remain were all quite short and the surviving platforms were nibbled and battered suggesting that the cores were discarded only after no more flakes could be removed.

TABLE 1. Retouch flakes from Homestead National Monument.

Cat. #	Quadrant	Raw Material	Retouch, biface or unifacial	Total length of retouched margin	weight
068	NW	band blue	unif	3.2 cm	1.2
072	SW	RR Jasper	bif	6.5 cm	3.7
072	SW	BB chert	unif	5.5 cm	4.4
072	SW	BB chert	unif	6.5 cm	9.8
072	SW	BB chert	unif	3.4 cm	2.1
072	SW	grey chert	unif	6 cm	4.2
074	SE	BB chert	unif	4 cm	11.9
074	SE	BB chert	bif	3.1 cm	.4
074	SE	RR jasper	unif	1.5 cm	1.1
074	SE	RR jasper	unif	8 cm	18.2

Retouched and Utilized Flakes. Included in this category were all of the flakes and flake fragments which showed clear signs of having had one or more margins retouched. In most cases the retouch was quite irregular and limited to the margins so that the original flake shape was not significantly altered. All of these flakes were found on the site surface in the course of the

controlled surface collection. The retouch flakes are described above.

Debitage

Analysis of the chipped stone debitage or waste flakes recovered from the prehistoric site was undertaken with two goals. First, since waste flakes were by far the largest artifact category in the collection and the least likely to be influenced by tool curation or recycling, their analysis was aimed at yielding information on the quarry sources drawn on by the occupants of the site. The second goal of the analysis was to gather information on patterns of stone working which were done at the site.

Since waste flakes are a direct result of the stone working done at a site they must reflect that work. Interpreting stone working patterns from debitage is difficult, though, since the patterns can have many - often subtle - reflections. Instead of recording all of the attributes which might be considered, in the present analysis two rather easily monitored factors are considered to be indications of the kinds of core reduction, bifacial thinning, tool sharpening, and other flaking done at the site. These are debitage type and waste flake size.

Debitage Type. Three kinds of debitage were identified. These included "SHATTER" which refers to blocky pieces of stone which show no bulb of percussion. Shatter is presumably the result of very rough stone working. The second debitage category was "FLAKE FRAGMENTS". A flake fragment shows the dorsal and ventral surfaces of a flake but does not retain the bulbar or proximal margin. The third debitage category identified in this analysis consists of "COMPLETE FLAKES" which are flakes which DO retain a bulb of percussion. Even flakes which were broken medially were counted as complete flakes since flakes which had ended in step fractures could not be differentiated from those broken after they had been detached.

Flake Size. The size of the flakes found at a site is a clear reflection of the stone working which was being done there. Coarse stone working must be represented by large waste flakes just as extensive reshaping and resharpening will result in ever smaller waste flakes.

In this analysis all debitage categories for the various conveniences have been reported both in terms of the number of individual objects and their total weight since this is a convenient means of indicating the general size of the items. In addition to this, the "complete flakes" have also been described

Table 2.

Distribution of
lithic debitage in
controlled surface
collection grids.

NW QUAD																				
	GrayChert	#	BndChert	#	GBndChert	#	TOT WT	PERM NUM	CHT	NehawkaChert	#	ARJaso	#	G Ozite	#	White Chert	#	QUAD TOTAL	TOTAL	
	wt		wt		wt					wt		wt		wt		wt		WT	NUM	
7 cm +																		0	0	
7 cm																		0	0	
6 cm																		0	0	
5 cm			8	1					8	1								8	1	
4 cm	7		2	15.1	2				22.1	4								22.1	4	
3 cm	6.3	3	5	2		7	3	18.3	8							1.5	1	19.8	9	
2 cm	2.5	5	1.5	2					4	7						1.1	1	5.1	8	
1.5 cm			.4	1					.4	1								.4	1	
1 cm																		0	0	
flake																		0	0	
portions	6.6	8	2.9	3	2.6		1	12.1	12							1.5	1	13.6	13	
Shatter	63.6	2	40	3				103.6	5					23		6		126.6	11	
TOTAL	86	20	72.9	14	9.6		4	168.5	38	0	0	0	0	0	23	6	4.1	3	195.6	47
SW QUAD																				
	GrayChert	#	BndChert	#	GBndChert	#	TOT WT	PERM NUM	CHT	NehawkaChert	#	ARJaso	#	G Ozite	#	White Chert	#	QUAD TOTAL	TOTAL	
	wt		wt		wt					wt		wt		wt		wt		WT	NUM	
7 cm +																		0	0	
7 cm																		0	0	
6 cm			39.5	1			39.5		1									39.5	1	
5 cm			44	2			44		2			15		1				59	3	
4 cm	18	4			5.5		1	23.5	5									23.5	5	
3 cm	5.1	4	4.5	2	2		1	11.6	7			1.2		1		3.8	1	16.6	9	
2 cm	4.5	6	3.5	5	1		2	9	13									9	13	
1.5 cm	.8	6	.5	1				1.3	7									1.3	7	
1 cm																		0	0	
flake																		0	0	
portions	19.5	2	3.5	3	2		2	25	7			.7		1				25.7	8	
Shatter								0	0									0	0	
TOTAL	47.9	22	95.5	14	10.5		6	153.9	42	0	0	16.9		3	0	0	3.8	1	174.6	46
NE QUAD																				
	GrayChert	#	BndChert	#	GBndChert	#	TOT WT	PERM NUM	CHT	NehawkaChert	#	ARJaso	#	G Ozite	#	White Chert	#	QUAD TOTAL	TOTAL	
	wt		wt		wt					wt		wt		wt		wt		WT	NUM	
7 cm +																		0	0	
7 cm																		0	0	
6 cm			39.5	1			39.5		1									39.5	1	
5 cm	22.3	3					22.3		3									22.3	3	
4 cm	8.9	2	25.9	4	40.4		6	75.2	12									75.2	12	
3 cm	15.4	9	26.9	13	4.7		2	47	24			4.5		1	1.5	1	1.5	54.5	27	
2 cm	15	28	3.7	6	2.4		3	21.1	37	1	2					1.9	3	24	42	
1.5 cm	1.3	6	.6	2				1.9	8									1.9	8	
1 cm	.2	3						.2	3									.2	3	
flake																		0	0	
portions	24.5	45	16.2	12	15.1		7	55.8	64	1.1	2	.4		1	.3	1		57.6	68	
Shatter	12.8	1						12.8	1									12.8	1	
TOTAL	100.4	97	113.	38	62.6		18	275.8	153	2.1	4	4.9		2	1.8	2	3.4	4	288	165
SE QUAD																				
	GrayChert	#	BndChert	#	GBndChert	#	TOT WT	PERM NUM	CHT	NehawkaChert	#	ARJaso	#	G Ozite	#	White Chert	#	QUAD TOTAL	TOTAL	
	wt		wt		wt					wt		wt		wt		wt		WT	NUM	
7 cm +	160	2					160		2									160	2	
7 cm																		0	0	
6 cm	45	1					45		1									45	1	
5 cm	7	2					7		2									7	2	
4 cm	31.9	7	13.8	3			45.7		10	2.2	1							47.9	11	
3 cm	31.5	24	20.3	8	9.7		5	61.5	37	3.5	2	1.5		1		1.7	1	68.2	41	
2 cm	15.8	30	5.7	6	3.7		5	25.2	41							.8	1	26	42	
1.5 cm	1.3	7	.6	2				1.9	9									1.9	9	
1 cm	.2	1						.2	1									.2	1	
flake																		0	0	
portions	44.7	57	12.1	14	7.6		3	64.4	74	2.1	3	4.6		3	3.7	2	.8	75.6	83	
Shatter								0	0									0	0	
TOTAL	337.4	131	52.5	33	54.5		14	444.4	178	7.8	6	6.1		4	3.7	2	3.3	3	465.3	193
GRAND TOT	571.7	270	334.	99	137.2		42	1043.	411	9.9	10	27.9		9	28.5	10	14.6	11	1124.	451
x TOTAL	50.89	59.9	29.7	22.0	12.212		9.3126	92.80	91.131	.88117	2.2173	2.4833		1.9956	2.5367	2.2173	1.2993	2.4390	100.0	100

	GARDEN PLOT																	
	BlueChert		PinkChert		GreenChert		TOTPERMCHT		NehawkaChert		RRJasp		G Quartzite		White Chert		TOTAL	
	wt	#	wt	#	wt	#	WT	NUM	wt	#	wt	#	wt	#	wt	#	WT	NUM
7 cm +							0	0									0	0
7 cm	17	1	50	1			67	2									67	2
6 cm	10.5	1					10.5	1									10.5	1
5 cm	41	3	20	1			61	4									61	4
4 cm	9	2	16	2	3.5	1	28.5	5									28.5	5
3 cm	15	8	8	3	5.5	2	28.5	13									28.5	13
2 cm	6	6	4.5	6			10.5	12							.6	1	11.1	13
1.5 cm	1.5	3	.9	3			2.4	6							.6	1	3	7
1 cm	.6	2					.6	2									.6	2
< 1 cm							0	0									0	0
flake																		
portions	16	28	2	4			18	32							1.7	2	19.7	34
Shatter					1.5	1	1.5	1									1.5	1
TOTAL	117.	54	51.4	20	10.5	4	229.	78							2.9	4	231.	82
% of TOTAL	50.4	65.9	22.2	24.4	4.54	4.88	98.7	95.1							1.25	4.88		

Table 3. Lithic Debitage found in the "Cash Crop Garden"

in terms of their maximum dimension. These were determined by placing the flakes over a series of graduate circles. Maximum dimension, thus, refers to the diameter of the circle which could contain the flake.

