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RESERVOIR NEAR MOBRIDGE, SOUTH DAKOTA

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Source: *Plains Anthropologist*, February 1969, Vol. 14, No. 43 (February 1969), pp. 1-31

Published by: Taylor & Francis, Ltd. on behalf of the Plains Anthropological Society

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# Plains Anthropologist

## Journal of the Plains Conference

Volume 14

February 1969

Number 43

### BLUE BLANKET ISLAND (39WW9) AN HISTORIC CONTACT SITE IN THE OAHE RESERVOIR NEAR MOBRIDGE, SOUTH DAKOTA

by

Robert L. Stephenson

#### Abstract

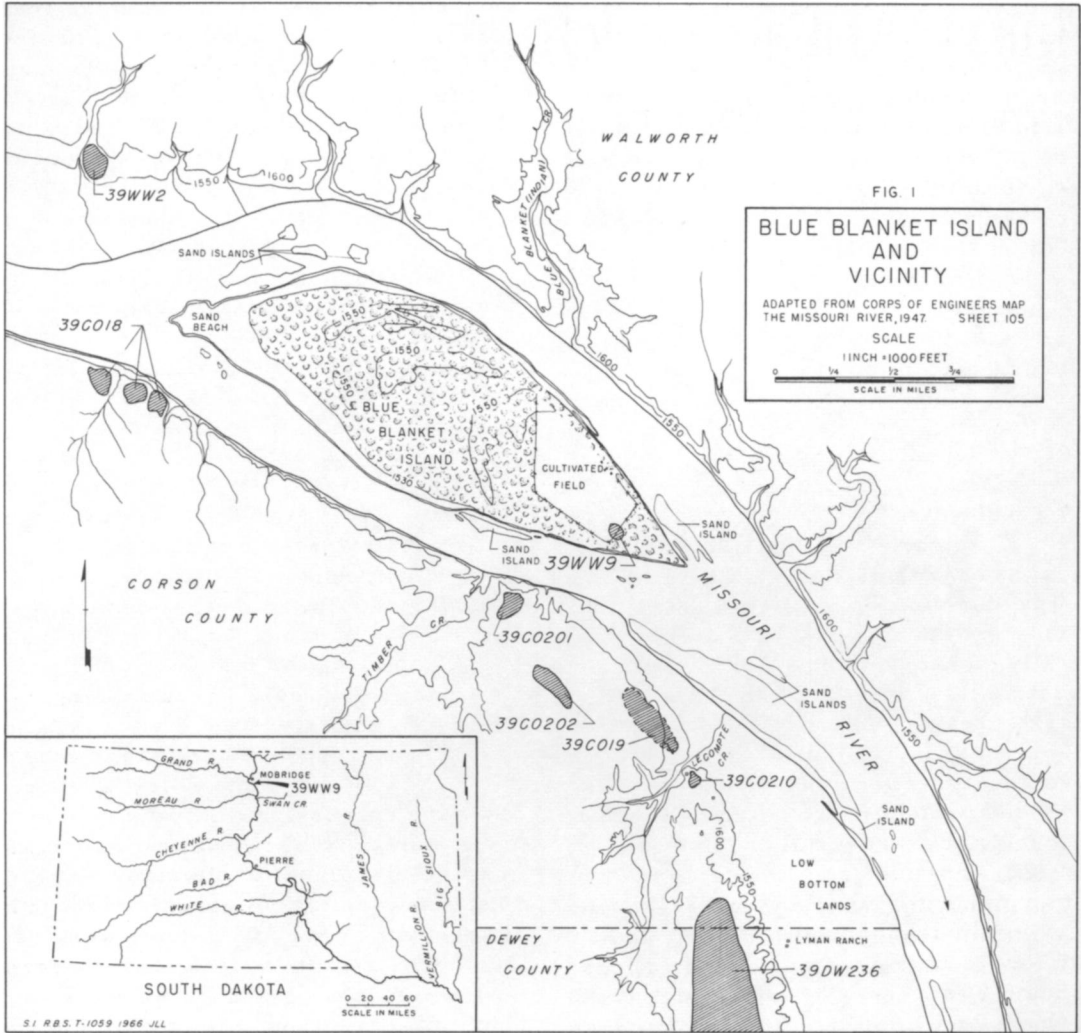
The Blue Blanket Island site (39WW9), a small, fortified, proto-historic Indian village on an island in the Missouri River, in Walworth County, South Dakota, was partially excavated by a River Basin Surveys crew in August 1961. One centrally located earthlodge, sections of the fortification, storage pits, and middens were excavated. Artifacts were scanty but architectural details were informative. The lodge was 18 sided with a short entryway to the south (river side) and leaner posts of split cedar. The palisade was of split posts and the ditch was wide and shallow. The site appears to have been an Arikara village of short duration, probably occupied during the 1780's and 1790's. The abandoned remains of this village were noted by Lewis and Clark in 1804.

#### Introduction

Blue Blanket Island now lies beneath

more than sixty feet of water in the Oahe Reservoir. Prior to its inundation in 1962, it was a large island of approximately 640 acres, in the middle of the Missouri River, three miles southeast of the town of Mobridge, in Walworth County, South Dakota. The main channel of the river, some 300 to 400 yards in width, flowed along the south side of the island, separating it from Corson County. A shallow, secondary channel of equal width flowed around the north side of the island, separating it from the rest of Walworth County. The main channel was 10 to 30 feet deep, but the secondary channel was much shallower and in extremely dry years was little more than a mud flat, at which times the island could be reached on foot. Usually a boat was required to reach the island from either bank of the river (Fig. 1).

This was an old island, at least several centuries old, and a stable one. It had been formed by the river channel cutting off a large piece of land from the Walworth



County shore, rather than by the building up of a sandbar within the river. Consequently, the Missouri, including both channels and the island, was unusually wide at this point, occupying most of the immediate river valley. To the south and southwest of the island, across the main channel, the river bank rose abruptly as dissected loess bluffs some 150 feet or more in height with no bottomland adjacent to the river. To the north and northeast, beyond the secondary channel, steep river banks rose 40 or 50 feet and beyond that a stream dissected, bottom land rose gently to the base of the uplands less than a half mile distant.

The island was just over two miles long and three-quarters of a mile wide at its widest part, tapering to points at both the upstream and downstream ends. It was composed mainly of a sandy loam overlying a basement stratum of gumbo or decomposed Pierre Shale. A light mantle of sand covered portions of its surface. The upstream end was continuing to build by gradual accretions of sand to form a wide, sandy beach that extended about half way down the south side of the island. The downstream end and portions of the north side were being eroded by wave action leaving low, sheer bluffs along those banks, ranging from 10 to 15 feet

in height. The surface was quite level over most of the island with only slight undulations of the terrain, especially near the center of the island, and was but 20 to 30 feet above the normal river level. Bench marks indicated elevations of 1540 to 1550 feet above mean sea level for nearly all of the surface with normal river level at or just above elevation 1520 (Corps of Engineer map, Missouri River, 1947, sheet 105). There was little evidence that the island had been subject to flooding except in periods of the most extreme high water, perhaps not more than two or three times within a century.

It was an attractive island, covered over most of its area with a moderate growth of cottonwoods, cedars, and oaks, many of which, especially along the south side, had attained considerable size (Pl. 1; Fig. 1). Beneath the trees was a luxuriant growth of underbrush consisting mainly of heavy stands of large willows and thickets of wild plum, chokecherries, black currants, buckbrush, and briars. In open areas, tall prairie grass grew luxuriously. The timber and underbrush provided protection from winter storms, with their blizzard winds and deep snows, as well as shade from the summer sun. The underbrush furnished wild fruit and berries, in season, and provided shelter and forage for wild game.

Some 80 acres of the southeastern end of the island had been cleared of timber early in the present century and the sod broken to plant corn (Pl. 2a). This large, fenced field did not extend to the edges of the island but was protected by a sheltering border of heavy timber and underbrush on all sides. By 1961, this field had been allowed to go to pasture and was covered by a thick stand of tall prairie grass providing forage for both cattle and horses that were grazing on the island that year. The ruins of several old, deserted farm buildings stood along the northeastern edge of this pasture.

#### Description of the Site

The Blue Blanket Island site (39WW9) was the only archaeological site found on

the island. It was situated near the south corner of the cultivated field, 1700 feet from the downstream tip of the island and 300 feet from the south shore (Fig. 1). It was a moderate sized, fortified earth-lodge village covering approximately two acres, at the juncture of Sections 24 and 25, Township 18 north, Range 30 east. The northwestern two-thirds of the site lay within the cultivated field and the southeastern third was in the uncultivated area but was clear of trees, being sparsely covered with small thickets of buckbrush and black currants. The nearest trees were some 50 feet to the south and southwest (Pl. 2a).

Surface indications of the architectural features were readily discernible. A broad, shallow, fortification ditch of oval pattern surrounded the village. Just inside this ditch, a low earthwork suggested that the earth from the ditch had been banked up along the inside of the trench. Earthlodge depressions numbering between 15 and 20 were distinguishable within the fortified area and these ranged from 30 to 40 feet in diameter. Between the lodge depressions there were about a dozen deeper depressions, each approximately 5 to 10 feet in diameter, apparently representing collapsed storage pits. There were also about a dozen very low hummocks in other inter-lodge areas. These apparent refuse heaps were less than a foot high and 5 to 20 feet long by 3 to 10 feet wide. There were no discernible features outside the fortification ditch. The entire fortified area measured 395 feet in its northwest to southeast dimension and 275 feet in its northeast to southwest dimension, as measured from the crests of the low earthwork inside the ditch. Thus an area of approximately two acres was enclosed by the palisade.

#### Early Investigations

Apparently the earliest recorded reference to Blue Blanket Island and the Indian village that was situated on it was by Captain William Clark in his journal of the Lewis and Clark Expedition of 1804-1806. On their journey by boat up





Plate 1. Vertical view of Blue Blanket Island site (39WW9) and vicinity, showing south end of Blue Blanket Island and relationship to the Missouri River and to the Potts Village site (39CO19).

the Missouri River some of the members of this expedition visited a "Grouse Island" and noted the ruins of an Indian village on it (Mattison 1954:84; Wedel 1955:79). Captain Clark records in his journal that on the night of Saturday, October 6, 1804, "We camped on a large Sand bar off the mouth of Beaver or Otter Creek, on the S.S." (Thwaites 1904:181). The Thwaites edition of these journals has a footnote to this entry on the same page, indicating that the stream mentioned is "Now Swan Creek, in Walworth Co." Following the course of the expedition's day by day progress up the river I can see no reason to believe that this is any stream other than Swan Creek.