Tables 2 and 3 present information on the Homestead National Monument debitage assemblage. Materials collected from the four quadrants and the garden plot are reported separately. Beyond that, these tables also indicate the raw material types present in the waste flake assemblages together with information on the size and frequencies of the various debitage types which make up the assemblage.

The "Corn Field Collection"

Bifacial Knives. The two knives collected were finely made with both faces entirely covered with flat retouch. In addition to the flat surface retouch there was marginal retouch which was essentially unifacial giving the lateral edge a "bevel". This retouch, which appears to have been applied to sharpen the edges, was also applied on alternate faces so that the knives had "diamond shaped" cross-sections. One of the knives was represented by only a medial section (Figure 12:c). It was 3.1 cm wide at its widest point, 0.7 cm thick at its thickest, weighed 12 grams, and was chipped of Republican River Jasper. The other knife had been well worked but was apparently "complete" and still functional (Figure 12:d). It had a bipoint "leaf shaped" outline. It was 7.0 cm long, 2.9 cm at its widest point, and was 0.7 cm thick. It weighed 14 grams.

End Scrapper. This end scrapper was formed on a flake of Nehawka chert (Figure 12:g). Unifacial retouch was applied from the ventral onto the dorsal surface along the distal flake end. Some unifacial retouch also extended along both lateral flake margins. The ventral surface of the original flake was not retouched. The maximum length of the scrapper measured along the flake axis and was 3.6 cm. Maximum width across the retouched working edge was 2.7 cm. It weighed 7 grams.

Rough Bifaces. Included in the collection were two non-flake fragments which have had a few irregular flakes struck from both faces. The largest was blue-grey Permian chert. It measured 7.6 cm long by 5.9 cm wide by 3.1 cm thick and weighed 125 grams. The other was made of fine grey Permian. It measured 5.1 cm long, 3.6 cm wide, 1.7 cm thick and weighed 3 grams. Both were made of blue Permian chert.

Fluted Core. One nodule of green Permian chert was found which clearly appeared to have served as a core from which long narrow flakes or "blades" were struck (Figure 12:j). The fluted surface from which blades were detached extended along slightly more than half of the circumference of the nodule. Five flake scars remained on the fluted surface. The longest of these measured 2.7 cm but there had been a number of flakes removed from the top of the core which served as the striking platform. These suggest that blades detached early in the core's history were longer than the surviving flake scars. Width between the margins of the fluted surface was 3.7 cm. The core weight was 9 grams.

In addition to these artifacts, the "corn field collection" also included two long narrow flakes. Both were of Permian chert, and one appeared likely to have been struck from the fluted core described above although it did not fit on any of the surviving scars on that core. Finally, the collection included a heavily weathered fragment of bone. This was unidentifiable but appeared to have come from a long bone of a fairly large mammal.

Ground Stone Tools

Sandstone Abraders. Three squarish blocks of red sandstone were found on the soil surface; two from the SW quadrant of the collection area (Cat # 71) and one from the cash crop garden plot (Cat # 77). The one from the garden was 2.7 cm x 2.1 cm wide in cross section. The portion that remained appeared to be broken on at least one end. It was 4.3 cm long and weighed 39.7 grams. Grooves ran down three lateral faces. The largest of the abraders from the SW quadrant had a round rectangular cross-section which measured 4.6 x 3.6 cm (Figure 12:k). The incomplete portion that remained was 5.3 cm long and weighed 114 grams. It had only one groove cut into the narrow end of the block. The final piece appeared to be a central portion of a flat slab. One surface was smoothed and slightly concave. It was 1.7 cm thick and weighed 51.6 grams.

Ceramics

A total of 40 potsherds were found on the surface of NE, SE and SW controlled surface collection quadrants and also in the tilled surface of the cash crop garden. Information on the distribution of these materials is presented in Table 4. All of the sherds in the collection were heavily weathered which made description difficult. Original surfaces had been so heavily eroded that color and surface finish could not be determined. Most of the sherds appeared to have had shell tempering although in all cases the shell had been entirely leached away leaving a porous paste and large flat hole in most surfaces. The shell had been so thoroughly removed that the sherds did not react when diluted hydrochloric acid was put on them.

Because the sherds were so small and heavily eroded little could be said about the vessels from which they came. The two rimsherds in the collection came from everted rim vessels; one with a plain rim and the other with a series of oblique rod impressions along the rim exterior. Neither of the rims was large enough to yield an orifice diameter measure. Of the three neck sherds only one was measurable and appeared to have come from a vessel with a neck diameter of 8 cm. Five sherds appeared to have come from the shoulder area of vessels. These sherds were decorated with straight trailed or incised lines but given the small size of individual sherds the pattern of the decoration could not be determined. All of the remaining sherds had smooth finishes and appeared to have come from the bodies of globular vessels.

TABLE 4. DISTRIBUTION OF PREHISTORIC CERAMICS FROM 25GA89

	RIM	NECK	SHOULDER	BODY	TOTAL
NW QUAD	0	0	0	0	0
NE QUAD (#68 69)	0	1	1	12	14
SW QUAD (#71 72)	1	2	4	7	14
SE QUAD (#73 74)	1	0	0	8	9
GARDEN (#77)	0	0	0	2	2
TOTAL	2	3	5	29	39

IV. SUMMARY AND CONCLUSIONS

The Technical Objectives

One of the goals of the Cultural Sites Inventory conducted at the Homestead National Monument of America by the University of Nebraska was to identify the nature and distribution of prehistoric and historic artifacts, artifact concentrations, and surface features within the Monument boundaries. The 100% pedestrian visual survey and systematic subsurface testing of the Monument lands resulted in the identification of at least seven artifact concentrations and provided an understanding of the distribution of the artifacts and surface features (see Figures 6 and 7). The seven concentrations are: (1) the Freeman School grounds; (2) the 1930s to 1960s historic midden in Transect Section 3; (3) the small group of positive shovel tests west of the 1876 brick house site; (4) a surface scatter of historic artifacts around the site of the original Freeman cabin; (5) the surface scatter of prehistoric artifacts across the low rise east of Cub Creek and between the Freeman cabin and the frame houses; (6) a surface scatter of historic artifacts in the vicinity of the first frame house (1916 - 1930) and east towards the locations of the later frame houses; and (7) a wagon, two-wheeled cart, and a mechanical reaper, together with a scatter of late historic construction materials located at the eastern edge of the woods and NW of the meteorological station.

Other artifacts are widely scattered over the Monument. A number of these items may be tentatively associated with known sites or specific activities, such as cultivation. For example, two shovel tests containing brick fragments located in Section 6 are probably related to the brick kiln which, despite oral descriptions by the Freeman children to the contrary, seems to be situated in this area (Bauxar 1948).

Five surface features were identified at the Monument (Figure 6): (1) a water diversion canal in the southwest corner of the Monument; (2) a berm related to Old Highway 4/Freight Road which runs diagonally through the lands; (3) the access road/trail into the Monument south of the present Visitor Center; (4) a berm related to a fenceline which separated the eastern-most quarter section from the south-central quarter section; and (5) the barrow pit area located east of the northern-most quarter section and between the current State Highway 4 and the Old Highway 4/Freight Road. Except for the fenceline berm, each of the surface features were formed by land alteration activities which removed or otherwise disturbed any cultural resources situated in the construction area.

As stated in the introduction, the second goal of the project was to locate and record the currently known archeological features in the Monument. Related to this aim was the third goal, to isolate the areas archeologically investigated in the past. The literature reporting the previous archeological investigations (Bauxar 1948) and various archeological and land use maps provided a record of these resources.

In the burned areas, where visibility was high, visual survey of the site locations verified their provenience. But in no area of the Monument, did shovel tests confirm the documented evidence or the surface evidence of the site locations. Therefore, the systematic subsurface testing at Homestead National Monument did not permit the isolation of site areas nor the determination of their parameters. Magnetometry survey of portions of the Monument has shown that remote sensing methods alone cannot identify the location and extent of site areas either (Weymouth 1983). Intensive archeological testing by excavation may be the best method for delimiting site area for several of the cultural sites located in the Monument.

The fourth goal of this investigation was to determine and record the exact location of all NPS survey markers established within the Monument. Each of the markers were located (Figure 8). They are readily observable in most instances because they are small, orange-painted concrete pillars. A yellow concrete benchmark is located at the northeast corner of the south-central quarter section. Interpretative markers are located at the site of the original Freeman cabin, at the Freeman graves, near the location of a framehouse built after 1916 and dismantled in 1930, at the site of the 1876 brick house, and near the proposed location of the 1862 squatter's cabin occupied by the Daniel Freeman family from 1865 to 1867. Other markers, such as map stations, are recorded on NPS survey and topographic maps.

The Research Objectives

In addition to the four management goals, four research objectives were identified by the University of Nebraska. One was the clarification of historic and prehistoric patterns of land use within the Monument, relating patterns of artifact distribution to land form and vegetation patterns. Only one prehistoric site was identified at Homestead National Monument. It was located on a low rise between about 100 and 200 meters east of Cub Creek (see Figure 9).