On Sunday, October 7, the expedition proceeded upstream, passed the mouth of the Moreau River and along "... the left Side of an Island in the mid river" (Thwaites 1904:182). They continued 2-1/2 miles beyond the island and camped on a large sand bar. Captain Clark then comments "Wind hard from the South in the evening I walked on an Island nearly the middle of the river Called Grouse Island, (the walls of a village on this island) one of the men killed a Shee Brarow, another man Killed a Black tail Deer, the largest Doe I ever Saw, (Black under her breast) this Island is nearly 1-1/4 mls. Squar no timber high and Covered with grass wild rye and contains Great Numbers of Grouse, we proceeded on a Short distance above the Island and Camped on the S.S. a fine evening" (Thwaites 1904:183). The italics are from Thwaites. In a footnote on this page Thwaites explains that the "Brarow" is a "Corrupt form of blaireau (the badger)." The distance traveled on that day is given as 22 miles which would place Grouse Island a distance of 19-1/2 miles above the mouth of Swan Creek. Modern maps show Blue Blanket Island to be 19 river miles above the mouth of Swan Creek (U.S. Geological Survey, 1964). I can see no reason to doubt that Blue Blanket Island is the Grouse Island of the Lewis and Clark Journal and that Captain Clark's brief comment applies to this island and to the Indian vil-

lage that was situated on this island, as he observed them on October 7, 1804.

On the return trip in 1806, Lewis and Clark's journals again mention Grouse Island. On Friday, August 22, 1806, they had passed the mouth of the Grand River and landed to dry their bedding and robes which were all wet, delaying their departure from that place until 6:00 P.M. Captain Clark then notes "I directed 5 of the hunters to proceed on to grouse Island a few miles below and hunt on that island until we arived. we proceeded on to the Main NE Shore below the Island and encamped, the hunters joined us without any thing. they Saw no game on the island." (Thwaites 1905:356).

These are certainly brief comments concerning the island and the Indian village but in conjunction with other entries in the Lewis and Clark Journal one may make some reasonable inferences from them. On numerous occasions the journals mention Indian villages that had been abandoned recently or that had been deserted temporarily. For example, on the morning of the day they visited "Grouse Island," October 7, 1804, Captain Clark notes "below the mouth of this river is the remains of a Rickoree Village or Wintering Camp fortified in a circular form of about 60 Lodges, built in the Same form of those passed yesterday This Camp appears to have been inhabited last winter, many of their willow and Straw mats, Baskets & Buffalow Skin Canoes remain intire within the Camp, the Ricaries call this river Sur-war-kar-na or Park" (Thwaites 1904:182). The day before that they "passed a Village of about 80 neet Lodges covered with earth and picketed around, those loges are Spicious of an Octogan form as close together as they can possibly be placed and appear to have been inhabited last Spring, from the Canoes of Skins Mats buckets etc. found in the lodges, we are of opinion they were the recereis We found Squashes of 3 Different Kinds growing in the Village" (Thwaites 1904:181). Many similar comments were made concerning the lodges, gardens, palisades, canoes,



Plate 2. a, Oblique air view of Blue Blanket Island site during excavations, showing faint lines of fortification ditch. Missouri River is beyond trees in upper left background. View looking southwest. b, View of floor and wall posts along west side of Lodge "A" during excavation. Note large, main wall posts and line of leaner posts. View looking northwest.



pots, mats, etc., of other abandoned villages along the way. They mentioned none of these things in regard to the Blue Blanket Island site; merely "The walls of a village on this island."

From this it seems reasonable to infer that the village was in a state of ruin and had been abandoned several years prior to 1804. It had not, however, been abandoned long enough before that date for the "walls" to have been destroyed. This would suggest that the village had been abandoned perhaps some 5 to 15 years before and more likely at a date nearer the lesser figure than the greater, perhaps during the late 1790's.

Captain Clark noted that the island was "high," a further aid to identification of the island. Blue Blanket is the only "high" island in the vicinity, short of Ashley Island which latter they visited the next day. He also remarked that there was "no timber" but that the island was covered with grass and wild rye. The moderately heavy stand of timber and the large size of some of the trees seen growing there 157 years later would suggest that timber growth must have developed shortly after the visit of Lewis and Clark. It has often been suggested that one of the reasons for the movement of prehistoric and early historic Indian village locations along the Missouri River was depletion of the timber supply, leaving the villages without fuel or building material. Such may be the case here. A depleted timber supply in close proximity may have been one of the major reasons for the abandonment of the Blue Blanket Island site. There had been villages along both sides of the Missouri River in this vicinity for several centuries prior to the visit of Lewis and Clark. The requirements of these villages, as well as of the one on the island itself, may have thoroughly depleted the timber supply on the island by 1804.

It is also of interest to note that in early October of 1804 grouse were abundant on the island and that a badger and an unusually large deer were killed, though the party was apparently there only a short time one evening, probably an hour or

two at most. Yet in late August two years later, five hunters spent the better part of a day searching for game on the island and could find nothing at all to shoot. This may reflect the difference in the season but, since there was a difference of only approximately six weeks, it seems more probable that it reflects the limited and varying abundance of game here from year to year.

Thus, from the Lewis and Clark Journal we can identify Blue Blanket Island as one visited by them in 1804. From their brief notation concerning it we can deduce that the village at that time had been abandoned but a few years, that it may have been abandoned at least partly due to lack of timber, and that the supply of game on the island was variable. Whether other early White adventurers in the area ever visited this village is not recorded. Probably they did. G. Hubert Smith, staff historic sites archaeologist for the River Basin Surveys of the Smithsonian Institution, has commented "I have no doubt that Truteau, Mackay and Evans, Loisel, Tabeau, and Valle, and probably others whose names aren't even known -- traded in these parts of the Valley before 1804, but it is almost impossible to trail their comings and goings. In part, the explanation lies, I think, in the very fact that not until Lewis and Clark's time were adequate maps prepared" (Personal Communication, April 4, 1966). I would certainly agree with this observation. Probably one or more of these early traders not only visited but spent many days in commerce with the Indians of this very village. Had they but adequately recorded these occasions there would have been no reason for the present report but such was not the case and we must be content to reconstruct the story of this village as best we can with the fragments of evidence that remain.

There seem to be no recorded observations of the existence of the Blue Blanket Island site during the remainder of the 19th century nor the early part of the 20th century. The U. S. Department of Agriculture made a series of air photos of the Missouri Valley in 1938 and their



photo BNV 8640, dated August 16, 1938, clearly shows the island and the village site (Pl. 1). The photo indicates that, in that year, there was a somewhat sparser growth of timber and underbrush on the island than was observed only 23 years later, in 1961.

The next reference to the site is found on the U. S. Army Corps of Engineers, Missouri River Map of 1947 (sheet 105), where the site is clearly marked as "Site of Old Ree Indian Village." Landowners, tenants, and other local residents have known of the site for many decades. Some of these people have even made collections of pottery and stone artifacts from the surface of the site over the years.

The site was first recorded in the River Basin Surveys files on August 8, 1949, by Dorothy E. Fraser as a part of an initial reconnaissance of the localities that would be flooded in this area by the waters of the Oahe Reservoir. The Oahe Dam had been authorized by the Flood Control Act of 1944 and construction had been initiated by the Corps of Engineers, U. S. Department of the Army, in August, 1948, though completion and ultimate flooding of the reservoir were not anticipated for another 15 years (Corps of Engineers 1964:872-3). Miss Fraser collected a few surface artifacts and noted the circular fortification ditch, lodge depressions, and apparent refuse mounds. The landowner, the late Judge W. M. Potts, of Mobridge, was most cooperative and helpful, even being anxious to have the site excavated. Miss Fraser also noted that the island had previously been known as Grouse Island and as Hagen Island, taking the latter name from an earlier landowner.

The next record of the site was made on August 15, 1952, by R. C. Ferrell and J. J. Hoffman, a reconnaissance team working, like Fraser, for the River Basin Surveys office in Lincoln, Nebraska, to extend the earlier survey of the sites to be flooded by the Oahe Reservoir. Ferrell and Hoffman did not actually visit the island nor make any collections of specimens from the site. They did, however, make notes concerning it based upon dis-

cussions with the landowner and other local informants.

In the course of these two surveys and of others along this section of the Missouri River, a number of archaeological sites were recorded near Blue Blanket Island (Fig. 1). Within a radius of a dozen miles, there are no less than 55 sites, 16 of which have been excavated and several others briefly tested. A few of these sites, such as Swift Bird (39DW233) and Grover Hand (39DW240), were Middle Woodland burial mound sites and one, the Stelzer site (39DW242), was a village site of that period. These sites represent a time range of the first four or five centuries of the Christian era. A somewhat larger number of sites, such as Davis (39CO14), Rygh (39CA4), Calamity (39DW231), and others, were villages of long-rectangular houses, or at least contained components of this culture, and span the time range of the 10th to the 16th centuries A. D. The vast majority of the sites, however, such as Potts Village (39CO19); Molstad (39DW234), Payne (39WW203), Mobridge (39WW1), Larson (39WW2), Red Horse Hawk (39CO34), Spiry (39WW10), Bamble (39CA6), Eklo (39WW3), and the major occupation at Rygh, were villages of circular earthlodges of the 15th to 18th centuries A. D. and were both fortified and unfortified sites. The latest site in the area is a pair of villages known, together, as the Leavenworth or Lewis and Clark Villages (39CO9). These two adjacent sites were occupied by Arikara during the 1800's to the 1830's and are documented in the historic period.

This, then, had been a heavily populated area for many centuries. It apparently reached its peak of population during the 17th and early 18th centuries A. D. and declined to a rather thinly populated area by the beginning of the 19th century. The only people of the fully historic period after Lewis and Clark that appear to have been resident in the area were those at the Leavenworth site (39CO9) and at a village on Ashley Island about half way between the Leavenworth site and the present town of Mobridge, some eight miles

above Blue Blanket Island. No evidence of this Ashley Island site has been found and presumably it has been eroded into the Missouri River. The Blue Blanket Island site thus appears to have been one of the last Indian villages occupied in this area prior to the concentration of the Arikara on Ashley Island and at the Leavenworth site.