The lands on which Daniel Freeman settled in 1865 had undergone little change since the prehistoric occupation evidenced at the Monument. The nearby waterway, called "Cub Creek", flowed north into the nearby Big Blue River. Oaks,

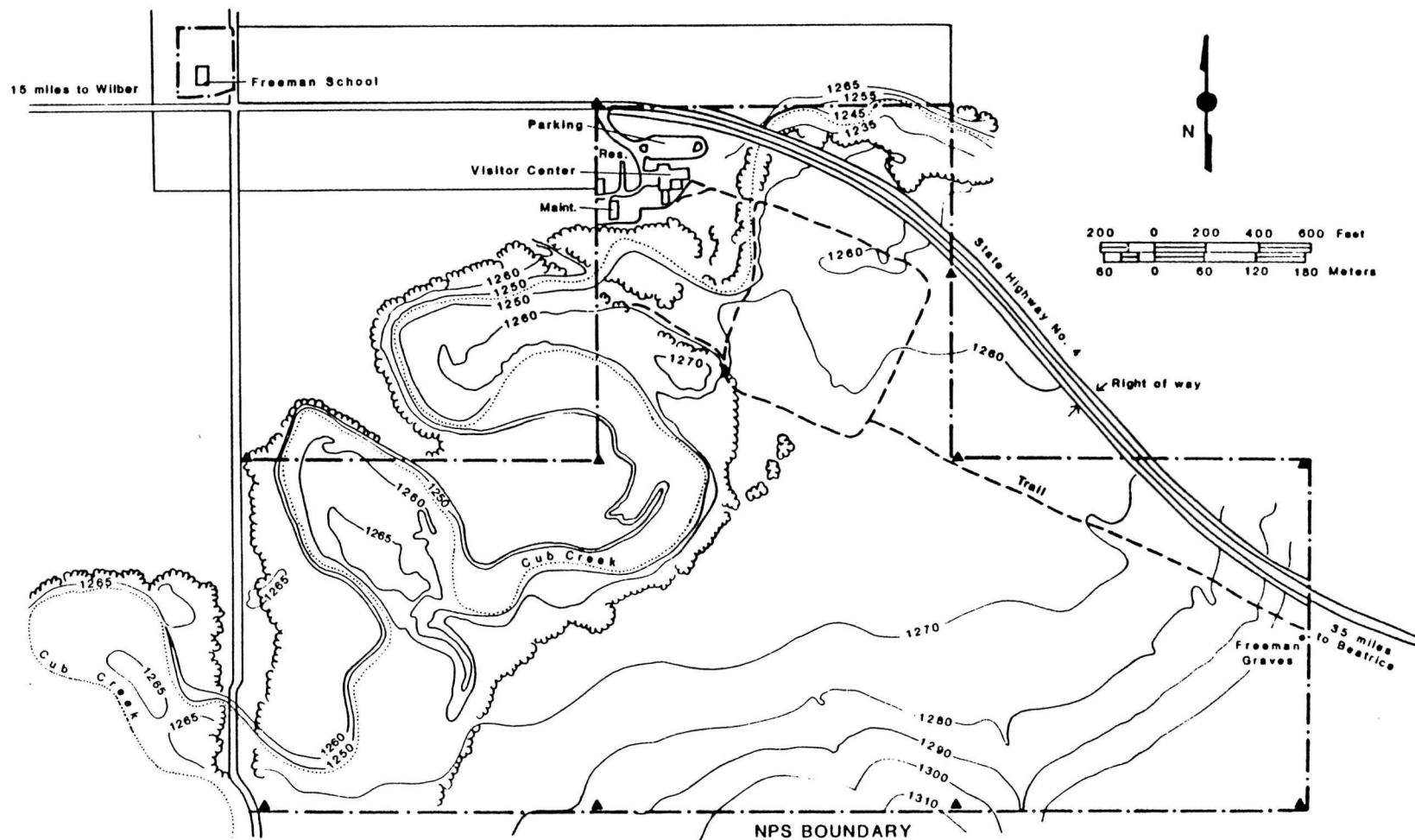


Figure 8. Locations of the National Park Service survey markers.

cottonwoods and ash bordered both flowages. Prairie grasses and associated flora covered the open, rolling grasslands. White-tailed deer, beaver, muskrat, squirrel, cottontail rabbit, coyotes and other fauna inhabited the locale.

When Daniel Freeman came to stake out his claim in 1862, he selected four quarter sections which gave him the access to the three natural resources necessary for a successful homestead: water, good farmland, and wood. The T-shaped claim was the best arrangement to satisfy these needs. The old freight road, passing through his claim, contributed to the value of the location. It is worth noting that a squatter already was living here, utilizing these same resources.

When he returned to occupy his homestead claim in 1865, Daniel Freeman began to turn the resources of his holding toward a livelihood. The rich grassland soils were of well drained silty loam, promising bountiful harvests of wheat and corn if there was enough rain and few insects. Water could be drawn from Cub Creek for cooking and washing, watering livestock and, if necessary, irrigating a small garden. Nearby surface water also suggested that one would not have to dig a well too deep to reach the water table. Wood for cooking and heating and building was available along the creek.

Each of the domiciles occupied by Daniel Freeman and his family on the homestead were sited near Cub Creek, including the cabin built by the squatter. The 1876 brick house was constructed of bricks from Daniel Freeman's own kiln, using local clays. The freight road facilitated the transport of milled lumber for framing the brick house and constructing the subsequent frame houses.

The location and arrangement of the quarter sections chosen by Daniel Freeman for his homestead, therefore, demonstrate the importance of good, arable land, plentiful wood and dependable water. The freight road made it easy to transport goods to the homestead as well as carry farm produce into commercial centers such as Beatrice, Nebraska.

The artifact distribution provided evidence of land use over time. Farm tools were found in the north quarter section, on the northwestern edge of the lands that were cultivated. Brick fragments were found in the location of the 1876 brick house. Other brick fragments were collected in the area identified by Bauxar (1948) as a kiln. Brick found in the garden plot came from either the brick house or the chimney of the 1916 frame house.

The garden plot also contained a variety of household objects, fragments from ceramic tablewares, a tumbler, bottles, and canning jar lids and a glass button. Also found in the garden were harness buckles and at least one item (a brace) from farm machinery. The variety and amount of historic artifacts observed in and around the garden area indicated that a domicile

was built nearby and that household and some farm-related activities occurred there.

At the Freeman School little could be said about the relationship of land form and vegetation patterns with artifact distribution. The schoolyard was an essentially flat area of low grass surrounded by prairie. Some of the artifacts collected from shovel tests around the school were construction related (i.e. brick, nails, tarpaper). Others represented social activities which occurred at the school; items such as a crockery fragment and bottle glass sherds. School materials, however, were not found. Therefore, without the documentation, general structural appearance and the present interpretive items kept at the school, identifying the structure as a schoolhouse would have been problematic.

The identification of diachronic changes in household clusters and other residential and functional units which were recognized archeologically was a second research goal. "Household clusters" was a term coined by Marcus Winter to refer to a house and its associated outbuildings and activity areas (Flannery 1976:16). The cluster consists of the archeological remains. Analysis of the archeological data, using this concept, can assist the archeologist in reconstructing the household, compare the activities of its members, and identify changes through time (Winter 1976:25).

The nature of the surface artifact distribution and the limited subsurface testing which the survey entailed did not allow for the development of this kind of analysis and interpretation. Instead, two different sampling strategies would be necessary: 100% controlled surface collection and extensive test excavation of household clusters such as made by Bauxar (1948). The interpretive conclusions of this report in terms of diachronic changes in household clusters, therefore, were both general and tentative, particularly in terms of the prehistoric occupation of the Monument lands, and relied heavily on the excavations by Bauxar (1948) and related historic documentation for the homestead period.

Historic records report seven historic household clusters at the Monument, beginning about 1862 with the "squatter's cabin" and ending by 1939 with the formation of the Homestead National Monument of America. The household clusters were: the squatter's cabin (ca 1862-1867), the original Freeman cabin (1867-1876) together with the associated Agnes Suiter (Freeman) cabin, the Freeman brick house (1876-1916), the first frame house (1916-1930), and three other frame houses built after 1916 - two southeast of the first frame house and a third where the visitor parking lot stands (Bauxar 1948:4-6). It was assumed that the group of farm buildings constructed in 1890 and dismantled in 1928 belonged with first the brick house and later with the first frame house.

The changes in residence by the Freeman family on the homestead were the most obvious diachronic changes in household clusters. They constituted variation not only in the primary location of domestic activities (i.e. cooking, storage, sleeping, eating, child-rearing, entertaining, home maintenance) and some subsistence activities (tool repair, gardening, butchering, harvest processing) but also in the materials used for construction and in the arrangement of rooms within the buildings.

For example, the Freemans moved from the squatter's cabin to a new log cabin erected in 1867. To "prove up" on the Agnes Suiter claim, a second cabin was built near the Freeman cabin. During this time, the two tandem household clusters probably functioned as one. From these one room cabins, the Freemans moved into a four room brick home. The larger size of the brick house probably reflected both the success of the Freeman farm and the need for more room because of the children.

While the Freeman family occupied the brick house, several farm buildings were constructed a short distance to the north. The outbuildings suggest a change in certain activity areas such as tool repair and storage, harvest processing, livestock care, milking, butchering, etc. away from the domicile. They also support the idea that the Freeman farm was doing well.

A frame house was built in 1916 after fire destroyed the brick home. It was located to the southeast of the brick house site rather than over it. A frame structure was chosen, presumably, because it could be erected more quickly than another brick home. The household activities remained the same, but their location changed.

Three other frame houses were built later, prior to 1939. Each reflects a separate household cluster with similar, but nonetheless independent, household activities. Additional research could tell us whether or not, and to what degree these households were engaged in the farming activities about which the homestead focused.

Identifying changes through time in the prehistoric household cluster(s) is even more problematic given the current level of testing. Repeated cultivation of the prairie lands at the Monument has resulted in the disturbance of the site deposits (as was true for historic occupation areas). Again extensive subsurface testing would be required to evaluate the integrity of the prehistoric components at the Monument and to document with confidence the nature and locations of various activities and structural remains associated with the prehistoric household cluster(s).

A third research objective was to collect window glass thickness data to further expand a seriation model developed for 19th century Plains historic archeological sites (Schoen 1985). Window glass fragments were collected from three areas of the

Monument: (1) from the ground surface south of the garden plot (between TR50/ST35 and TR50/ST40), (2) from the garden plot, and (3) from the midden or dump in the southwest corner of the homestead lands.

Four flat glass fragments were collected south of the garden plot, probably from a single glass pane. One fragment measured 2.4 mm (0.0941 in.) in thickness. Three sherds measured 2.5 mm (0.0970 in.) thick. The mean of the sample was 2.475 mm (0.0963 in.), the mode 2.5 mm (0.0970 in.), and the median 2.5 mm (0.0970 in.). A predicted date of 1892 was calculated using the linear regression formula

$$Y = 1725.664 + 1713.008 (X)$$

where Y is the initial date of occupation and X is the mean thickness of the glass sample (Schoen 1985:78). The date represents the initial occupation/construction for an unidentified structure from which the glass window was assumed to have derived.

Twenty flat glass fragments were collected from the garden plot. They ranged in thickness from 1.7 mm (0.067 in.) to 2.5 mm (0.097 in.). The sample mean was 2.265 mm (0.0892 in.) and the mode and median were 2.3 mm (0.091 in.). The window glass sample mean yielded a predicted initial date of occupation/construction of 1879. This date suggests that the window glass collected from the garden plot is associated with the 1876 Brick House rather than any of the frame houses built later in the vicinity. The earliest frame structure was constructed in 1916 and dismantled in 1930 (Bauxar 1948:5). Two other frame houses were constructed between 1916 and 1939 (Bauxar 1948:5).

When the four window glass sherds collected south of the garden plot were included in the garden sample, the statistics did not change significantly. The mean, mode and median were all 2.3 mm (0.091 in.). Although the estimated initial date of construction changed to 1882, the date remained more compatible with a Brick House association than with any other structure at the Monument.

The third window glass sample was from the historic dump. Thirteen fragments were collected. Only twelve were used for calculating a date of initial occupation/construction because the thirteenth fragment was of thick plate glass. It measured 5.5 mm (0.217 in.) thick. The sample mean for the twelve sherds was 2.425 mm (0.0955 in.), the mode was 2.0 mm (0.0787 in.), and the median was 2.3 mm (0.091 in.). The estimated initial date of occupation was 1889.

While the window glass alone suggested a pre-1900 date for the midden, the bottle glass had clearly documented dates of manufacture from 1929 to 1954 (Toulouse 1971:403). One explanation for the discrepancy between the dates of the two artifact groups would be that the window glass came from an old,

dismantled structure built about 1889.

Insofar as the window glass collected at the Homestead National Monument did not come from associations with specific structural foundations it was difficult to evaluate the reliability of the estimated dates of occupation/construction derived from the samples. The small sample size also hindered making conclusions with confidence. Instead, the window glass thickness data collected in this survey provided only supplementary information about the range and quantity of historic material present at the Monument. Its value as a dating device must wait until additional archeological and archival investigations have been completed.

The fourth objective was the identification of probable lithic resources related to the prehistoric occupation of the Monument lands. The overwhelming majority of the stone used by the prehistoric occupants of the Homestead National Monument was Permian chert. This stone type accounted for more than 90% of the waste flakes and most of the stone tools collected from the prehistoric site. The clear preference for this stone is not surprising since it occurs naturally near the Park in the lower Blue River valley and south into the Flint Hills of Kansas. The fact that several different types of Permian chert were used may indicate that a number of varying stone sources were used by the occupants of the site and that some factors other than simple proximity were involved in selection of the stone. Holen (1983), for example, has argued that late prehistoric sites associated with the Proto-Pawnee in the Lower Loup River area show a marked reliance on Permian chert because this stone was readily available - and therefore "cheap" - in the Pawnee's summer bison hunting range. The Homestead National Monument prehistoric site (25GA89) is unquestionably very different from the sites Holen considered. His conclusions are relevant, however, because they show that patterns of lithic acquisition must be understood in terms of larger economic patterns and orientations. In that sense, the raw material assemblage from the 25GA89 site suggests that the prehistoric occupants of the Monument had a marked subsistence focus to the region to their south.

The Nature and Extent of the Prehistoric Site

The collection of Prehistoric artifacts found in the course of our survey was limited in many ways but did offer some insights both about the size of the area occupied by prehistoric folk and also the life and culture of those people. This section presents some conclusions about the prehistoric site which may be of interest to Monument managers and interpreters. It must be emphasized, however, that any conclusions based on the information currently in hand must be tentative and that a systematic testing program should be undertaken to obtain solid information of prehistoric occupation of Homestead National Monument.

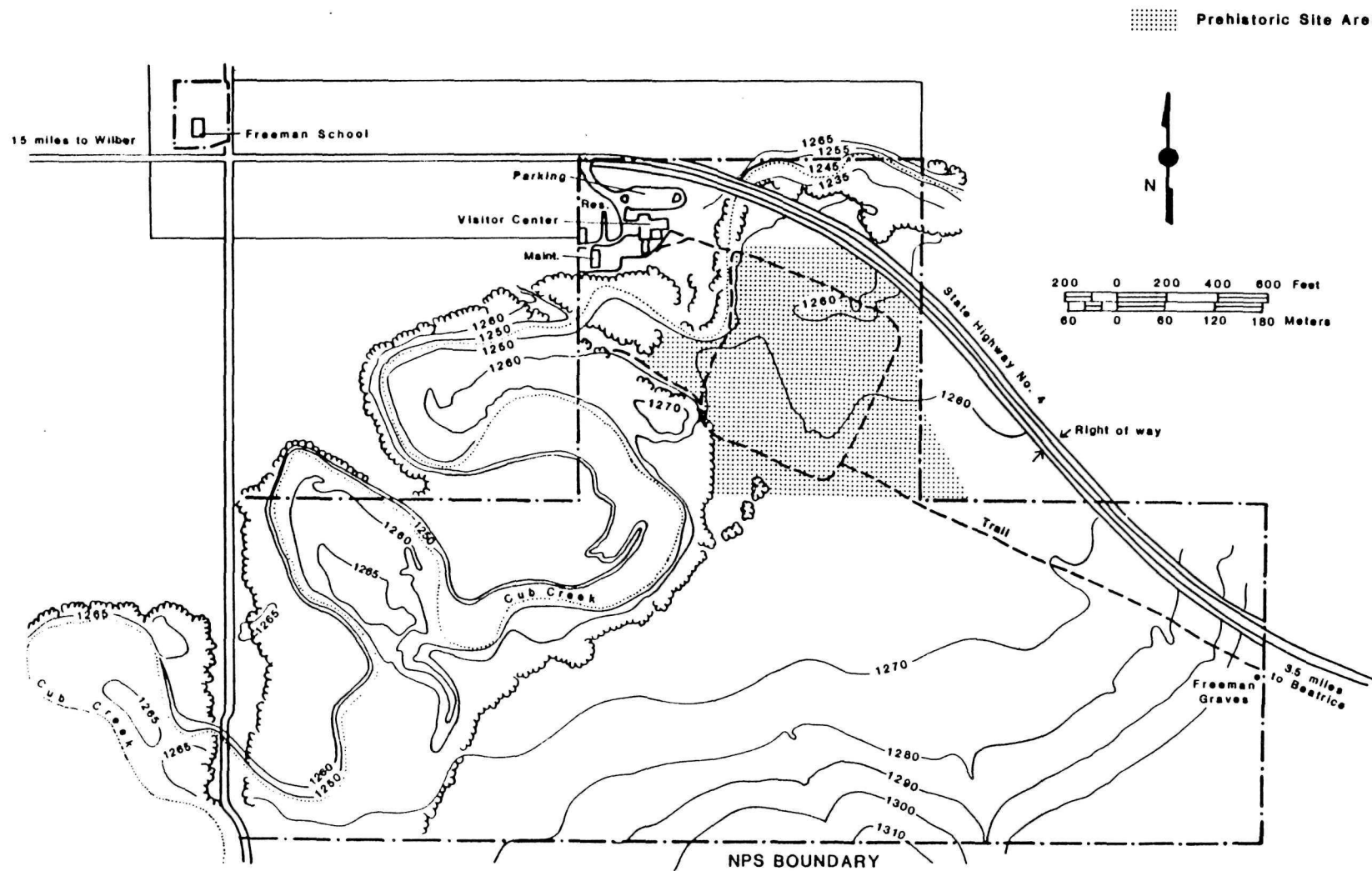


Figure 9. Location of the prehistoric site area (25GA89).

Prehistoric materials were distributed over much of the flat valley bottom and low terrace lands that lay within the pedestrian path which ran from the bridge over Cub Creek past the original Freeman cabin site to the post-1916 frame house site, around to the location of the 1890 Freeman farm buildings. Any earth moving within this general region must proceed with great care since prehistoric materials might be encountered. There is some reason to believe that prehistoric materials are not uniformly distributed throughout the area, however.