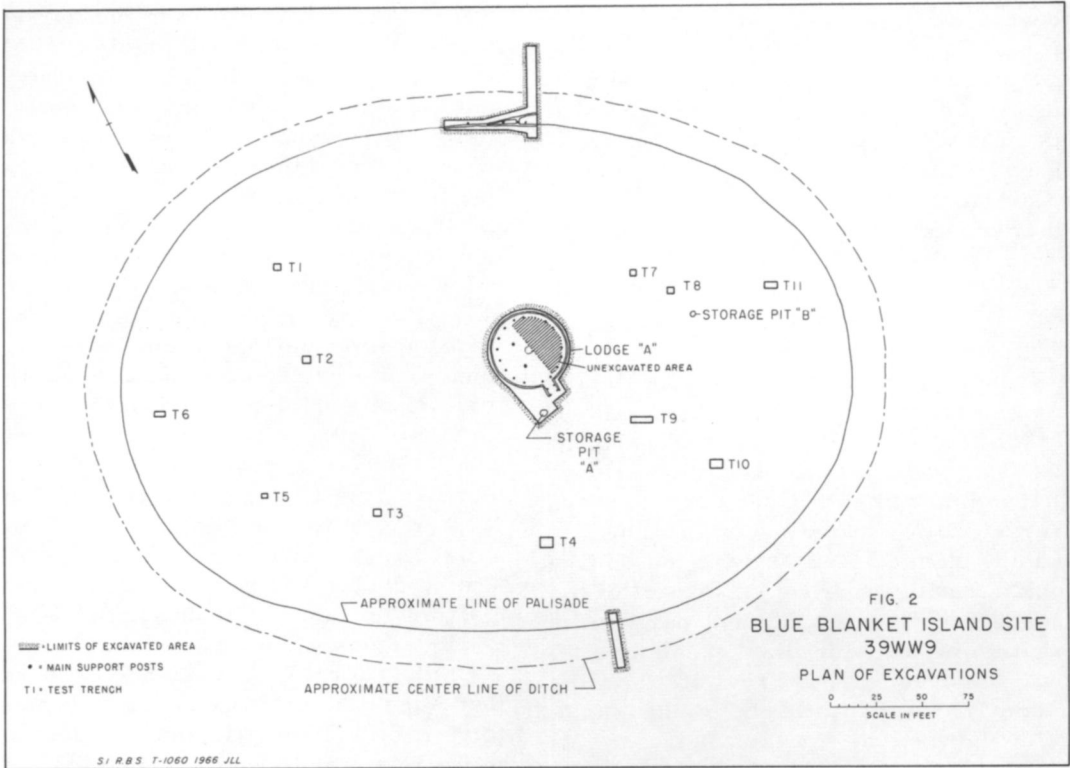
### Excavations in 1961

Excavation of the Blue Blanket Island site was not begun until August 1961, only a season before the site was to be flooded by the rising waters of the Oahe Reservoir. That summer I had a River Basin Surveys crew at work excavating the nearby site of Potts Village (39CO19) for the Smithsonian Institution (Fig. 1). A part of the season's work plan included partial excavation of the Blue Blanket Island site. I was camped with a crew of 11 at the Lyman Ranch, two miles below the island, on land owned by the late Judge W. M. Potts. Judge Potts was a most friendly and helpful landlord. Since he owned the land on which we were camped, as well as that on which both sites were situated, his warm and sincere cooperation was deeply appreciated. The help and friendship of our only near neighbors, Mr. and Mrs. Oscar Molstad, were also much appreciated.

The crew consisted of Lee G. Madison, field assistant, the late William P. Dunson, cook, both from the permanent River Basin Surveys staff; and John H. Chapman, Dwane W. Chatfield, Richard E. Fike, James T. Hamilton, Marvin R. Munsel, John B. O'Heeron, Stephen H. Schwartz, Peter M. Weil, and Christopher P. Worsley, crewmen. Unfortunately, Munsel had to leave the crew due to serious illness, prior to beginning of work on Blue Blanket Island so he did not participate in that work. Dunson did not visit the island either, but his skillful preparation of our meals contributed materially to the success of the dig. All of the others spent long, hard, fruitful hours on the Blue Blanket Island site.

We made our first trip to the island on August 3. Mr. Oscar Rydquist, of Mobridge, provided a large motor boat to take us over that day for about an hour's visit. We conducted an intensive surface examination of the site and began a shallow test trench from the center of one of the lodge depressions to the outer ring of that depression. In this test trench, post-holes and a house floor were found about half a foot below surface, but artifacts were scanty and not a single one was found on the surface of the site. On the basis of this brief test, plans were made for extended excavations the following week. We arranged with Mr. Rydquist to rent a small boat for the required period, an arrangement that proved most satisfactory. We are also indebted to Mr. Rydquist for permitting the use of his service station in Mobridge as our headquarters when we were in town.

On the morning of August 10 (it seems that August has always been a good month to visit Blue Blanket Island), we returned to the island and began excavations, John O'Heeron serving as our able boatman. Richard Krause joined the crew for that day. He had been excavating at the Leavenworth site (39CO9) for the University of Nebraska and had chosen this day to visit us. He, too, put in a full day of digging. Despite a torrential rain at mid-morning, we put in a full, eight-hour day and continued full days on August 11 and 12. Altogether, 33 man-days were devoted to the excavations. In this time, 65 percent of a lodge was excavated, including the entrance, floor, central fireplace, central support posts, and the entire wall outline (Fig. 3). A trench was cut across the fortification ditch and palisade on both the north and south sides of the village and a portion of the palisade line was excavated. Two exterior storage pits and 11 random test trenches were excavated in various parts of the site (Fig. 2). The entire site was mapped by plane-table and plan drawings and profiles were made of the lodge, the stockade, and the ditch excavations, and profiles were drawn of the storage pits.



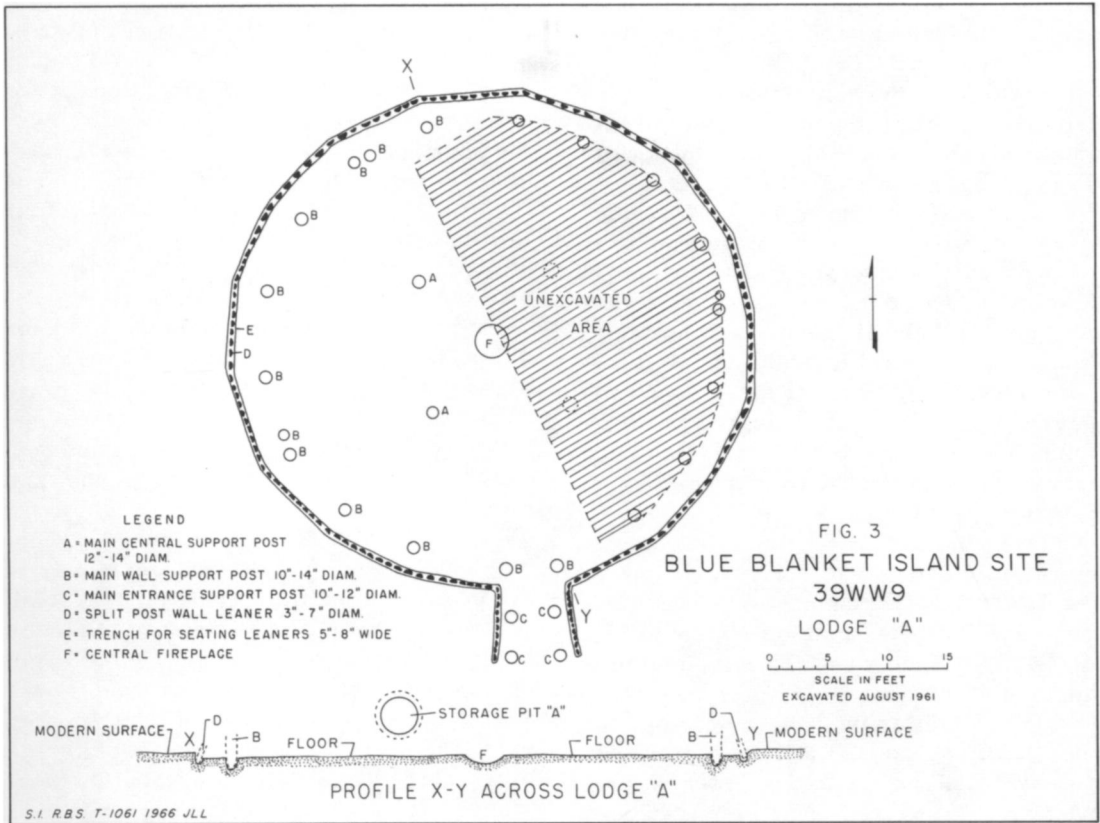
### Lodge "A"

We were unable to determine accurately the number of lodges in the village as indicated on the surface by slight depressions encircled by low rings of earth. Most of the depressions were clearly defined but others were indistinct (Pl. 2a). It is reasonably certain that there were at least 18, and there were probably 19 or 20. The depressions indicated that the lodges had been built quite close together with little more than wide passageways between most of them. There was no large, open area or "plaza" anywhere in the village. Dr. W. Raymond Wood (1967) has been able to show that Mandan villages further north tended to become more compact in the later years of the earth-lodge village cultures. Perhaps there was a similar tendency in the villages near Mobridge.

The depressions were but a few inches below the normal ground level and the earthen ring surrounding each was but a

foot or so above normal ground level. Diameters of the depressions from crest to opposite crest of the ring ranged from 30 to 40 feet, being usually nearer the lower figure than the higher. There appeared to be no uniform arrangement of the lodges as to placement within the village, but rather they seem to have been located at random over the village area.

Since only a portion of one lodge could be excavated in the time available, a large, centrally-located one was selected. It proved to be 42 feet in north-south diameter and 44 feet in east-west diameter, with the short entrance passage to the south facing the main channel of the river (Fig. 3). The floor was but 5 to 7 inches below the surface. The encircling line of wall posts did not correspond to the circle of the depression but was offset to the west by 5 or 6 feet. The southwest half of the structure plus the entrance passage and a trench 2-1/2 feet wide following the northeast half of the wall structure were excavated. This left approxi-



mately 35 percent of the lodge floor unexcavated. The entire structure along with the rest of the village had burned sometime after it had been abandoned.

The lodge floor was quite level over its entire surface and was only lightly compacted. It consisted of the native, sandy loam and no other soil had been used to improve it. Fragments of many burned wall posts and roof beams in varying stages of decomposition lay about the floor, especially along the western portion of the floor. The wall trench along the eastern and northeastern side showed few such timbers on the floor but clearly indicated that timbers here had collapsed outward, away from the center of the lodge. The same situation was found to be true of the timbers of the covered entrance passage. When the burning lodge had collapsed, it had fallen toward the east-northeast rather than simply collapsing inward upon itself. This, of

course, was the reason for the house floor being offset from the surface depression by 5 or 6 feet.

The central fireplace was a rather flimsy one only 36 inches in diameter and 7 inches in depth. It was basin-shaped and contained fine, white ash and charcoal mixed with greater amounts of soil. There were no stones in or around the fireplace and no evidence was found of any secondary fireplace anywhere within the lodge.

Two of the four, main, roof-support, postholes were found, both containing charred butts of the posts. The other two were apparently within the unexcavated area of the lodge floor. These cottonwood posts were 12 and 14 inches in diameter respectively and set into postholes only a foot in depth. They had depended for their stability upon the weight of the roof beams, rafters, and other roof material exerting vertical pressure on them rather than upon the lateral strength that



would have been provided by deep post-holes. They were placed 7 to 8 feet from the center of the fireplace.

The wall structure consisted of a series of main support posts set in a circle, outside of which was a series of leaner posts to form the outer wall (Pl. 2b; Fig. 3). The main support posts were of cottonwood, 10 to 14 inches in diameter, and set in postholes averaging about a foot in depth. These posts were spaced 6 to 7 feet apart and the circle formed by the 18 of them was approximately 38 to 40 feet in diameter. Two or 3 of these posts had apparently deteriorated during the time the lodge was in use and the wall had been strengthened by adding an extra main post at each of these places.

Outside the circle of main wall posts, at a distance of 18 to 26 inches, was a small, shallow trench into which the butts of the leaner posts had been placed (Pl. 3a). This trench was 5 to 8 inches wide and of about equal depth. It was not a circular trench around the outside of the lodge but consisted of a series of more-or-less straight trenches, each 7 or 8 feet long, connected end to end, at very slight angles, opposite each of the main wall support posts. Thus, instead of a circular wall, the lodge had 18 short, straight sides. The leaner posts that had stood on end in this trench has rarely been sunk beneath the bottom of the trench and those that did show postholes in the bottom of the trench were only an inch or two deep. The butts of the leaner posts had stood against, or even pressed into, the outer wall of the trench. The upper ends had leaned against the main outer roof beams that had rested horizontally upon the tops of the main outer roof support posts at the eaves of the lodge.