The initial survey observation suggested that the major concentration of prehistoric artifacts was centered on the slightly higher ground along the north-south path between the 1867 cabin and post-1916 frame house sites. This path was used as the north-south axis of the controlled surface collecting grid, as described above, and the two quadrants on the east side of the path yielded significantly more materials than did the western quads. Table 2 has shown, for example, that nearly 80% of the waste flakes (67% by weight) were found on the eastern half of the collection area. This has suggested that the major center of prehistoric activity was slightly away from the creek and that it may even have extended into the triangular section of state right-of-way lands between the Monument boundary and State Highway No. 4.

The impressive collection of stone tools found by Monument employees in the corn field planted over the site of the historic (1890-1928) farm buildings was clear evidence that the prehistoric site extended west to the creek. The fact that this collection was so large may suggest that there was a heavy concentration of material in this area. If that is the case, it clearly did not extend all the way eastward to the surface collection area. Pedestrian survey transects and shovel tests between the two areas revealed very little prehistoric material, even though collecting conditions were very good.

Thus it appears that there are at least two separate concentrations of prehistoric materials. These may reflect different sites or functionally different facets of a single large site. How they might relate to the prehistoric materials recovered from the garden plot which had been maintained by the Monument to the west of the DAR monument remains unknown. It appears certain, though, that in the western portion of the distribution prehistoric materials are heavily mixed with historic artifacts. Prehistoric deposits are likely disturbed in that area. Since few historic items were found in the surface collection quadrants, prehistoric deposits in that area may not be as heavily disturbed by historic activity.

Since the size of prehistoric site and the potential significance of the apparent concentrations remain unclear, a single number has been assigned to the entire area which has yielded prehistoric materials. Thus, the site has been entered into the State archeological files maintained by the Nebraska State Historical Society as 25GA89. Copies of the site record

form are attached to this report in Appendix A.

The prehistoric artifact assemblage suggests that the site was a functionally complex area. The remains were consistent with what could be expected at a village or residential area. At the very least, hunting and agriculture appeared to be reflected by the projectile points, hide scrapers, and sandstone grinding stone. These artifacts and the pottery assemblage were typical of the so-called "Central Plains Tradition" which dates to the period 1000-1400 A.D. (see Wedel 1961).

The success of the survey testing at the Homestead National Monument of America was primarily in its technical objectives. These facilitate the conservation and management of the cultural resources at the Monument. The research goals proposed by the University of Nebraska were only moderately successful. The reasons lay in the limited testing involved. Extensive and intensive investigation of the various site areas was not warranted nor feasible at that time. Instead, the analyses included in this report were initiated to provide a foundation for future research at the Homestead National Monument. It will be with these kinds of anthropological questions and hypotheses that an understanding of human history, lifestyles, and changing material culture in Southeast Nebraska and elsewhere evolves.

Figure 10. Diagnostic bottle glass from Homestead N.M.

a. Preserve jar finish; b. Ball neck extract finish;
c. Small extract or medicine bottle; d. Preserve jar
lid; e. Embossed plate mold; f. Small cologne bottle;
g. "Duraglass" maker's mark.



Figure 10. Diagnostic bottle glass from Homestead N.M.

Figure 11. Diagnostic metal artifacts from Homestead N.M.

a. Toy pistol; b. Box wrench fragment; c-e. Harness buckles; f. Metal brace; g. Sickle bar guard.

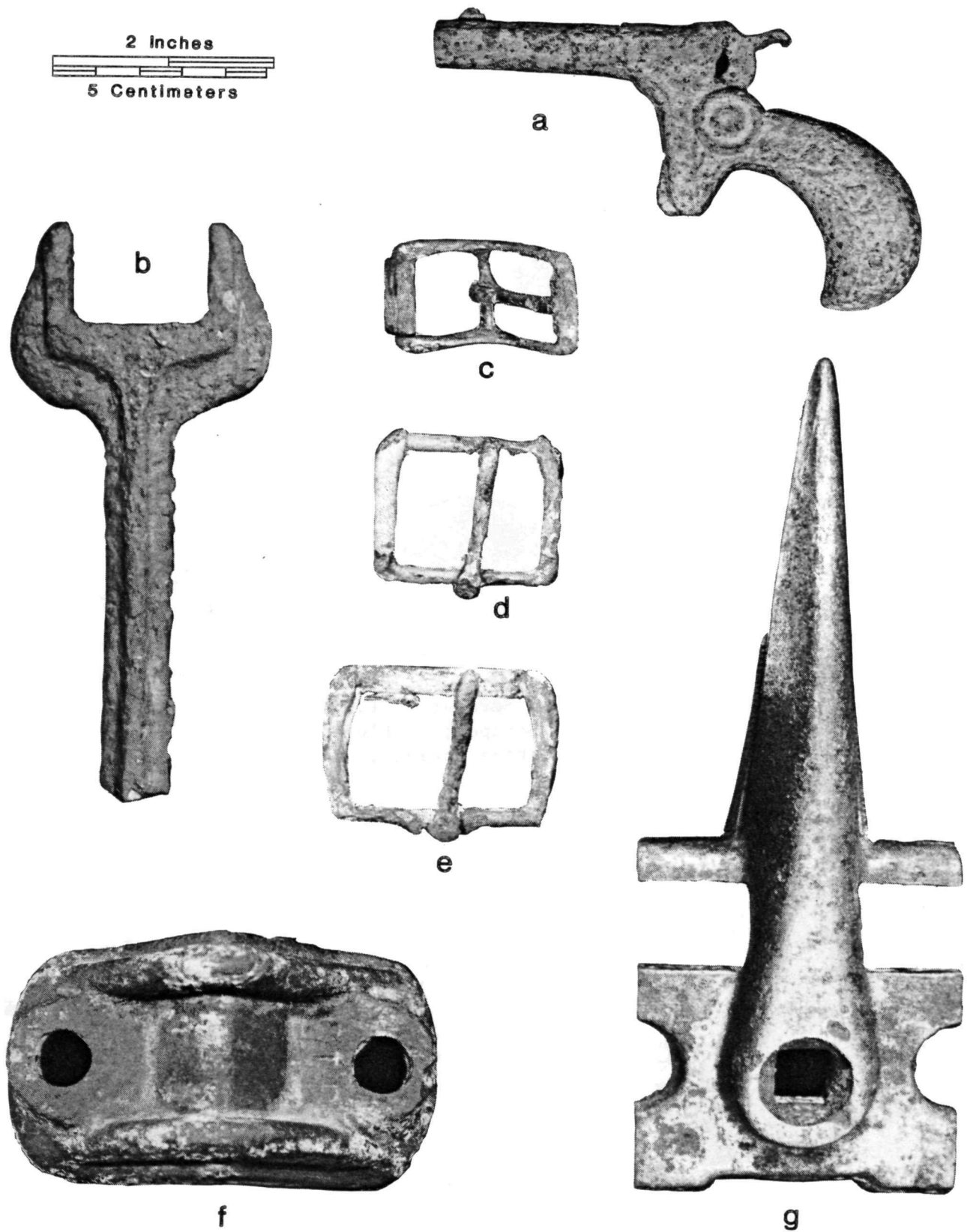


Figure 11. Diagnostic metal artifacts from Homestead N.M.

Figure 12. Prehistoric lithic tools from 25GA89.

a. Triangular projectile point; b. Stemmed Triangular projectile point; c. Bifacial knife; d. Bifacial knife; e. Scraper; f. Scraper; g. End scraper; h. End Scraper; i. Fluted core; j. Fluted core; k. Sandstone abrader.

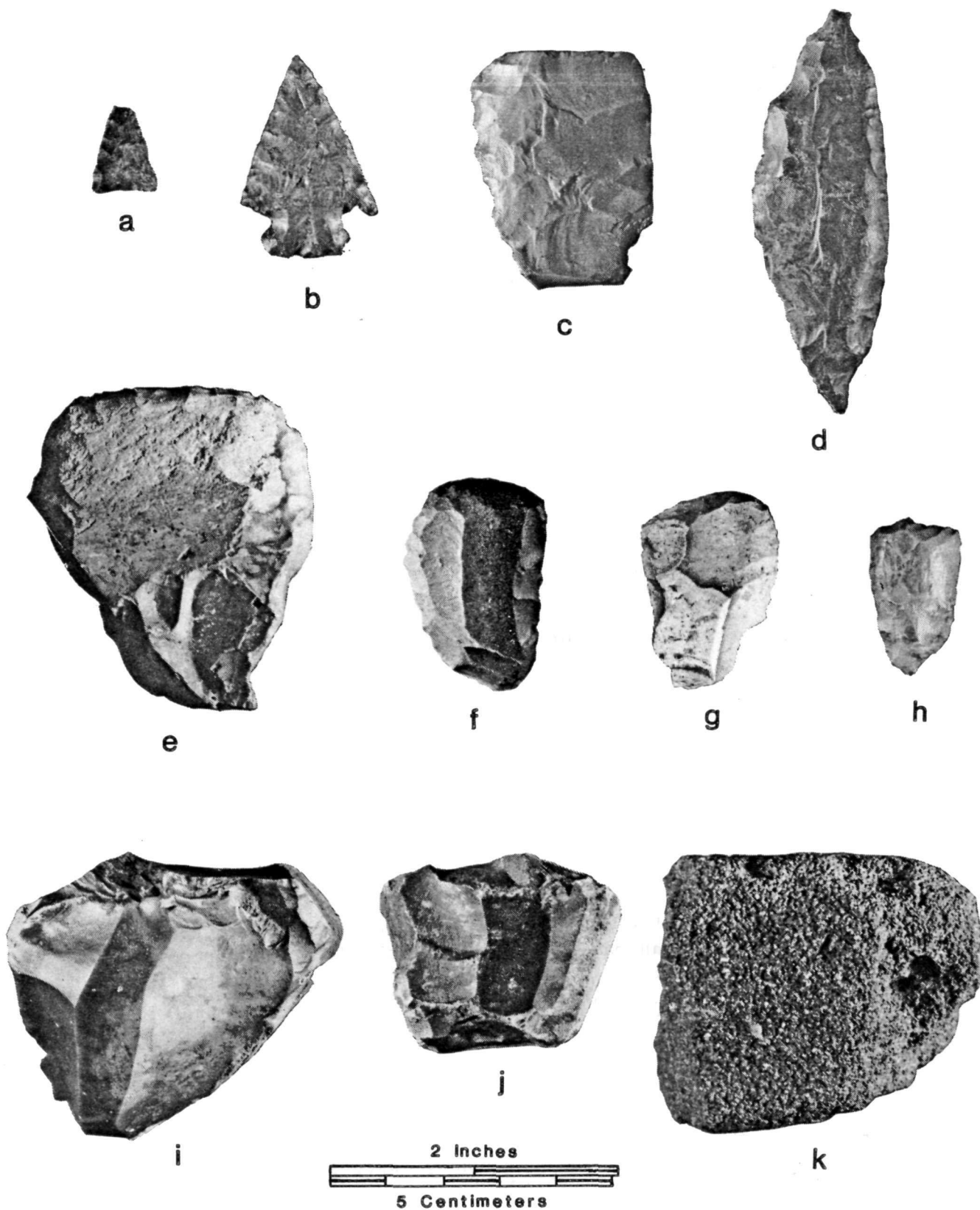


Figure 12. Prehistoric lithic tools from 25GA89.

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NEBRASKA ARCHEOLOGICAL SURVEY

PREHISTORIC/HISTORIC SITE FORM

Send completed forms to:
Nebraska State Historical Society
1500 'R' Street
Lincoln, Nebraska 68508

I. IDENTIFICATION: a) Site No. 25GA89 b) Field No. None
c) Site Name/Previous Designation Homestead National Monument Prehist. Site

II. LOCATION: a) Twnshp. 4 N b) Range 5 E c) N/A 1/4 NE, SE, SW 1/4,
NW 1/4, NE 1/4, Sec. 26 d) County Gage
e) U.T.M. Zone 14 f) North 4461900 m g) East 684300 m
h) U.S.G.S Quad Beatrice West, Nebraska i) 7.5', 15'
j) Other Map Land Use Maps for Homestead Nat'l Monument k) Scale 1 inch = 20 f
l) Landowner/Informant, Address, Phone Homestead National Monument,
National Park Service RFD 3 Beatrice, Nebraska 68310 223-3514

III. ENVIRONMENT: a) Topography Alluvial Plain
b) Elevation 1260-1265 ft. (X .3048 =) 384-386 m c) Soil: series
Muir association Hobbs-Judson
d) Slope = 2 % grade, South aspect e) Veg. Assoc. Prairie grasses
f) Other Veg. Assoc. drainage assoc. woodland g) Nearest Peren H2O:
type creek, name Cub Creek
distance 100 m, direction west, rank order 2
h) Other H2O Source: type intermit. stream name none
distance 1000 m, direction east, rank order 1

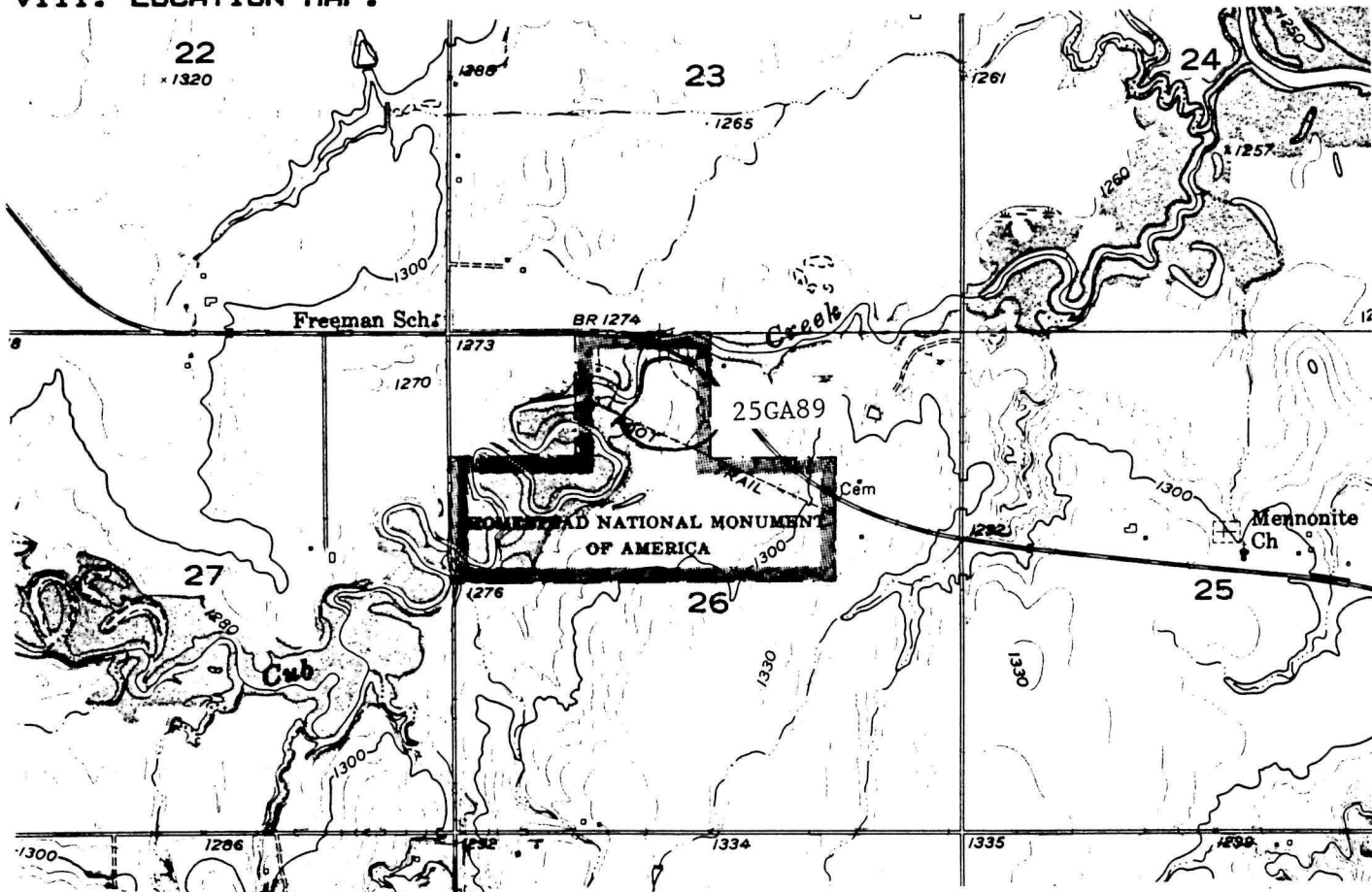
IV. SITE CHARACTERISTICS: a) Size: Length 244 m, Direction N - S
Width 244 m, Area 59458 sq. m b) Class IV
c) Type 2 d) Cultural Affil. Central Plains Tradition
e) Fill: depth 0.5 m (measured, estimated) character brown silty
loam f) Features none observed
g) Artifacts (enter #): chipped stone 547, ground stone 3,
ceramics 40, bone 0, historic 0, (specify) _____
h) Density = 0.1 /sq. m.
i) Dated Material(s) used Projectile points, ceramics (shell-tempered)
method(s) _____
results Central Plains Tradition (1000-1400 A.D.)

V. DOCUMENTATION: a) Fieldwork: record, collect, map, test, partial
excav., total excav., stabilized, other _____
b) Surf. Coll. Sampling Method: none, grab, random, transect, other _____
Controlled in 75m x 50m quadrants c) Ground Visibility 80 %
d) Curation: location Midwest Archaeological Center
cat. #s: N/A e) Photos: B&W neg. # Roll 1: 13-27
Color slide # 13-20, 1-8, 2-13 other photos: N/A
f) References/Report Titles: Report of Excavations at the Daniel Freeman
Homestead (Bauxar 1948); An Archaeological Survey of the Homestead National
Monument of America (Schoen & Bleed n.d.)
g) Other Forms Used: Photographic record, Transect forms, Catalogue forms,
Daily site records

VI. MANAGEMENT DATA: a) National Register Potential: eligible, not eligible, need data; comment Depth and Integrity of Site Deposits not determined
b) Research Potential: Activity area analysis, material source analysis, site integrity determination
c) Gov't Involvement: county, state, federal, private; agency Nat'l Park Service
d) Disturbance: light, moderate, heavy, total; explain Cultivation
e) Potential Impacts: water erosion, wind erosion, animal activity, neglect, vandalism, recreation, construction, agricultural; comments Prairie grasses normally cover the site area
e) Present Condition/Use: Being restored to native tall grass prairie
f) Recommendations: Preservation of site area through current management processes. Formal test excavation necessary for further evaluation.
g) Surveyor Name: Christopher Schoen h) Date: 10-26-85
i) Project: HOME Cultural Sites Survey j) Sponsor, Address, Phone: 472-2411
Dept. of Anthro, University of Nebraska, 126 Bessey Hall, Lincoln, NE. 68588

VII. COMMENTS (use continuation sheet if necessary) None

VIII. LOCATION MAP:



NEBRASKA ARCHEOLOGICAL SURVEY
PREHISTORIC/HISTORIC SITE FORM

Send completed forms to:
Nebraska State Historical Society
1500 'R' Street
Lincoln, Nebraska 68508