The leaner posts themselves were of especial interest as they were not, with rare exceptions, full-round posts. Instead, they were split posts with the flat side toward the outside of the lodge and the rounded, or bark side toward the interior (Pl. 3a). Apparently a cedar post, and most of them were of cedar, 4 to 7 inches in diameter, would be cut, then split into 2 or even 3 slabs and each whole

post would then provide 2 or 3 leaners. This may be another indication that timber was not abundant on the island or nearby at the time of construction of this village, although it may indicate merely that with metal axes it was easier to cut and haul only half as many posts. The leaners were placed rather close together in the trench, usually 2 to 6 inches apart, and must have made an effective wall when covered with willows, grass, and earth. The fragments of burned leaner posts lying on the lodge floor and the angle at which the butt fragments were found within the trench suggested that the leaners had been 6 or 7 feet long and had reached to eaves that were between 5 and 6 feet above the lodge floor.

The entrance passage extended almost due south, a distance of 6 feet. It consisted of 2 of the main wall support posts in regular line with the others of the lodge but only 4-1/2 feet apart. To the south of this pair, at a distance of 4 feet, was a similar pair and beyond that another pair 4 feet farther out. A foot outside these paired main posts, the leaner post trench with its leaners extended to a distance of 6 feet to end at the outside of the southernmost pair of main posts. Thus the entrance passage was 6 feet long, and 6 feet wide between the leaners but afforded a passage width of only 3 feet between the large support posts. Presumably it was the same height as the eaves of the lodge, that is 5 to 6 feet, as it connected directly to a pair of the main wall posts that supported the eaves (Fig. 3).

There were no storage pits found within the floor of the lodge nor were any other features seen except the structural features already described. Mortar holes were lacking, and though a search was made near the rear of the lodge for an altar, none was found. Artifacts were few in the lodge. A few dozen potsherds, a quartzite chopper, a smooth hammerstone of quartz, a questionable piece of cut mussel shell, and a fragment of heavily patinated bottle glass were found on the floor and constitute the entire artifact inventory of the lodge.

It seems probable that Lodge "A" was

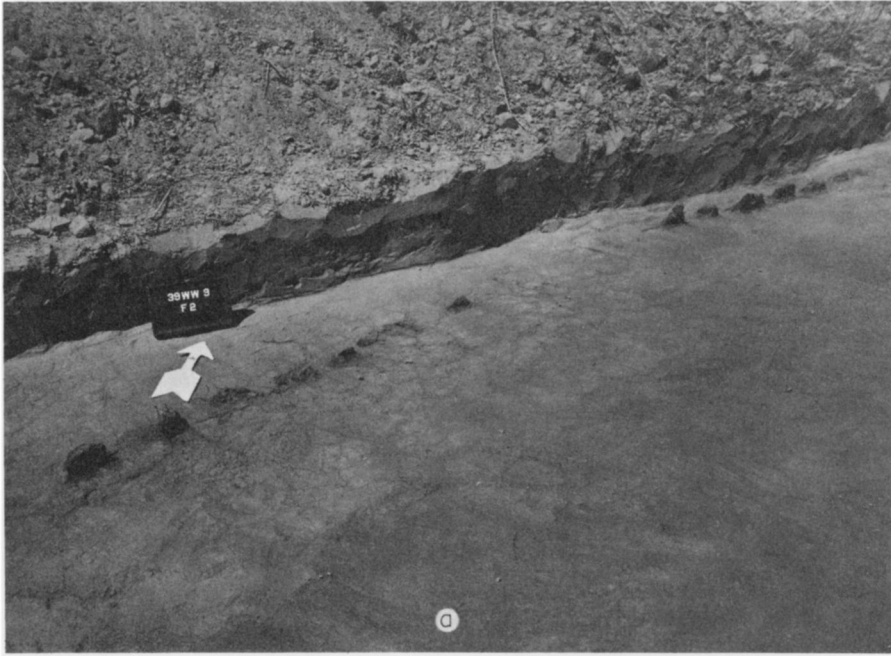


Plate 3. a, Detail view of split leaner posts along west wall of Lodge "A". Note depth from surface to lodge floor. Arrow points north. b, View of excavation across palisade and ditch on south side of village. Split palisade posts can be seen in trench. Ditch is in foreground. Arrow points north.

a "council" or "ceremonial" lodge. The lack of extra structural features, a small quantity of artifacts, small, neat fireplace, central location within the village, and large size all suggest this function. It was a neatly made, well-built structure and remarkably uniform in all of its characteristics. It was an earth-covered lodge, but the manner in which it collapsed upon burning, that is to the east rather than inward, suggests that the earth covering had been rather thin, at least on the sides, and was not of sufficient quantity to leave any but the slightest of earthen rings around the depression as viewed before excavation.

J. J. Hoffman (Personal Communication) has suggested an interesting possibility in regard to the apparently thin earth covering of this lodge based upon his experience in excavation of the Fort George Village (39ST17), nearly 120 miles to the south and a century or more older. "Is it possible that Lodge A was not roofed at its center? A very similar structure was excavated in the center of Fort George Village (39ST17) and, from observations of burnt material in situ, was found to be not roofed at its center." This, indeed, may have been true of Lodge "A" at the Blue Blanket Island site, as well.

### The Fortification System

The Blue Blanket site was encircled by a symmetrical, oval fortification system consisting of a palisade of vertical posts outside which was a wide, shallow ditch (Fig. 2). In 1961, a trench 50 feet long and 5 feet wide was excavated across this fortification system along the north-northeast side of the village. An arm of this trench was extended toward the west following the palisade a distance of 45 feet and a portion of this extension was widened to a maximum of 14 feet (Fig. 4; Pl. 4). Another trench 30 feet long and 4 feet wide was excavated across the fortification system on the south side of the village (Fig. 5; Pl. 3b).

The ditch was visible from the surface as a shallow, symmetrical swale. It had

been used, in part, as a cattle path, thus making it even more noticeable. In the profiles of the 2 trenches across this ditch, the outlines were difficult to distinguish, especially in the north trench. The subsoil here was a light-colored, sandy loam above which was a brown loam extending to the surface. Faint traces of carbonaceous lines and lenses in this brown loam all dipped slightly toward the center of the profile just beneath the point of maximum surface depression. A large, thin lens of gumbo, or decomposed Pierre Shale, also dipped slightly toward the center of the profile. The ditch had been about 15 to 18 feet wide and but 1-1/2 feet deep. It had partly filled with wind-blown soil and had been subjected to occasional prairie fires. At a time about midway in its filling, the island seems to have been flooded and a thin lens of gumbo was washed into the ditch. The slow accumulation of windblown soil continued to fill the ditch thereafter.

The soil from the original excavation had been piled around the inside perimeter of the ditch, 15 to 20 feet from its center line. This formed a low earthwork of about one foot in height above the surrounding ground level. That this low ridge was composed of the spill from the ditch was clearly shown by the presence of small lenses of light-colored, sandy loam, subsoil into the top of which the ditch had originally been dug.






In the profile of the trench on the south side of the village, the outline of the ditch was much clearer. Here the natural contours of the general terrain sloped slightly to the south, and the natural elevation of the village was about 3 feet above the area outside. In building the fortification system, advantage was taken of this convenient slope. From the outside surface level, the ditch dipped approximately 2 feet and sloped steeply upward to the crest of the slight ridge surrounding the village. The ditch here had been approximately 2 feet deep and 10 feet wide with its center line 17 feet outside the palisade.

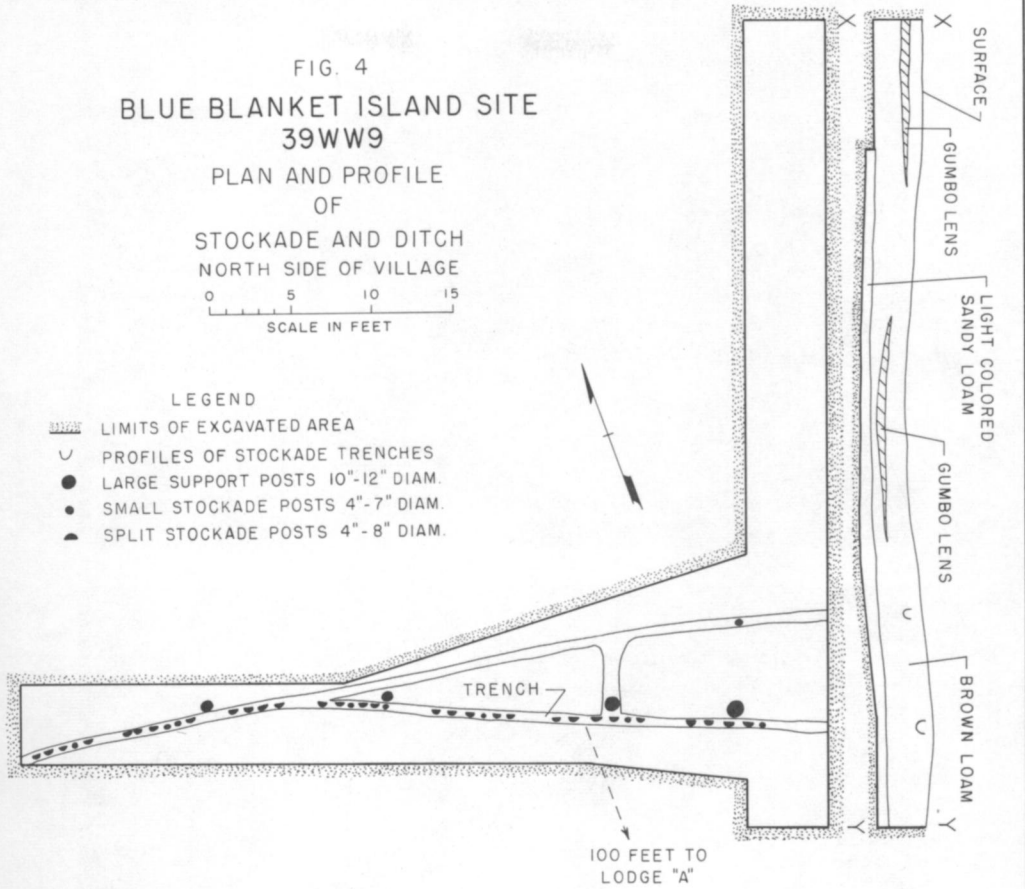
The palisade followed along the crest of the low earthwork, some 15 to 20 feet inside the center line of the ditch. It con-

FIG. 4  
 BLUE BLANKET ISLAND SITE  
 39WW9  
 PLAN AND PROFILE  
 OF  
 STOCKADE AND DITCH  
 NORTH SIDE OF VILLAGE

0 5 10 15  
 SCALE IN FEET

LEGEND

-  LIMITS OF EXCAVATED AREA
-  PROFILES OF STOCKADE TRENCHES
-  LARGE SUPPORT POSTS 10"-12" DIAM.
-  SMALL STOCKADE POSTS 4"-7" DIAM.
-  SPLIT STOCKADE POSTS 4"-8" DIAM.



S. I. R. B. S. T-1063 1966 JLL

sisted of a small trench 5 to 7 inches wide and of equal depth into which had been set a series of upright posts. The posts, like those used as leaners to form the outer wall of Lodge "A," were mostly split cedar posts 4 to 7 inches in diameter, though a few of them were whole posts. The split posts were set with the flat, split side turned outward and the rounded, bark side facing in, toward the village. Unlike the leaner posts of the lodge, though, they were set well into the bottom of the small trench to depths of 12 to 18 inches. Along the south side of the village where only a 4-foot length of palisade was excavated, the posts were

set so close together as to be almost touching each other (Pl. 3b). Here, too, a considerable pile of ash and charcoal lay against the palisade on the inside and all of the palisade posts had been burned.

On the north side of the village, where 50 feet of the palisade was excavated, the remaining post fragments were in groups of 4 to 7 with spaces of 2 to 3 feet between the groups (Pl. 4b; Fig. 4). Occasional empty postholes in these otherwise open spaces, though, suggest that the wall probably had once been solid, with the posts set only 2 to 6 inches apart. The absence of some of these posts at irregular intervals caused some speculation.



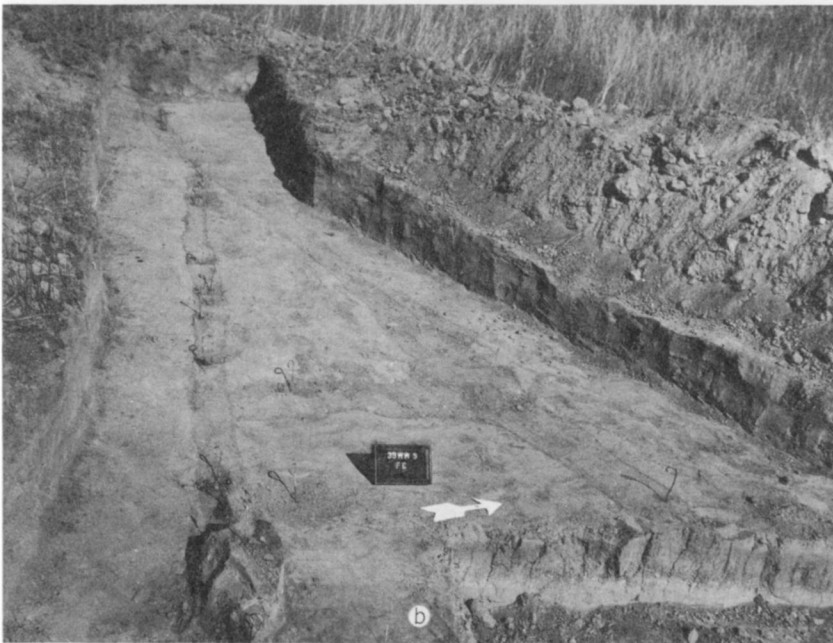
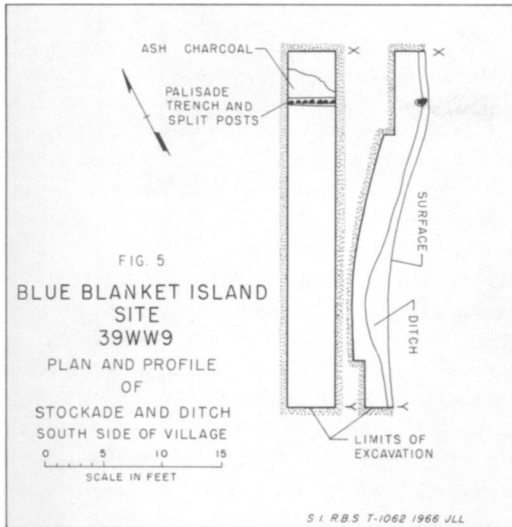


Plate 4. a, View of excavation across palisade and ditch on north side of village. Fortification ditch is in far center of excavation. Palisade is in the foreground and extends to left of photo. View looking north. b, View of small, shallow palisade trenches along the north side of village. Note main trench with posts indicated by wire pins and larger support post just outside this trench. Also note older trench without posts to the right and merging of the two in the background. Cross-trench can also be seen. Arrow points north.



At first, some sort of gate was thought to be involved, but there were too many of these open spaces to accommodate that explanation. Apparently, after the village was abandoned and before it burned, people living elsewhere found this source of ready-cut palisade posts and removed the best ones for re-use in another village.

The north line of the palisade had been altered while the village was still occupied as was shown by the fact that a second or supplementary palisade trench was found here. This trench branched off the main trench and extended at an angle of about 12 degrees to the northeast, outside the main palisade line. This branch appeared to have been an earlier trench as it was devoid of posts with the exception of one, and in a few spots had been disrupted. Another trench, shorter but wider, and shallower, connected the 2 trenches at a distance of 15 feet from the juncture of the 2 long trenches. Again some sort of gate was suspected but nothing of this sort could be demonstrated.

Outside the main palisade trench and tight against it, there were occasional, large support posts. These were 12 to 14 inches in diameter and set 15 to 20 inches into the ground. They were set so close to the trench that it seems they may have been lashed to the line of palisade

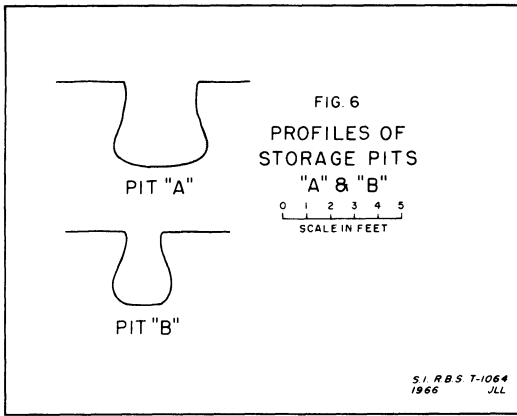
posts. Four of these larger posts were found spaced at random distances apart. Most of them were too far apart to suggest that they had been connected along their tops by stringers. Probably they had been placed along the palisade wherever a weak spot suggested that they were needed at the time.

### Storage Pits

Two of the 14 smaller, deeper depressions situated between the larger, lodge depressions were excavated. Both proved to be medium-sized, bell-shaped, exterior storage pits (Fig. 6).

The first of these was 9 feet southwest of the entrance to Lodge "A" (Fig. 3). The external orifice was 36 inches in diameter which same diameter extended downward for a distance of approximately 12 inches. The pit then flared out to a maximum diameter of 47 inches near the saucer-shaped bottom. Fill within the pit consisted of a layer of ash and charcoal near the top of the neck beneath which was sandy loam fill interspersed with at least three thin bands of gumbo. The maximum depth was 43 inches. At a depth of 24 inches from the top was a layer of decomposed wood that once may have been a part of the lid or cover for the pit. It was too decomposed, though, to determine its actual form. At a depth of 31 inches, a foot above the bottom, the complete skeleton of a coyote was found. The only artifacts associated with this pit were four potsherds in the fill and a small grooved maul lying on the bottom.

The second storage pit was 70 feet east of the east wall of Lodge "A" (Fig. 2). The external orifice was 22 inches in diameter which same diameter extended downward approximately 8 inches. The pit walls then flared out to a maximum diameter of 30 inches, near the flat bottom. The maximum depth was 36 inches. The fill consisted of a 4-inch layer of ash and charcoal near the top of the neck beneath which was sandy loam to the bottom of the pit. A few deer bones and three potsherds were the cultural remains found in the pit.



### Midden Tests

A series of eleven test trenches were excavated in several parts of the village area. Each location was selected as a potential midden deposit and a probable source of artifacts but the results were disappointing. Seven of the tests were dug into low hummocks between the lodge depressions and four were dug near apparent lodge entrances. The trenches ranged from 3 feet by 3 feet by 2 feet deep to 3 feet by 12 feet by 3 feet deep. In each, the excavation was extended well into sterile soil.

In most of the trenches only a few bone scraps, some potsherds, a mussel shell or two, and an occasional stone or bone artifact were found. Test No. 6 yielded the largest number of specimens, but this quantity is reduced by the fact that many of the potsherds are from a single vessel. The only metal object from the entire site was found in Test No. 4, and Test No. 10 provided a large, elk tibia flesher. Fill in all of these tests was the same sandy loam that comprised the rest of the surface of the site, with only occasional lenses or other deposits of ash and charcoal. None of them appeared to be deliberately concentrated piles of village trash as had been hoped. Despite the poor yield of cultural material, most of the pottery recorded from the site came from these midden tests.

Despite the excavation of approximately 170 cubic yards of earth and the recovery of a considerable quantity of architectural data, an amazingly small inventory of artifacts was found on the Blue Blanket Island site. Of the 349 recorded specimens, 101 were collected in 1949 by Dorothy Fraser and these are listed in the catalog as "probably surface." The other 248 are from the 1961 excavations and not a single one of these was found on the surface despite the fact that we spent several man-hours in a surface search of the site. The 1949 collection includes 88 potsherds, 44 of which are rimsherds or near-rimsherds, and 13 artifacts of stone. The 1961 collection includes 233 potsherds, only 37 of which are rimsherds or near-rimsherds, 5 are objects of stone, 6 of bone, and one each of antler, shell, metal, and glass. Because of obvious differences between the pottery in the 1949 collection and that in the 1961 collection, the two groups are here described separately.

### Excavated Pottery

The potsherds excavated from the sub-surface features in 1961 are almost exclusively of the Stanley Braced Rim Ware as described by Lehmer (1954:42-46). Four of the component types of this ware are represented. Stanley Plain is represented by 6 rim sherds that probably represent no more than two vessels. Both have rounded, smoothed, braced rims; moderately low (3 to 4 cm.), smoothed or brushed necks; and vessel walls of 8-9 mm. thickness. One vessel is heavily fire-blackened and a sherd edge indicates that there had been a strap handle attached to it. The other vessel is not fire-blackened and is of a buff color (Pl. 5b).

The Stanley Wavy Rim type is represented by 9 rimsherds probably from 6 or 7 vessels. All have rounded or wedge-shaped, braced rims with the wavy pattern typical of this pottery type. Necks on 3 sherds are brushed and on 6 are



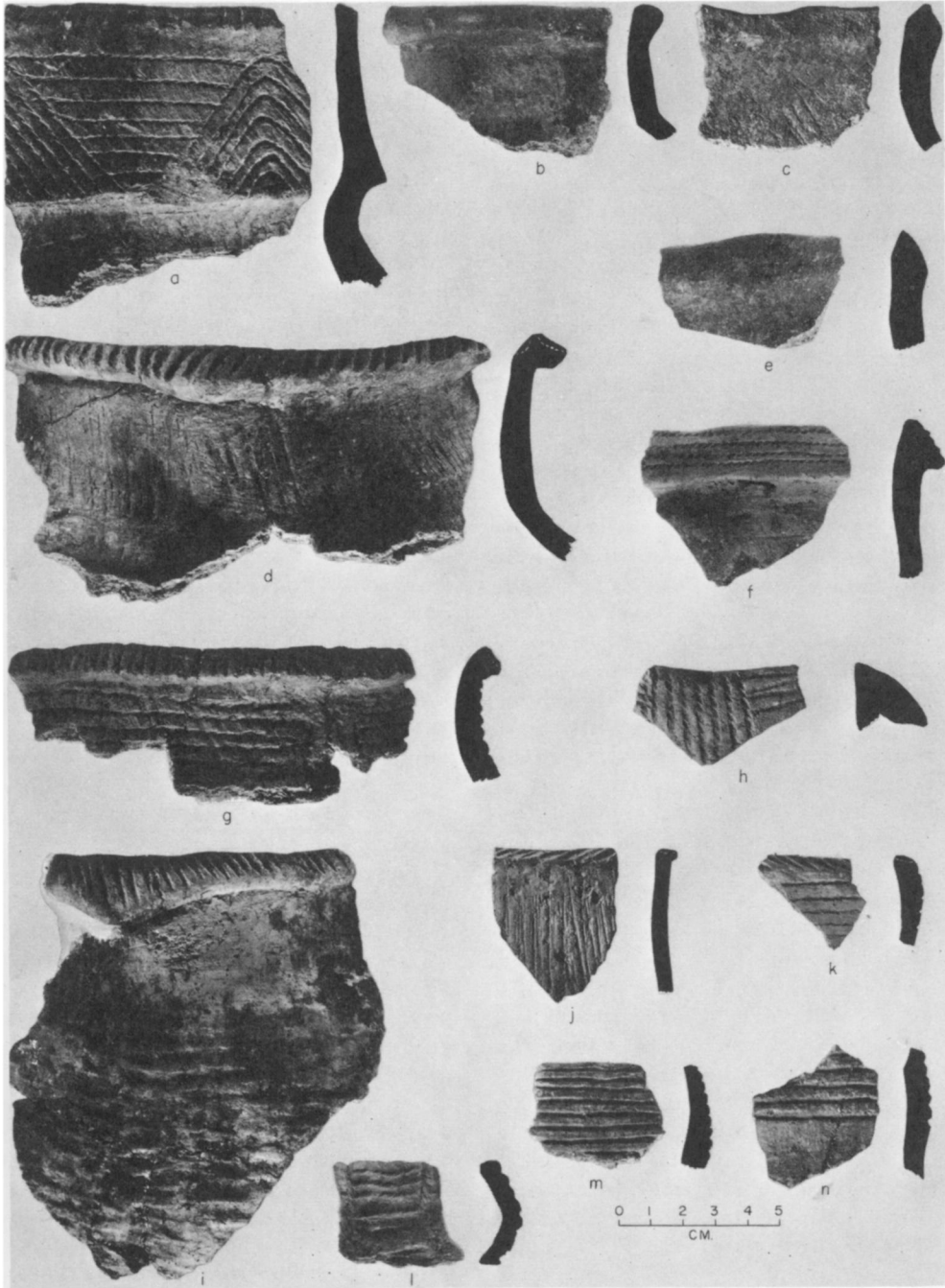


Plate 5. Pottery rimsherds and rim profiles. Interiors of rim profiles are to the left. a, Colombe Collared; b, Stanley Plain; c, Stanley Wavy Rim; d, Stanley Tool Impressed; e, Stanley Wavy Rim; f-i, Stanley Cord Impressed; j, Talking Crow Indented; k, LeBeau Horizontal Cord Impressed; l, Stanley Cord Impressed strap handle; m-n, Nordvold Horizontal Incised. a, j, k, m, n are from the 1949 surface collection. All others are from the 1961 excavations.



smoothed, and on all sherds are slightly higher than the necks of the Stanley Plain type (4 to 6 cm.). Vessel walls are 7 to 10 mm. thick and no lugs or handles are present. All but one sherd are heavily fire-blackened both inside and out, and that one is of a buff color. One large sherd includes the full height of the neck and a portion of the smoothed vessel body. It indicates a vessel size that would hold 3 or 4 quarts (Pl. 5c, e).

The Stanley Tool Impressed type is represented by 3 rimsherds of three separate vessels. One has a rounded, braced rim with circular punctations, and a single, tool impressed, horizontal line around the top of the lip. It has a low (3 cm.), smoothed neck, and a horizontal lug. Another is similar but has a wedge-shaped rim with oval punctations along the top of the lip, and the neck is brushed. The third, a large sherd, has a wedge-shaped rim with diagonal, tool impressions along the top of the lip, a prominent lug, a smoothed, moderately low neck (4 cm.), and a simple stamped body. This sherd suggests a vessel size of about 2-1/2 to 3 quarts capacity. All of these rimsherds are heavily fire-blackened both inside and out and body thickness is 8-9 mm. (Pl. 5d).

The Stanley Cord Impressed type is represented by 17 rimsherds that probably represent 10 or 11 vessels (Pl. 5f-i, 1). Rims are all wedge-shaped to slightly rounded. Necks are low to moderately high (3 to 7 cm.). Two vessels have brushed necks, two have horizontal cord-impressed necks, and the others have smoothed necks. Smoothed and simple stamped bodies are indicated by the vessel body fragments of these rimsherds. Lip decoration consists of short, diagonal, and vertical cord impressions along the outer face of the lip; 3 or 4 horizontal rows of cord-impressions along the outer face of the lip, and smooth lip interiors; groups of alternating, left and right, diagonal, cord-impressions on the outer face of the lip combined with short, diagonal cord-impressions on the inner face of the lip; and one sherd has both diagonal and horizontal cord-impressions on the

inner face of the lip. Three lugs and one strap handle (Pl. 5i, 1) are present, all with rows of cord-impressions on them. One vessel, with horizontal cord-impressions around the neck, is of a coarser, more crumbly paste than the other Stanley sherds and has a heavy grit temper (Pl. 5g). This vessel has some fugitive red color on the interior, and body sherds with abundant red color on the interior appear to be from this same vessel (see below). Three vessels are of light buff color but the others are all heavily fire-blackened, both inside and out. Body thicknesses range from 6 to 11 mm., but most of the sherds are 6 to 7 mm. thick.

One near-rim sherd appears to be of the type Wheeler Horizontal Incised as defined by Hurt (1952:76), or Nordvold Horizontal Incised (Hurt 1957:44-5). It has a flattened lip, straight, smoothed rim and is decorated with at least 6 rows of parallel, horizontal, incised lines. Exterior and interior color is buff but it has a distinctly dark gray core. One other small, near-rim sherd appears to be of the type Colombe Collared as defined by Lehmer (1954:102), but is too small to be certain.

Body sherds are all compatible with the description of the Stanley Braced Rim Ware (Lehmer 1954:42-3) as represented by the rim sherds of that ware discussed above. All of these body sherds are of coarse paste with grit temper, represent globular vessel bodies, and appear to have been simple stamped over all or most of the exterior. Approximately 20 percent of them have been partially or entirely smoothed over the simple stamping, and a few (8 percent), representing neck sherds, are brushed over the simple stamping. Thicknesses range from 4 to 11 mm. but the majority are between 6 and 9 mm. One basal sherd is 17 mm. thick. Seventy percent of the body sherds are heavily fire-blackened on both the interior and exterior from use and many have carbonized particles adhering to both the interiors and exteriors. Those that are not fire-blackened are of a consistent gray-buff to reddish-buff color.

TABLE 1  
TABULATION OF POTSDHERDS

	Surf.	Test 3	Test 4	Test 6	Test 7	Test 8	Test 9	Test 10	Test 11	Lodge "A"	Cache 1	Stockade	Total
<b>Rimsherds</b>													
Stanley Plain Rim	1		1	3						2			7
Stanley Wavy Rim	2			4						5			11
Stanley Tool Imp.	1									2		1	4
Stanley Cord Imp.	3		4	7				1		4			19
Nordvold Horiz. Inc.	21										1		22
Talking Crow	7												7
Colombe Collared	2					1							3
LeBeau Horiz. Cord	3												3
<b>Body Sherds</b>													
Simple Stamped	30	3	16	49	2		3	11	1	29	3		147
Cord Marked	2												2
Smoothed	9	1	4	15	3		12	2	2	28			76
Brushed	2	1	3				1	2	2	6			17
<b>Handles</b>													
Stanley Tool Imp.	2												2
Stanley Cord Imp.	1			1									2
Plain	1												1
Lump of Potter's Clay	1												1
	88	5	28	79	5	1	16	16	5	76	4	1	324

Core color is usually the same as the exterior and the interior.

One exception to this color pattern is a group of 43 body sherds from midden Test No. 6. These represent a single vessel of which the rim sherds have been described above as a vessel of the type Stanley Cord Impressed "with horizontal cord-impressions around the neck..." and "...of a coarser, more crumbly paste than the other Stanley sherds..." This vessel had a heavy coating of fugitive red color over the interior surface that has remained in varying quantities on the different sherds. Basal sherds have a thicker coating than vessel wall sherds and near the neck of the vessel the red color is minimal. This does not appear to be a "wash" applied to the interior of the vessel but rather the remains of a liquid, red, mineral paint that the vessel once contained. It was a small, globular vessel of not over one quart capacity. Two body sherds from midden Test No. 4 have a similar fugitive red color on the exterior.

#### Surface Pottery

The pottery of the 1949 collection is quite different from that described above. Of the 88 sherds included, 44 are rim sherds. One rim sherd is of the Stanley Plain type, two are of the Stanley Wavy Rim type, one rim sherd and two strap handles are of the Stanley Tool Impressed type, and three rim sherds and a strap handle are of the Stanley Cord Impressed type. These 10 sherds are all perfectly good Stanley Ware pottery and fit comfortably with the sherds collected from the 1961 excavations. Two rim sherds are of the Colombe Collared type. One of these is a very small sherd. The other is large (Pl. 5a) and shows clearly the high, collared rim (5.5 cm.); wedge-shaped lip with short, vertical, cord-impressions along its outer face; the alternating diagonal and horizontal groups of cord-impressions over the rim surface; and a brushed, short neck. These, too, are compatible with the 1961 collec-

tion. Here, though, the resemblances end.

There are 6 rim sherds and 15 near-rim sherds that represent the type Wheeler Horizontal Incised or Nordvold Horizontal Incised (Pl. 5m, n). I am unable to distinguish any real differences between these two types as described by Hurt (1952:76; 1957:44-5) and because of geographic proximity to the Nordvold site, I will use the latter name. These sherds are decorated with bands of parallel, horizontal, incised lines around the rim applied over smooth surfaces, and, in 4 sherds, with diagonal incised lines on the shoulder. Lips are smoothed and rounded or have a row of punctations along the top. Thicknesses range from 4 to 11 mm. and color is gray to black with no difference from exterior through core to interior. These sherds appear to represent at least 9 or 10 vessels.

Three "S"-shaped rim sherds appear to be of the Le Beau Horizontal Cord Impressed type as described by Hurt (1957:40-1). Two of these have smoothed, rounded lips, the other has a row of diagonal tool-impressions along the lip (Pl. 5k). The paste is hard and compact and the vessel bodies are smoothed and of a buff to gray-black color. Decoration consists of parallel, horizontal rows of cord-impressions encircling the rim.

Seven rim sherds of the Talking Crow Ware also appear to be present (Smith 1951:29-32). Two of these are of the Talking Crow Indented type (Pl. 5j), showing clearly the exterior brushing on the neck; the flat, indented lip; and the thin, hard paste characteristic of that type. Three sherds are of the Talking Crow Cord Impressed type and have flat, smoothed lips; straight necks with horizontal cord impressions; and typical Talking Crow Ware paste. Two other small sherds are too small to identify clearly, but seem to be of the Talking Crow Ware. Tool impressions along the lip suggest that they are probably of the Talking Crow Indented type.

A single, small, smoothed loop handle of indeterminate ware completes the list

of rim and near-rim sherds in the surface collection. A small lump of potter's clay that had been squeezed between the fingers and discarded, but later accidentally fired, was also in this collection.

Body sherds are mostly simple stamped but at least 9 sherds appear to be smoothed without prior stamping and 2 are brushed without prior simple stamping. Two body sherds are cord-marked. Twenty-one body sherds are compatible with either the Stanley Braced Rim Ware or the Akaska Ware and 12 appear to be body sherds of the Talking Crow Ware. The others are unassignable and it is probably rather speculative to make the assignments I have to these body sherds, as the body sherds of these wares have so many characteristics in common.

It is at once clear that some doubt must be cast upon the actual provenience of the surface artifacts collected by Dorothy Fraser in 1949. There is an amazingly high percentage (50 percent) of rim sherds in the pottery collection. This is most unusual for any random surface collection gathered by an archaeologist in a site survey. Of more significance, though, is the difference between the pottery collected by Fraser and that excavated in 1961. The latter is 94 percent Stanley Ware and but 6 percent other pottery. The former is 23 percent Stanley Ware and 77 percent other pottery. An almost complete reversal like this is questionable. The 1949 material was marked "probably surface" in the catalog. Did she forget to mark her field bag "surface" or "excavated"? If these artifacts are from this site, they almost certainly are from the surface as no evidence whatsoever was seen, in 1961, of any prior digging here. Did she actually visit the site? The 1949 records clearly indicate that she flew over it and viewed it from the air but do not state specifically that she visited it on the ground. If she did not, then, the collection must be one that was given her by a local informant, in which case the artifacts could be from any near-by site, or sites, even though the informant thought they were from Blue Blan-

ket Island. If she did visit the site in person and collected surface artifacts, she may have mislabeled her field bags and marked this site name on a bag of artifacts from some other site.

In short, I have serious personal doubts that the 1949 collection as described above is actually from this site. This leaves but 248 specimens that can be discussed with assurance as being from Blue Blanket Island. This is a costly example of the necessity for making full and complete notes of all of the field activities and clearly stating exactly what one did or did not do each day in the field, and an illustration of the necessity of marking the data on a field specimen bag at the time the specimens are put in it.

### Non-pottery Artifacts

The total number of non-pottery artifacts (28) is so small that it is unnecessary to describe those from the surface separately from those recovered in the 1961 excavations. The entire group is, therefore, described as a unit with notations as to location, and the caution here that the surface specimens are suspect.

STONE: Only 18 artifacts of stone were recovered, 13 of which are from the surface. Seven of these are grouped together under the heading of knife fragments although they are all so fragmentary that the actual usage of each is open to question. One is probably the mid-section of a triangular knife of gray quartzite and is well chipped along both edges. It is 6 mm. thick, more than 43 mm. wide, and may have been 50-70 mm. long. Another of the same material is a tip section with moderately good chipping along both edges and over the rounded tip. It is 4 mm. thick, 21 mm. wide, and may have been 32 to 40 mm. long (Pl. 61). Three others are of mottled gray chert. Two of these are well flaked, tip sections, 8 and 10 mm. thick, 16 and 34 mm. wide, and probably 45 to 50 and 50 to 60 mm. long, respectively (Pl. 6k). The third chert specimen is little more than an ovate flake with slight chipping along the edges and base.



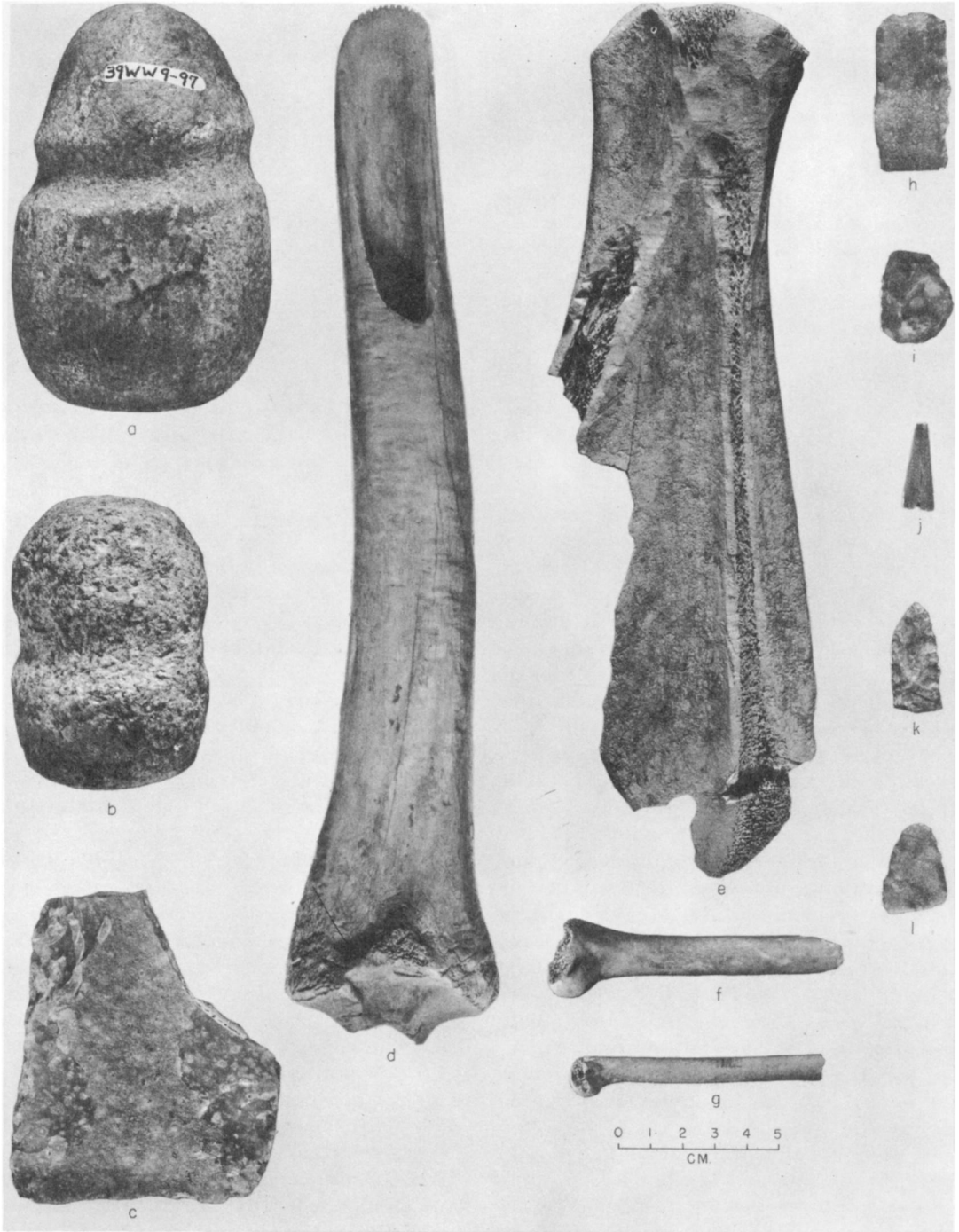


Plate 6. Stone, bone, and metal artifacts. a-b, grooved mauls; c, chopper of plate chalcedony; d, elk tibia flesher; e, bison scapula hoe; f-g, bird bone tubes; h, plate chalcedony knife; i, snub-nose scraper; j, brass jingle; k-l, knife or scraper fragments. a, c, h, i, k and l are from the surface collection. All others are from the 1961 excavations.

All five of these artifacts are from the surface and may have been used as knives, scrapers, or projectile points or any combination of these uses.

A sixth knife is a rectangular slab of plate chalcedony with careful chipping along one edge and one end (Pl. 6h). It is 8 mm. thick, 23 mm. wide, and 49 mm. long, and was found in midden Test No. 9. The seventh is a large slab of plate chalcedony that perhaps should be listed as a chopper (Pl. 6c). It is extensively chipped and battered along both edges but the 2 ends are broken. It is 15 mm. thick, 80 mm. wide, and the fragment is 95 mm. long. It was found on the floor of Lodge "A" near the central fireplace.

Three crudely made end scrapers are from the surface of the site (Pl. 6i). These are typical keel-backed, snub-nosed scrapers, 24 to 39 mm. long, 17 to 23 mm. wide, and 5 to 11 mm. thick. One is of mottled gray chert, one of purple jasper, and the other is of taffy-colored flint. The latter has a truncated upper surface and the cutting edge is battered as if it had been used as a home-made gunflint, for which purpose it would have served nicely. Also from the surface were four, slightly chipped, flake scrapers.

An abrader of coarse sandstone was found in midden Test No. 9. It is of triangular shape with one concave surface and 2 rudimentary, longitudinal grooves.

A full-grooved maul was found on the surface and a second was found in the bottom of the storage pit near the entrance to Lodge "A". The former (Pl. 6a) is grooved at one-third the distance from the poll to the face; has a rounded poll, and a flat, well used hammering face. It was made from a river cobble of quartzite and had been shaped, by pecking, over nearly the entire surface. It is 125 mm. long, 80 mm. wide, 70 mm. thick, and weighs 2 lbs., 6 oz. The second maul (Pl. 6b) is similar but smaller, battered on both poll and face, and made of a river cobble of coarse granite. The groove completely encircles the maul but, at one edge, is so shallow as to almost

disappear. Presumably, this was the side to which the rigid handle was attached. The specimen is 90 mm. long, 71 mm. wide, 60 mm. thick, and weighs 1 lb., 3 oz.

A symmetrical, oval cobble of fine-grained quartz, with evidence of hammering around its maximum diameter was found on the floor of Lodge "A". It is 44 mm. thick, 65 mm. in diameter, and weighs 9 oz. It had obviously been used as a hammering stone but the highly smoothed sides suggest that it may also have served as a pottery anvil.

BONE: Six bone artifacts were found within the excavations and none on the surface. One is a large, well made flesher (Pl. 6d), fashioned from the right tibia of an elk. It was made by breaking or cutting the shaft of the tibia diagonally across, to produce a chisel edge which was then serrated. The proximal end of the bone, with the joint remaining, had been partially rounded by hacking off the protruding edges of the joint. Cutting and hacking marks of a metal tool are obvious around the proximal end of the bone and along nearly all of the shaft. The distal half of the shaft is highly polished over these cut marks, apparently from use. The flesher is 33 cm. long and was found in midden Test No. 10.

Two bison scapula hoes were found, one in midden Test No. 10, the other in the excavation of the fortification ditch along the south side of the village. The former is so cut and altered as to suggest that it had served its purpose as a hoe and had been reshaped into a large knife or scraper. The head and medial ridges are all cut away and much of the cancellous portion is exposed. The edges are moderately sharp and polished from use. The second specimen (Pl. 6e) also had the medial ridges removed and the head was cut off square. It was a well-worn hoe but showed no evidence of re-use as a knife or scraper. A third fragment of bison scapula was found in midden Test No. 10. It was but a thin flake of the central portion of a scapula with one sharp, smoothed edge and had probably served

Table 2

## TABULATION OF NON-POTTERY ARTIFACTS

Objects	Surf.	Test 3	Test 4	Test 6	Test 7	Test 8	Test 9	Test 10	Test 11	Lodge "A"	Cache 1	Stockade	Total
Knife fragments	5						1			1			7
End scrapers	3												3
Flake scrapers	4												4
Abrader							1						1
Grooved Maul	1										1		2
Hammerstone										1			1
Bone flesher								1					1
Scapula hoes								1				1	2
Scapula "knife"								1					1
Bird bone whistles(?)				2									2
Cut antler				1									1
Bottle glass										1			1
Brass jingle			1										1
Cut (?) shell										1			1
	13		1	3			2	3		4	1	1	28

as a small knife.

Two bird bone tubes were found in midden Test No. 6. One (Pl. 6f) is the distal end of the right ulna of a Trumpeter Swan (*Cygnus buccinator*). The other (Pl. 6g) is the distal end of the right ulna of a Great Blue Heron (*Ardea herodias*). Both are modified in the same ways and are of approximately equal length. In each case, approximately one-third of

the whole ulna is present. The distal joint is present but the center of the joint has been hollowed out leaving a large opening into the normally hollow interior of the shaft. The shank has been smoothed and highly polished, obliterating all of the osseous protrusions to which the wing primaries normally attach. The proximal end of the bone is broken irregularly but, at least in the Heron specimen, it looks

as if this break might be at the place where a lateral hole had been cut in the shank of the bone. I am convinced, though I cannot demonstrate it, that both bones are broken whistles. Dr. Alexander Wetmore, of the Smithsonian Institution, who identified these bones and has identified many bird bone whistles from the Missouri Basin, commented that these were not like any he had seen before. The central "coring out" of the joint rather than the usual, vertical, cutting off of the joint sets these apart. If these are not whistles, they could be long, tubular beads, though no wear is shown along the end where the bead would have been strung. Alternatively, they might be pipe stems as Dr. Wetmore suggests, though there is no interior blackening such as would be expected from a pipe stem. A fourth alternative is that they may have been sucking tubes from a shaman's medicine kit. In any event, it is worth noting that the only two bird bone artifacts from the site are altered in identical ways.

ANTLER: A single piece of antler was recovered from midden Test No. 6. It is a large section of the base of an elk antler, 17 cm. long and 4 cm. thick. It has been encircled at each end with cut marks made by a metal knife and each end was then broken off leaving partly cut, partly broken ends. The surface of the object seems to have been smoothed to some extent but there is no other alteration. The purpose for which it was used is unknown.

SHELL: One piece of fresh water mussel shell with a possibly cut edge was found on the floor of Lodge "A". The hinge is missing and the species is not identifiable.

METAL: Only a single object of metal was found in the site. It is a brass jingle or cone, 28 mm. long and was found in midden Test No. 4 (Pl. 6j).

GLASS: One sherd of glass was found near the fireplace of Lodge "A". It is a fragment of a bottle neck of clear, green glass and is heavily patinated. It was probably a sherd of a beer bottle or of a wine bottle.

The archaeological materials recovered from the Blue Blanket Island site (39WW9) combined with a review of the historical record of the area and compared with those from other archaeological sites along the Missouri River permit some reasonable interpretations of the site and of the Indian people who lived there. Much more could be said, of course, if more excavation could have been done, but time and funds did not allow that. I would have liked especially to excavate one more lodge, a dwelling structure, to compare with the "ceremonial" lodge that we did excavate. The fortunate circumstance of the shallow depth of the structural features of the village did permit a great deal of information to be derived from the brief time spent in the excavation.

This was a fortified earthlodge village, of 18 to 20 circular lodges, surrounded by a symmetrically oval palisade and a rudimentary, shallow, fortification ditch, covering approximately two acres. The palisade was constructed of small, split posts set close together in a shallow trench and braced with occasional, larger posts on the outside. The lodge walls were built of similarly split, small posts set also in a narrow trench and leaned against an inner circle of roof beams. The row of outer, leaner posts was not of circular pattern, but a series of 18 short straight rows of posts connected end to end at slight angles, to surround a lodge floor 44 feet in diameter. The lodge entrance passage was short and to the south, facing the main channel of the river. The entire village was neat and clean and little refuse, trash, or artifacts were to be found anywhere in the site. At some time after the village was abandoned it completely burned, leaving charred posts in both palisade and lodges.

This village was situated on the downstream end of a large island in the Missouri River and was viewed in an abandoned condition in early October of 1804 by members of the Lewis and Clark Ex-



pedition. It does not seem to be mentioned in other historic records of the 18th or 19th centuries. As has been shown above, it would seem a reasonable assumption to date its abandonment at some time in the 1790's, or 5 to 15 years before Lewis and Clark's visit. How long this village had been occupied before it was abandoned is not known but, I would judge, for only a few years. The neat, orderly appearance of the village and the lack of village trash and artifacts, argues for a short duration. It was, however, occupied long enough for the main support posts of one of the lodges to have needed repairs and replacement, and for the line of the palisade to have been altered in at least one place. This would suggest a period of occupation of at least 5 or 6 years but probably not more than twice that long a time. Perhaps we can estimate this occupation as being wholly within the last two decades of the 18th century; probably between 1785 and 1795.

On the basis of the ceramics, the architectural details, and the historic records of the area, the Arikara seem to be the only logical candidates to have been the occupants of this village. The Stanley Braced Rim pottery has been attributed to the Arikara of protohistoric times (Lehmer 1954:158-9). There seems little reason to quarrel with this designation and it has been generally accepted by archaeologists working in this area. This is the predominant pottery, in fact almost the only pottery, recovered from the excavations at the Blue Blanket Island site. Even if one is to accept the 1949 surface collection as valid, the main pottery in it, the Nordvold Horizontal Incised type of the Akaska Ware, has been attributed by Hurt to the Arikara, though of a time period a century earlier (Hurt 1957:29-30).

The architectural features also suggest Arikara occupation. A "ceremonial" lodge excavated at the Dodd site (39ST30), 75 airline miles downstream, was constructed with 8 symmetrical straight sides, resembling the straight sides of the Blue Blanket Island lodge. That site is attributed to the Arikara of less than

a century before the suggested date of the Blue Blanket Island occupation (Lehmer 1954:16-7, 136-7). Even closer similarity is seen in a documented Arikara village, approximately 150 airline miles upstream, of less than a century later than the Blue Blanket Island site. Here the Star Village (32ME16) contained a centrally located "ceremonial" lodge with outer wall posts set in a trench, and the village was surrounded by an oval, shallow, broad, fortification ditch (Metcalf 1963:98-100). Star Village was occupied in 1862. The pottery differed markedly from the Stanley Ware (Metcalf 1963:103-5), but this might well be expected of a site of the 1860's after traders' vessels were so abundantly available, as is clearly pointed out by Wedel (1957:91-111).

Thus, sites attributed to the Arikara of less than a century before and less than a century after the occupation of Blue Blanket Island bear specific resemblances to that site. There is a closer site in both space and time that may be compared with the Blue Blanket Island site when the excavated materials become available. The Leavenworth site (39CO9) is situated but 12 airline miles upstream and is known to have been occupied by the Arikara during the first 4 decades of the 19th century. Excavated in 1960 and 1961 by crews from the University of Nebraska, the data from this site should prove most interesting when compared with those from the Blue Blanket Island site.

A concise resume of Arikara history has been provided by Wedel (1955:77-84) as gleaned from documentary sources. Speaking of the final decade of the 18th century, he says, "For a semihorticultural village-dwelling tribe, the Arikara are seen to be at this period a surprisingly restless and mobile people." They had gone through smallpox epidemics and continued conflicts with the nomadic Dakota. They had moved from villages near the mouth of the Cheyenne River in central South Dakota to villages in central North Dakota and back downriver again to northern South Dakota by the end of the 18th century. Indeed, this must have

been a period of disruption and unrest among these village peoples along the Missouri. With this sort of disruption of the old pattern of life, it seems reasonable to expect some fractionation and splitting off of dissident groups during the course of these movements.

The contemporary accounts seem to treat "the Arikara" as a tribe--as a single unit--and as if whatever "the Arikara" did, all Arikara did. Of course they were a tribe, with a specific unity and cohesiveness, but within that tribe there were many villages, each with its leaders, and each with its special ecological and other problems. I suggest that these villages be treated more in the sense of semi-autonomous, or temporarily autonomous "bands" within the loose tribal framework of "the Arikara." Especially in this period of disruption, some of these village "bands" may well have moved up or down river before or after the main body of "the Arikara" moved. Thus we may expect to find small, short-lived Arikara villages of this period anywhere along the Missouri from Pierre to Bismarck or beyond. I would suggest, therefore, that the Blue Blanket Island Village was one such group that moved to this locality about a decade before the main body of the Arikara left their villages

near the mouth of the Cheyenne.

### Acknowledgements

I wish to express my appreciation to the Smithsonian Institution for granting me its first sabbatical leave to complete this and other reports during the period of March 1966 through February 1967. I also wish to thank the Lincoln Office of the River Basin Surveys for preparing the illustrations at my direction, especially Lawrence L. Tomsyck, Jerry Livingston, Wayne Nelson, and Paulette Workman. My gratitude is expressed to my wife, Georgie, for patiently typing the manuscript through the several drafts, for offering many meaningful editorial suggestions, and for giving much encouragement throughout the work, from the days in the field to the final emergence of the report, and to Mrs. Alma P. Smith, of the Nevada Archeological Survey, for typing one draft of the manuscript.

Especial appreciation is also expressed to Dr. Alfred W. Bowers of the University of Idaho and to J. J. Hoffman, G. Hubert Smith, and Lee G. Madison, of the River Basin Surveys staff in Lincoln, for painstakingly reading the manuscript and offering much sound advice, most of which I took.

### Appendix A

Faunal Remains from Site 39WW9  
Blue Blanket Island Site  
Walworth County, South Dakota

by

William M. Bass, Bob M. Gilbert, Richard McWilliams

#### Carnivora

##### Canidae

Canis familiaris - domestic dog

lupus - wolf

#### Artiodactyla

##### Cervidae

Cervus canadensis - Elk (Wapiti)

Odocoileus ? - Deer

#### Bovidae

##### Bison bison - buffalo

There were skeletal parts present representing two domestic dogs. One was a complete skeleton, and the other a portion of the maxilla. This latter fragment may be of a species other than familiaris, but it was placed in this species on the

basis of its size.

There is a single wolf represented by eight fragments of skull and long bone.

Four elk (Wapiti) are represented by various skull and long bone parts. Of these, two were immature individuals, one being a calf.

Five deer can be distinguished, one of which was immature. Species cannot be determined for any of them from the existing fragments.

A minimum of eight and a maximum of more than fifteen bison were represented in the bone sample. All of these were mature individuals. Most of the bones were of the skull or hoof, only 3 of 52 bone fragments were from long bones.

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