I. IDENTIFICATION: a) Site No. 25GA90 b) Field No. None
c) Site Name/Previous Designation Freeman School

II. LOCATION: a) Twnshp. 4 N b) Range 5 E c) SE 1/4, SE 1/4,
SE 1/4, SE 1/4, Sec. 22 d) County GAGE
e) U.T.M. Zone 14 f) North 4462080 m g) East 183660 m
h) U.S.G.S Quad Beatrice West, Nebraska i) 7.5', 15'
j) Other Map Land Use Maps, Homestead National Monument k) Scale 1 inch = 20 ft.
l) Landowner/Informant, Address, Phone National Park Service, Homestead
National Monument RFD 3 Beatrice, Nebraska 68310 223-3514

III. ENVIRONMENT: a) Topography Alluvial Plain
b) Elevation 1270 ft. (X .3048 =) 388 m c) Soil: series
Judson Silt Loam association Hobbs-Judson
d) Slope = 3 % grade, SE aspect e) Veg. Assoc. Prairie
f) Other Veg. Assoc. N/A g) Nearest Peren H2O:
type creek, name Cub Creek
distance 500 m, direction SE, rank order 2
h) Other H2O Source: type N/A, name N/A
distance N/A, direction N/A, rank order N/A

IV. SITE CHARACTERISTICS: a) Size: Length 80 m, Direction N-S
Width 65 m, Area 5200 sq. m b) Class V
c) Type 9 d) Cultural Affil. Historic; pioneer
e) Fill: depth 0.5 m (measured, estimated) character Brown Silty
Loam f) Features School, Shed, Privies,
Maypole, Drainage Pipe and Gravel Bed
g) Artifacts (enter #): chipped stone 0, ground stone 0,
ceramics 0, bone 0, historic 50, (specify) earthen ware
square cut and wire nails, button, bottle glass, brick, charcoal, tarpaper
h) Density = 0.1 /sq. m.
i) Dated Material(s) used Bottle Glass, Square and Wire Nails, Crockery
method(s) 1890 - 1950 occupation suggested 1872 - 1968 known use dates

V. DOCUMENTATION: a) Fieldwork: record, collect, map, test, partial
excav., total excav., stabilized, other
b) Surf. Coll. Sampling Method: none, grab, random, transect, other
c) Ground Visibility 70 %
d) Curation: location Midwest Archaeological Center, Lincoln, Nebraska
cat. #s: N/A e) Photos: B&W neg. #Roll 1:1-8
Color slide # Roll 1:1-8 other photos:
f) References/Report Titles: Historic Structures Report, Freeman School,
Homestead National Monument (Riddo & Brown 1973); Resources Management Plan and
Environmental Assessment for Homestead National Monument of America (NPS 1983);
An Archaeological Survey of the Homestead National Monument of America (Schoen & Blee
g) Other Forms Used: Photographic Log, Artifact Catalog Forms, Transect Forms,
Daily Site Records

VI. MANAGEMENT DATA: a) National Register Potential: eligible,
not eligible, need data; comment Currently on the National Register

b) Research Potential: Activity area analysis, diachronic change studies of
rural schools, Renovation studies

c) Gov't Involvement: county, state, federal, private; agency
National Park Service

d) Disturbance: light, moderate, heavy, total;
explain Potential drainage problem around the school

e) Potential Impacts: water erosion, wind erosion, animal activity,
neglect, vandalism, recreation, construction, agricultural;
comments

e) Present Condition/Use: Very Good Currently used for interpretation

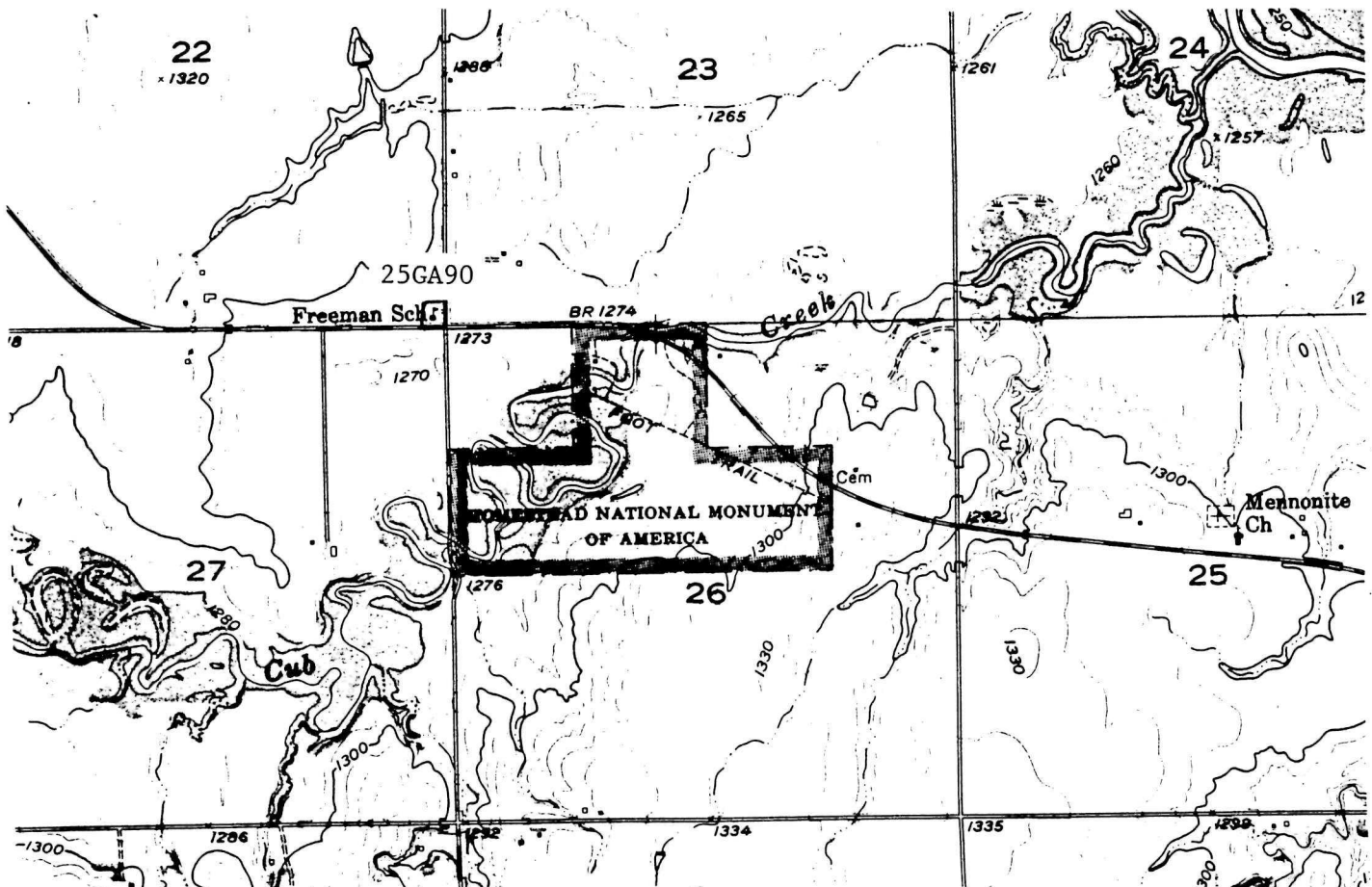
f) Recommendations: Protect as provided in current management plans

g) Surveyor Name: Christopher Schoen h) Date: 10-26-85

i) Project: HOME Cultural Sites Survey j) Sponsor, Address, Phone: 472-2411
Dept. of Anthro, 126 Bessey Hall University of Nebraska, Lincoln 68588

VII. COMMENTS (use continuation sheet if necessary) None

VIII. LOCATION MAP:



NEBRASKA ARCHEOLOGICAL SURVEY
PREHISTORIC/HISTORIC SITE FORM

Send completed forms to:
Nebraska State Historical Society
1500 'R' Street
Lincoln, Nebraska 68508

I. IDENTIFICATION: a) Site No. 25GA91 b) Field No. None
c) Site Name/Previous Designation Freeman Homestead

II. LOCATION: a) Twnshp. 4 N b) Range 5 E c) N/A 1/4, N/A 1/4,
NW 1/4, NE 1/4, Sec. 26 d) County GAGE
e) U.T.M. Zone 14 f) North 4462740 m g) East 684400 m
h) U.S.G.S Quad Beatrice West, Nebraska i) 7.5', 15'
j) Other Map Land Use Maps, Homestead National Monument k) Scale 1 inch = 20 ft.
l) Landowner/Informant, Address, Phone National Park Service
Homestead National Monument RFD 3 Beatrice, Nebraska 68310 223-3514

III. ENVIRONMENT: a) Topography Alluvial Plain
b) Elevation 260-1265 ft. (X .3048 =) 384 - 386 m c) Soil: series
Muir association Hobbs-Judson
d) Slope = 2 % grade, South aspect e) Veg. Assoc. Prairie
f) Other Veg. Assoc. Drainage lined Woodland g) Nearest Peren H2O:
type Creek, name Cub Creek
distance 100 m, direction West, rank order 2
h) Other H2O Source: type Intermit Stream name N/A
distance 1000 m, direction East, rank order 1

IV. SITE CHARACTERISTICS: a) Size: Length 300 m, Direction N-S
Width 400 m, Area 120,000 sq. m b) Class V
c) Type 1 d) Cultural Affil. Historic: pioneer
e) Fill: depth 0.5 m (measured, estimated) character Brown Silty
Loam f) Features Fire trench of kiln?
floor of the Freeman cabin, corral post molds
g) Artifacts (enter #): chipped stone 0, ground stone 0,
ceramics 0, bone 0, historic 200, (specify) whitewares
square and wire nails, Clay pigeon frags, tin cans farm equipment fragments
h) Density = 0.1 /sq. m.
i) Dated Material(s) used whitewares, clay pigeon, nails
method(s) chronological data from reference literature
results 1890 - 1930 occupation 1865 - 1939 known dates of occupation

V. DOCUMENTATION: a) Fieldwork: record, collect, map, test, partial
excav., total excav., stabilized, other
b) Surf. Coll. Sampling Method: none, grab, random, transect, other
Controlled Surface Collection c) Ground Visibility 90 %
d) Curation: location Midwest Archaeological Center, Lincoln, Nebraska
cat. #s: N/A e) Photos: B&W neg. #Rolls 1, 2, 3
Color slide # Rolls 1, 2, 3 other photos:
f) References/Report Titles: Report of Excavations at the Daniel Freeman
Homestead (Bauxar 1948); Resources Management Plan and Environmental Assessment
for Homestead National Monument (NPS 1983); An Archaeological Survey of the
Homestead National Monument of America (Schoen & Bleed n.d.)
g) Other Forms Used: Photographic Record, Transect Forms, Catalogue Forms,
Daily Site Records

VI. MANAGEMENT DATA: a) National Register Potential: eligible,
not eligible, need data; comment Currently on the National Register

b) Research Potential: Activity area analysis, Diachronic changes in the
material culture of a single family

c) Gov't Involvement: county, state, federal, private; agency
National Park Service d) Disturbance: light, moderate, heavy, total;
explain Land Under Cultivation for Several Years

e) Potential Impacts: water erosion, wind erosion, animal activity,
neglect, vandalism, recreation, construction, agricultural;
comments

e) Present Condition/Use: Being returned to native prairie grasses

f) Recommendations: Protect as provided in current management plans

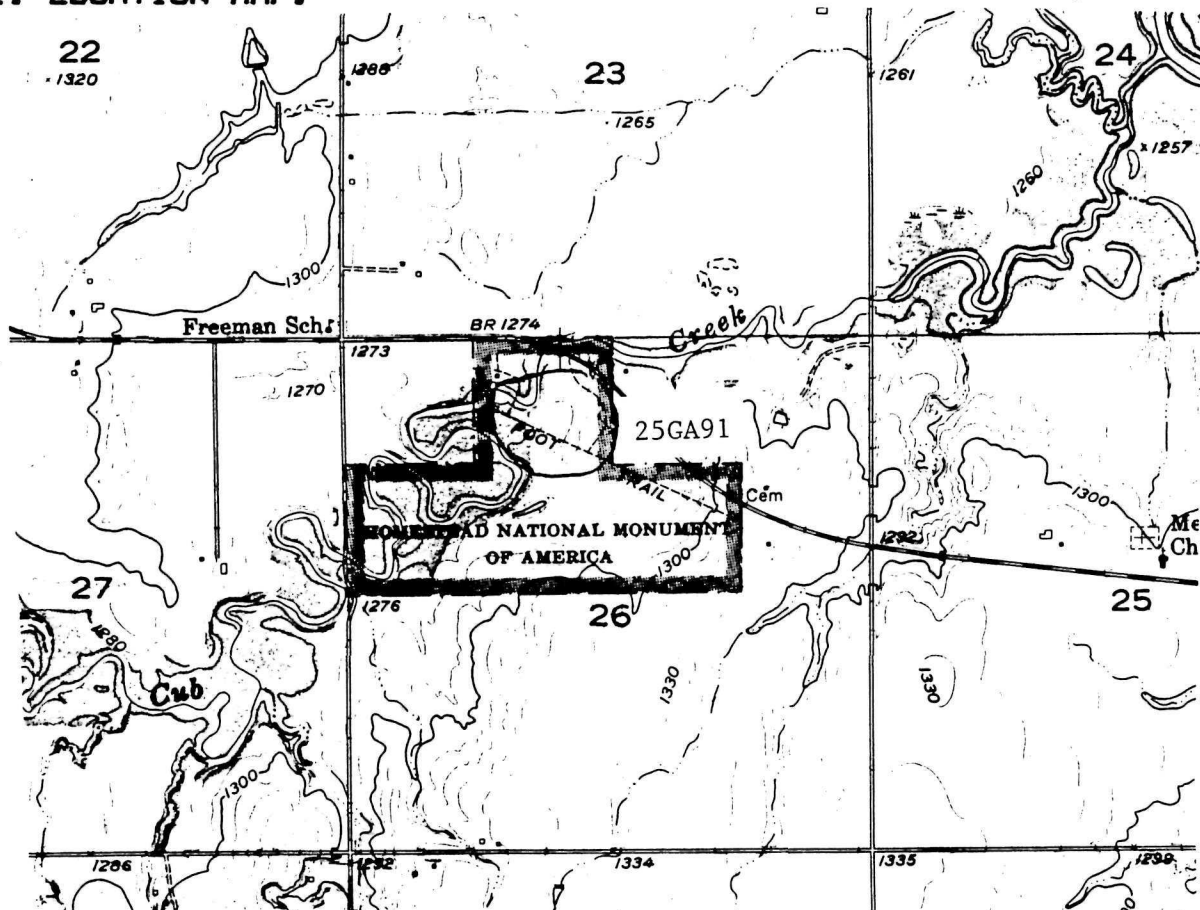
g) Surveyor Name: Christopher Schoen h) Date: 10-26-85

i) Project: HOME Cultural Sites Survey j) Sponsor, Address, Phone: 472-2411

Dept. of Anthro, 126 Bessey Hall, University of Nebraska, Lincoln 68588

VII. COMMENTS (use continuation sheet if necessary) None

VIII. LOCATION MAP:



NEBRASKA ARCHEOLOGICAL SURVEY
PREHISTORIC/HISTORIC SITE FORM

Send completed forms to:
Nebraska State Historical Society
1500 'R' Street
Lincoln, Nebraska 68508

I. IDENTIFICATION: a) Site No. 25CA92 b) Field No. None
c) Site Name/Previous Designation None

II. LOCATION: a) Twnshp. 4 N b) Range 5 E c) SE 1/4, SW 1/4,
SE 1/4, NW 1/4, Sec. 26 d) County GAGE
e) U.T.M. Zone 14 f) North 4462280 m g) East 683800 m
h) U.S.G.S Quad Beatrice West, Nebraska i) 7.5', 15'
j) Other Map Land Use Maps for Homestead National Mon. k) Scale 1 inch = 20 ft
l) Landowner/Informant, Address, Phone National Park Service
Homestead National Monument RFD 3 Beatrice, Nebraska 68310 223-3514

III. ENVIRONMENT: a) Topography Alluvial Plain
b) Elevation 1275 ft. (X .3048 =) 387 m c) Soil: series
Muir association Hobbs-Judson
d) Slope = 12.5 % grade, North aspect e) Veg. Assoc. Drainage Woodland
f) Other Veg. Assoc. None g) Nearest Peren H2O:
type Creek, name Cub Creek
distance 2 m, direction North, rank order 2
h) Other H2O Source: type None, name N/A
distance N/A, direction N/A, rank order N/A

IV. SITE CHARACTERISTICS: a) Size: Length 5 m, Direction N-S
Width 10 m, Area 50 m sq. m b) Class V
c) Type 4 d) Cultural Affil. Recent Historic
e) Fill: depth 0.5 m (measured, estimated) character Brown Silty
Loam f) Features Midden
g) Artifacts (enter #): chipped stone 0, ground stone 0,
ceramics 0, bone 0, historic 25, (specify) Bottle Glass
Window Glass, Tin Cans
h) Density = 0.5 /sq. m.
i) Dated Material(s) used Bottle Glass, Window Glass
method(s) Mean thickness of window glass, Bottle glass makers' marks
results 1929 - 1954

V. DOCUMENTATION: a) Fieldwork: record, collect, map, test, partial
excav., total excav., stabilized, other
b) Surf. Coll. Sampling Method: none, grab, random, transect, other
c) Ground Visibility 10 %
d) Curation: location Midwest Archaeological Center, Lincoln, Nebraska
cat. #s: N/A e) Photos: B&W neg. # Roll 2: 29-32
Color slide # Roll 2: 28-31 other photos:
f) References/Report Titles: An Archaeological Survey of the Homestead
National Monument of America (Schoen & Bleed n.d.)

g) Other Forms Used: Photographic Record, Transect Forms, Artifact Catalog,
Daily Sites Record

VI. MANAGEMENT DATA: a) National Register Potential: eligible, not eligible, need data; comment Not Significant

b) Research Potential: Limited. Historic trash midden patterns in rural areas.

c) Gov't Involvement: county, state, federal, private; agency
d) Disturbance: light, moderate, heavy, total;
explain Bank in which deposit lies is eroding into Cub Creek

e) Potential Impacts: water erosion, wind erosion, animal activity, neglect, vandalism, recreation, construction, agricultural;
comments

e) Present Condition/Use: Eroding into Cub Creek

f) Recommendations: None

g) Surveyor Name: Christopher Schoen h) Date: 10-26-85

i) Project: HOME Cultural Sites Survey; Sponsor, Address, Phone: 472-2411
Dept. of Anthro, 126 Bessey Hall, University of Nebraska, Lincoln 68588

VII. COMMENTS (use continuation sheet if necessary) None

VIII. LOCATION MAP:

