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Historic Sites Archeology in the Fort Randall Reservoir,  
South Dakota  
By JOHN E. MILLS

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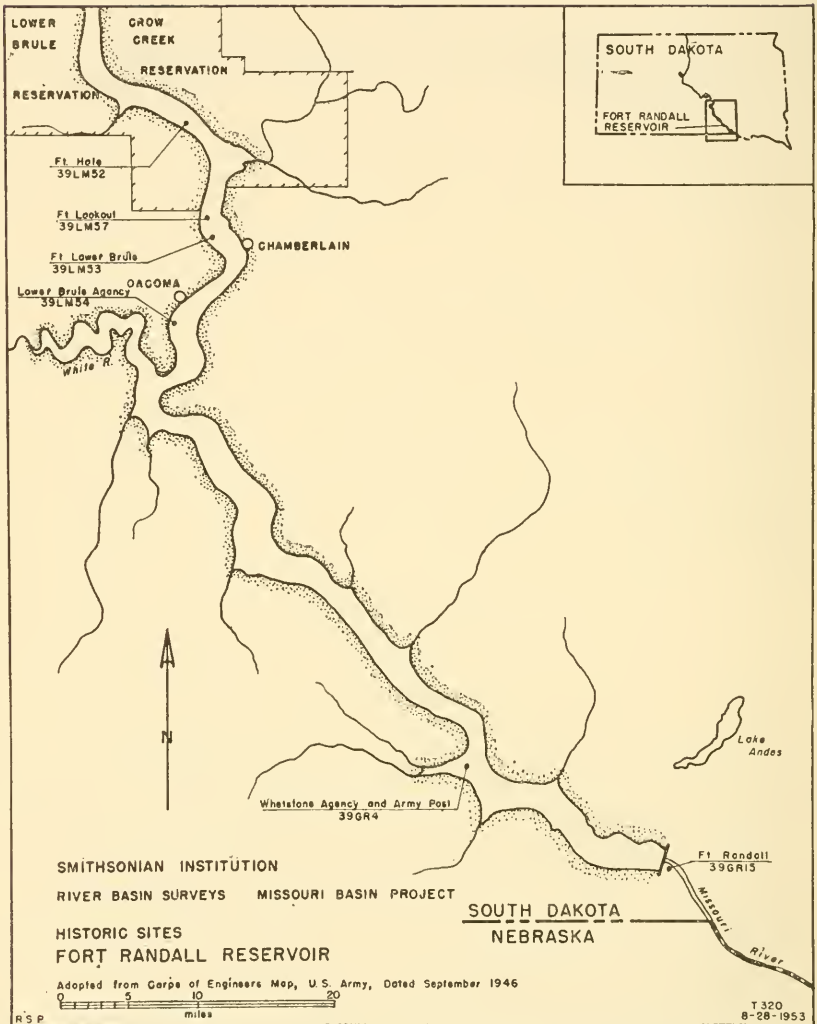
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MAP 1.—Map of the Fort Randall Reservoir area showing historic sites under investigation.

# HISTORICAL SITES ARCHEOLOGY IN THE FORT RANDALL RESERVOIR, SOUTH DAKOTA<sup>1</sup>

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By JOHN E. MILLS

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## INTRODUCTION

This report is a summary of the field activities concerning historic sites archeology in the Fort Randall Reservoir, S. Dak., undertaken in years 1947-52. It is not offered as a final work but is essentially a summary progress report of reconnaissance and excavation of several historic sites in this area.

The work has been conducted as a part of the Inter-Agency Archeological and Paleontological Salvage Program under the direction of Dr. Frank H. H. Roberts, Jr., Bureau of American Ethnology, Smithsonian Institution, Washington, D.C. The field activities at the Fort Randall Reservoir were operated as part of this program through the River Basin Surveys office in Lincoln, Nebr., and were conducted by Smithsonian Institution archeologists out of that office. The organization and background of this program for the recovery of archeological and paleontological remains from areas to be inundated by reservoirs constructed by the Federal Government have been published elsewhere and will not be detailed here.<sup>2</sup> The fieldwork reported here was based principally on past and continuous researches by the Region Two Office of the National Park Service. The analysis of the history of the area by Merrill J. Mattes, regional historian of that office,<sup>3</sup> comprised the basic groundwork upon which archeological reconnaissance and excavations by Smithsonian Institution parties were based.

The Fort Randall Reservoir, on the Missouri River in South Dakota, was planned and constructed by the Corps of Engineers, United States Army. The site of the dam is in Charles Mix and Gregory Counties, 6 miles north of the Nebraska line and 7 miles south of Lake Andes (map 1). The dam is an earth-filled structure approximately 170 feet high and 10,000 feet long. At the maximum

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<sup>1</sup> Submitted May 1953.

<sup>2</sup> Smithsonian Miscellaneous Collections, vol. 107, No. 6, 1947; *American Antiquity*, vol. 12, No. 4, pp. 209-225, 1947; Smithsonian Institution Annual Report, pp. 351-383, 1951.

<sup>3</sup> MATTES, MERRILL J.: Project report on historic sites in the Fort Randall Reservoir area, Missouri River, June 1948. Mimeographed report of National Park Service. See also Mattes, 1949.

pool level the impounded waters will back up almost 100 miles to the Big Bend of the Missouri, inundating an area of 108,000 acres in Charles Mix, Gregory, Brulé, Lyman, and Buffalo Counties.

The Missouri River in this area occupies a flat-floor trench, 1 to 2 miles wide, bordered with high bluffs that are moderately dissected and profusely eroded into gullies. The only major perennial tributary entering the reservoir is the White River, 11 miles below Chamberlain on the right bank of the Missouri River. The timber of the flood plain and valley floors is chiefly cottonwood, willow, and cedar. The bluffs and uplands, where not under cultivation, consist primarily of prairie grasses. Small game animals are plentiful but the great herds of bison, antelope, and elk that once roamed over this area are now extinct.

In the latter half of the 18th century, the Missouri River became the approach outlet to the western prairies of North America. The white traders using it as a travel route from St. Louis were first led by a Frenchman, Jean Baptiste Trudeau. Fur-trading posts were established along the river banks, and one of the earliest of these posts was located by Trudeau, in 1794, at a point somewhere near the present site of Fort Randall Dam, possibly 2 to 3 miles downstream. Trade was conducted in this area with the Omaha and Ponca tribes, and farther north with the Yankton and Teton Sioux.

Exploratory expeditions followed the initial establishment of the fur posts. These were led by Lewis and Clark in 1804, and Astor and Lisa in 1811, and the Lisa-Immel party used the same route in 1812. By the 1820's the Ashley party had traversed the waterway; General Leavenworth had led a military expedition to subjugate the aborigines living in the Upper Missouri, and the famous Prince Paul of Württemberg had visited the area on his continental journey.

Following the Atkinson-O'Fallon expedition of 1825, the Fort Randall Reservoir area remained one of trade exploitation that saw relatively harmonious relations maintained between the Indians and traders until 1855. This latter year marked the establishment of military posts along the Missouri, Fort Pierre at Pierre, S. Dak., and Fort Randall in South Dakota near the Nebraska border. The military occupation, first led by General Harney, in 1855, was to last on the Upper Missouri until the 1890's. Indian agencies were established in conjunction with many of the military posts—Whetstone was both agency and military camp; Lower Brulé Agency was protected by Fort Lower Brulé; Fort Hale (formerly known as Fort Lower Brulé) and Fort Lookout were located north of Chamberlain to protect the white settlers from the Sioux and, theoretically, safeguard the rights of the Indians on the reservations (map 1). These sites were examined in the course of the salvage program between the years 1947 and 1952, inclusive, primarily to attain a better understanding of the circum-



stances surrounding life at posts and agencies of this sort that played such an important part at so crucial a time in the development and westward expansion of the American frontier. Six sites were examined: Fort Hale, Lower Brulé Agency, Fort Lower Brulé, Fort Lookout, Whetstone Agency and Army Post, and Fort Randall. Excavations were carried on at the latter four of these. A description of the results of these examinations and excavations is outlined in the following pages.

## FORT RANDALL (39GR15)

### INTRODUCTION

Fort Randall was established in 1856 and garrisoned that year by the Second Infantry and Second Dragoons.<sup>4</sup> The original post was replaced by one of new construction between 1870 and 1872. Fort Randall played a key role in the hostilities which followed the Minnesota Sioux uprising in the early 1860's, in the Black Hills gold rush of the 1870's, and in the Dakota land boom of the 1880's. It was a major supply base for upriver and inland military posts, and a symbol of law and order to the restless Sioux and Ponca Indians on Dakota Territory reservations. The post was officially abandoned in 1892.

The only standing structures of Fort Randall remaining today are the Fort Randall church and an officers' quarters building. The church was built in 1872 by soldiers of the post and was used as a chapel, library, and Odd Fellows Hall. The rear section of the officers' quarters building is reputed to have been used as a part of the post morgue. This building, formerly located near the post parade ground, was moved by early settlers at the turn of the century, according to local informants, to the south side of Randall Creek, some half a mile or so to the south.

In the summer of 1950 the ruins of Fort Randall were examined by a reconnaissance party led by Thomas R. Garth. An area of concentrated surface refuse in the southeastern marginal area of the military post ruins was recorded as site 39GR15. At that time scattered brick, glass fragments, chinaware sherds, and portions of a trade pipe and clay pipestem were collected from the surface. This site was thus identified as being of white provenience, and indications pointed to its being a part of the Fort Randall military post or at least to its being associated with that post. Further excavation was therefore recommended owing to the possibility of the destruction of the site resulting from construction activities at the Fort Randall Dam, nearby.

The site is located in the center of a bottomland cornfield, surrounded by a large stand of cottonwood, one-half a mile south of

<sup>4</sup> Documentary data pertaining to military posts and Indian agencies utilized in this report have been abstracted from Mattes, 1949, pp. 470-577.

the Fort Randall Dam. It is on the first terrace of the right bank of the Missouri River in Gregory County, S. Dak.

### EXCAVATION

During the summer of 1952 the writer and a party of six conducted archeological excavations in the area of site 39GR15 for a period of 4 weeks. The structural remains excavated, a brickkiln, indicated temporal and physical association with the Fort Randall military post. The main excavations were undertaken in a low hummock area located near the center of the cornfield. This area was marked by a surface concentration of broken brick (pl. 1, *a*) and a marginal distribution of glass, chinaware, and metal fragments. A small ground elevation 160 feet north of this hummock was also investigated but proved to be sterile of cultural remains.

Structural features were located immediately below the topsoil of the hummock. Two parallel rows of brick were uncovered, each 24 feet long and separated from each other by a 9-inch width of sterile clay. The northernmost row was formed by alternating patterns of brick, lateral sides together or butt ends positioned against lateral sides (fig. 1). The succeeding fragmentary rows to the south were of single pattern, the brick joined with lateral sides together

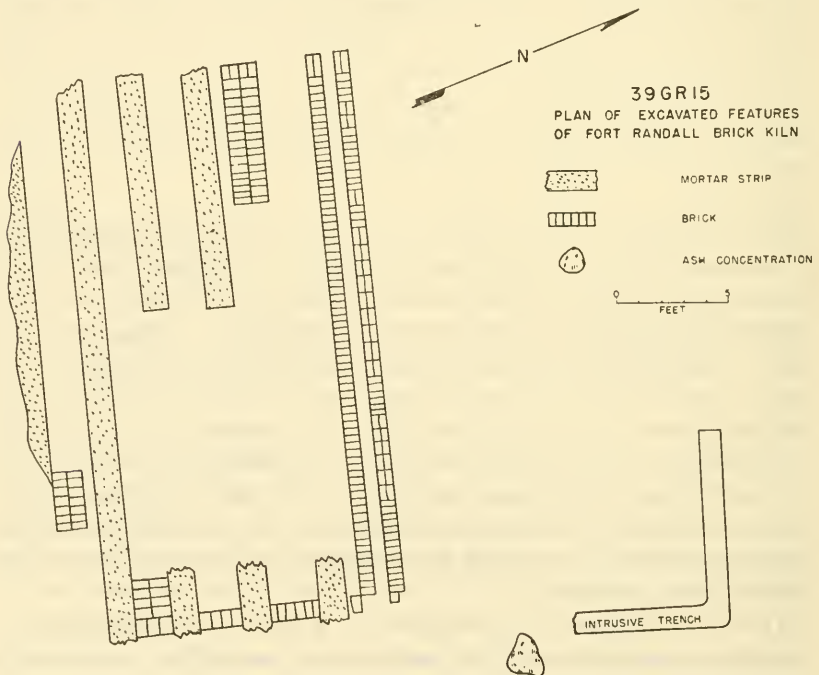


FIGURE 1.—Site plan of the Fort Randall brickkiln showing locations of the various features

(pl. 1, *b*). The total number of brick rows, whole or fragmentary, numbered five.

The brick rows were separated by five whole or fragmentary mortar strips (fig. 1 and pl. 2, *a*). The one nearly complete strip was 1 foot in width, 25 feet long, and about 2 inches deep. The latter measurement is an approximation, as the underside of the mortar strip was somewhat decomposed.

An intrusive right-angle trench was located 7.5 feet north of the northernmost rows of brick (fig. 1). The south and west arms of the trench indicated its association with the brick-mortar area. It was not possible to determine the function of the trench but it appears to have been a feature the construction of which was never completed.

Beneath the brick and mortar strips the earth showed evidence of baking from fire for about 6 inches (pl. 2, *b*). One puzzling feature of the site, however, was the absence of a firepit or furnace that functioned as the heating unit for the brick making. The burned earth adequately demonstrates the overall heating of the floor area and the fire was spread in an area contiguous to the burned earth. Yet there is no direct evidence (i.e., ash layers, furnace foundations, or charcoal) that would locate the fire center. The bricks found in situ probably represent the last production of brick in the kiln. The function of the mortar strips remains unknown, as comparative data are lacking.

#### ARTIFACTS

Few artifacts were recovered from the site. One center-fire shell of .44 caliber (pl. 8, *n*) with copper primer and brass case can be assigned to the .44-caliber Colt magazine rifle or revolver or to the Winchester .44-caliber rifle. This would date the shell in the 1870's. A blowout on the side of the case had apparently failed to fire the bullet. A conical bullet of .58 caliber was found (pl. 8, *m*). This type of specimen fits the following description abstracted from an article by Dr. Carlyle S. Smith (Howard, MS., Appendix V, pp. 75, 76) :

This is the regulation U.S. Government bullet for use in the muzzle loading rifled muskets Model 1855, 61, 63 and 64. It was known popularly as the "minie ball", named for the French inventor of the hollow base bullet, Minie. They were not widely used by the Army until after 1856 when it became the standard bullet for nearly all the regular infantry regiments. It was used for a long time after the Civil War by Indians and other people who could not afford or otherwise acquire a more modern breech loading gun.

A lead shot (pl. 8, *g*), 16 mm. in diameter, is nondiagnostic, as this type ball was used in muzzle loading in pre- and post-Civil War days. Three buttons (pl. 9, *b-d*) are also of indeterminate date, these forms being used on military clothing into the 20th century. A fired clay pipe fragment (pl. 9, *e*) is of a type made in Europe in the

post-1850's. The fired clay boot model (pl. 9, *a*) was probably made by one of the brickkiln workers. Some of the bricks that litter the surface area about the ruins of the fort were manufactured in St. Louis, as is indicated by their trade mark. Bricks from this commercial center were brought to Fort Randall early in its history, as is evidenced by the records in the office of the Quartermaster General:<sup>5</sup>

Among the shipments to Fort Randall in 1856-57 from the Quartermaster Office at St. Louis was one of 5,000 bricks. A letter of February 20, 1857, from Col. Francis Lee, commanding officer at Fort Randall, to the Deputy Quartermaster at St. Louis proves that no brick making was in progress at that time, for Colonel Lee declared "I can't find any person in this command who understands making brick" and added "Even if the Clay here will answer the purpose," indicating uncertainty on that important point.

The remainder of the artifacts were fragmentary bottle glass, chinaware, and metal pieces of indeterminate origin and date.

#### SUMMARY STATEMENT

The brickkiln excavated in 1952 at the edge of the historic military post of Fort Randall probably furnished structural materials for the building of parts of the original fort or for the rebuilt fort in its early period of construction. The brickkiln itself may be dated in the period after February 1857 but cannot be specifically restricted to either of the two periods of construction (late 1850's or 1870-72) at Fort Randall.

### WHETSTONE INDIAN AGENCY AND ARMY POST (39GR4)

#### INTRODUCTION

The Whetstone Indian Agency was established in 1868 to serve the Brulé and Oglala bands of Sioux that had been transported to Dakota Territory from the Fort Laramie region. The Brulé remained but a short time at the agency and finally established their main camp on the White River 60 miles west of Whetstone. The Indians at the agency in 1869 numbered 1,000 and were under the leadership of Chiefs Swift Bear and Big Mouth. By 1870 there were 4,500 Indians drawing subsistence from the agency.

Military troops from Fort Randall were stationed at Whetstone Army Post until 1872. The military post (pl. 3) was built of cottonwood timbers obtained from nearby Whetstone Island. Following its military abandonment, this military post became a depot for transportation of supplies to the Red Cloud and Rosebud Indian Agencies to the southwest.

The first reconnaissance of the site of Whetstone Indian Agency and Army Post was made in 1947, by a Smithsonian Institution field

<sup>5</sup> Personal communication from Alvin P. Stauffer, Office of the Quartermaster General, Department of the Army, February 20, 1953.

party led by Paul L. Cooper. A second Smithsonian Institution field party visited the site in 1950 under the leadership of Thomas R. Garth. Surface indications during these two investigations consisted of small depressions in the ground and glass, iron, and crockery fragments. The site was thus identified as one of white provenience and the geographical area was identified as the location of the Whetstone Indian Agency and Army Post.

The site is situated in a cultivated field on the first terrace of the right bank of the Missouri River, one-half a mile north of the confluence of Whetstone Creek and the Missouri in Gregory County, S. Dak. (map 1). A stand of cottonwood, scrub oak, and ash surrounds the site. The Missouri River lies 300 yards to the east of the army post remains. To the west is a stretch of wooded area bordered by cultivated fields of wheat and barley. North of the site, across a narrow channel of the Missouri River, lies Whetstone Island, covered with a growth of cottonwood and cedar. Whetstone Creek, 800 yards south of the site, flows from the west to empty into the Missouri. The terraces on the west side of the river are relatively level in this area but are quite precipitous on the east side of the river.

This area lies in a climatic zone that is marked by the extremes of summer heat and winter cold and rapid fluctuations in temperature. Temperatures of 100° F. and higher are not uncommon from June to September, accompanied by high humidity, making living conditions particularly unpleasant. Conversely, from November to March, below zero temperatures often prevail. Heavy snowfalls, however, are unusual and the normal snow cover is less than 2 feet. The post was relatively free from drifts, as it was protected from the wind by a timber stand on all sides. Normally, three-fourths of the annual precipitation is distributed from April to September. November and February are the driest months. Military road travel would have faced definite restrictions during the heavy rainfall months, for the bottomland roads are quite impassable during and immediately following the heavy rains.

#### EXCAVATION

During the summer of 1952 the writer and a party of 10 conducted archeological excavations at the site of Whetstone Indian Agency and Army Post for a period of 8 weeks. The Missouri River flood of 1952 had, only a few weeks before, covered the area with a foot of new silt. In order to relocate the artificial terrain features that had been noted during the reconnaissance of 1950, it was necessary to test-pit an area 1 mile square. This testing produced cedar-post remains and a portion of a former stockade wall. The military post ground plan, drafted in 1870, indicated two areas surrounded by stockades of cedar posts. One was the army post proper (pl. 3) and the other

was a corral stockade (fig. 2). The area thus located by testing was the latter of these two and no evidence of the former was found either in the tests or the excavations. This negative evidence resulting from considerable testing and searching probably indicates the removal of post buildings and stockade timbers by the settlers of the 1870's.

Following the discovery of the corral stockade, an exploratory trench 92.5 feet long (pl. 5, *b*) disclosed a row of cedar-post butt remains bisecting the north-south axis of the cultivated fields. The bottom of this trench was 2.5 feet below the existing surface of the field. The original depth of the trench in which the posts had been set is

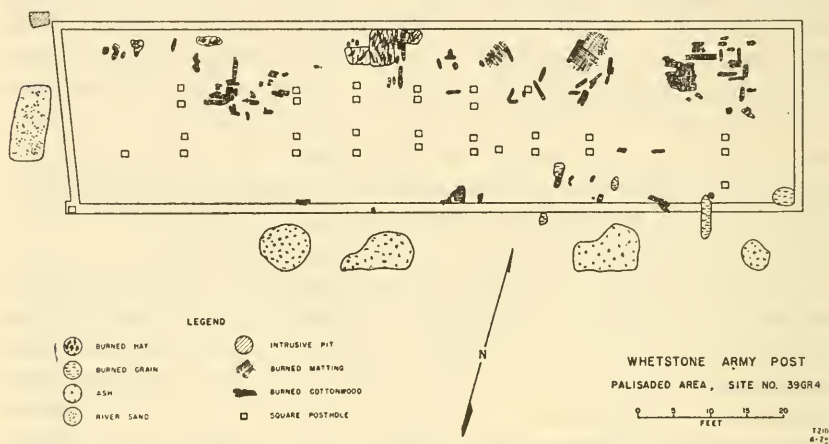


FIGURE 2.—Site plan of the Whetstone Indian Agency and Army Post, corral area, showing locations of the various features.

unknown owing to the disturbed condition of the ground resulting from 20 years of cultivation and the recent flood damage. This proved to be the north wall of the corral area and had been destroyed by fire, as indicated by the charred remains of the proximal ends of the posts. Continued excavation of the area to the south of this north wall provided a clearly defined trench (pl. 4, *a*, and fig. 2) that formed an irregular rectangle surrounding the confines of the site. This trench, 2.5 feet deep, averaged 1.3 feet in width. It was 102.5 feet in length on the north side and 100.5 feet in length on the south side. The west side was 24.0 feet in length and the east side was 26.0 feet in length. These dimensions coincide closely with those indicated on the ground plan of Whetstone Indian Agency and Army Post as being the stockade that enclosed the corral, stables, teamster grounds, and harness shop.

It was only in the north wall and southeast corner of the stockade that post remains were found. The absence of post remains in the trenches of the east, south, and west walls may be due to their removal

by the settlers of the 1870's for fuel and building material. The north wall was probably left standing to form a windbreak for the supply depot that was established on the site after the abandonment of Whetstone Army Post by the military in 1872. The subsequent destruction of this wall by fire may have come about at any time thereafter. The neat rectangular shape assumed by the stockade wall on three sides was offset by the west wall, which was angulated enough to break the rectangular pattern (fig. 2). This departure from right-angle corners as found in the northwest and southeast corners was confusing at first discovery but the reason became apparent upon further excavation. The laborers—soldiers or Indians—cutting the trench to set the cedar posts, had run into a deposit of river sand (pl. 4, *a*) 8.5 feet south of the northwest corner. They were forced to angle the trench line inward to seek firmer ground, as the posts could not be securely set in this loose sand.

An intrusive pit, 5.0 feet square, was found outside the northwest corner of the stockade (fig. 2). This may have been an excavation placed in that corner to receive a support for an above-ground structure such, perhaps, as a blockhouse.

The southwest corner was a deviation from the other three corner forms in that it projected 0.8 feet beyond its union with the west wall. Centered in this corner were remains of a cedar post (pl. 4, *b*) the fragmentary charred proximal end of which was studded with square-cut nails.

Bone fragments, found in the east and south walls, possibly evidence tamping for cedar posts in the stockade line. Outside the south wall were four areas of ash concentration. These probably represent dumps where ashes were disposed of when the firepits within the stockade were cleaned out.

Archeological evidence of interior structures (fig. 2) indicates that they were made of cottonwood. All the wood was burned, probably in the same conflagration that had destroyed the north stockade wall. The burned remains were spread from the east to the west wall, with the largest clusters in the northeast and northwest sectors. Large quantities of square nails were recovered on and underneath the timbers. They had been used to tag the timber forms together. The quantity and position of the burned remains indicate that these had been small structures built against the north stockade wall. The structures were erected after the ground plan was made, as they are not indicated as a detail of this plan. Thus they represent a late period of construction in the army post, or were built during the activation of the supply depot that followed the military abandonment of Fort Whetstone.

Patterned within the stockade walls were the remains of 30 postholes. The holes averaged 6 inches in diameter. The posts that were placed in these holes either supported a roof enclosing the stockade area, or were supports for individual structures.

In the north-central and western sectors of the excavation were found areas of burned hay (fig. 2). Southeast, on both sides of the south wall, were piles of burned grain. The presence of hay and grain is further substantiation that the excavation was conducted in the corral stockade area.

Burned matting was recovered in the north-central section of the stockade and is indicative of human occupation. The sod floors of habitation sites were commonly covered by mats, and the area of burned matting may mark the location of the former teamsters quarters.

#### ARTIFACTS

The greatest assortment of artifacts is classed in that type commonly found in historic sites, i.e., fragmentary glass, chinaware, and metal pieces. Most of the glassware can be assigned to broken bottles, though a few pieces appear to be fragments of windowpanes. If this latter assignment is correct, it would indicate that at least one of the structures in the corral stockade, perhaps the harness shop, had been equipped with glass windows.

Metalware was present in profuse quantities. Square-cut nails, spikes, strap iron, files (pl. 8, *c*), and iron rings make up the bulk of this material.

Culinary pieces are represented in a 3-tined fork fragment (pl. 8, *d*) and a wooden-handled knife (pl. 8, *e*).

Two cartridges bear manufacturers' marks on the bases. Both are .50-.70-caliber center-fire pieces, one marked 1-R-85-F (pl. 8, *l*), which means January-Rifle-1885-Frankford Arsenal. The other piece (pl. 8, *j*) has on its base 3-R-80-F (March-Rifle-1880-Frankford Arsenal). The shells were manufactured by the U.S. Army at Frankford Arsenal, Philadelphia, for military purposes. The .50-.70 was made for the U.S. Rifle, models 1866, 1868, and 1870. The dates on the cartridges recovered at Whetstone, 1890 and 1885, indicate that they were post-army period at the agency (1868-72) and can be assigned to the supply base era of the 1880's (Howard, MS., Appendix V). One other shell (pl. 8, *k*) is a .44-caliber center-fire piece, used in the .44-.40 Winchester, Colt Lightning Magazine Rifle or revolver. This cartridge type was manufactured in the post-1870's.

The textile pieces, floor or wall matting, and portions of a 3-ply rope were the only perishable artifacts recovered. All had been carbonized by the fire that destroyed the corral stockade area. Two of the matt pieces (pl. 9, *h*, *i*) are wickerwork weave, and another (pl. 9, *g*) is checkerwork.



## SUMMARY STATEMENT

The corral-stockade area of the Whetstone Indian Agency and Army Post was excavated during the summer of 1952. Lack of post remains on three sides of the structure indicated partial destruction of the stockade, as such, following abandonment of the post by the military in 1872. Charred post remains in the north wall and general burning of the area suggest final destruction by fire while the site was being used as a supply depot. Burned straw and grain testify to the use of this area as a corral, and burned matting indicates the general area of the teamsters' quarters. Lack of any remains of the army post proper, though an extensive search was made, suggests that the buildings, timbers, and posts were removed by settlers during the 1870's or thereafter.

## LOWER BRULÉ INDIAN AGENCY (39LM54)

This agency was established in 1868. A military post, located near the agency in 1879, was later moved upriver and renamed Fort Hale. By 1890 the agency had undergone considerable expansion and was apparently a thriving community. Most of the agency structures were moved upriver to the present Lower Brulé Subagency in 1892. Two of the buildings were relocated in Oacoma. One, a church, has since burned down, but the old agency headquarters building, now the residence of ex-Governor M. Q. Sharpe, still stands.

The site was visited by the Smithsonian Institution reconnaissance party in 1950 and revisited by the writer and party in 1952 (pl. 5, *a*). It is situated in a pasture bordering the right bank of American Crow Creek, on the right bank of the Missouri River, 1 mile southwest of Oacoma in Lyman County, S. Dak. (map 1).

Chinaware fragments, square-cut nails, and miscellaneous iron pieces indicated a site of white provenience. Two surface pieces collected were a knife handle and blade fragment (pl. 8, *b*) and a porcelain doll leg (pl. 8, *f*). Surface depressions, probably marking cellar depressions, were found scattered over the site. A graveyard was located on a knoll to the north of the site. Local informants stated that this graveyard had been associated with the agency and that the bodies had been disinterred and moved to the present Lower Brulé Agency, 22 miles upriver from the site.

Further investigations at this site were not recommended owing to the existing documentation already extant and to the fact that structures had all been moved elsewhere. An extremely extensive excavation would have been necessary, with the probability of a very small return in archeological or historical values.

## FORT LOWER BRULÉ (39LM53)

## INTRODUCTION

An army post was established in conjunction with the lower Brulé Indian Agency in 1870, at a location somewhere in the vicinity of that agency. The exact location of this post, known as Fort Lower Brulé, has not been definitely determined though considerable search for it has been made.

A reconnaissance party of the Smithsonian Institution, led by Thomas R. Garth, in the summer of 1950 located a site of white provenience in one of several suggested localities for this site. It is situated on the second terrace above the right bank of the Missouri River, 4.5 miles above Oacoma, in Lyman County, S. Dak. (map 1). Surface indications of the site included a series of low hummocks containing burned earth, charcoal, and artifacts of white provenience. It is highly probable that this is the location of Fort Lower Brulé, although positive identification as such is not at hand.

## EXCAVATION

Immediately following the surface examination in 1950, Garth's party proceeded with test excavations at the site. A stripping operation begun on the largest hummock revealed a quantity of bright orange and red fragments of burned chinking. Imprints of round logs were found preserved in the burned chinking. The diameter of the log imprints varied from 0.58 to 0.75 feet and averaged 0.65 feet. The bark pattern indicated that the wood used was eastern red cedar and probably cottonwood.

Further excavation (pl. 6, *a*) revealed two units or rooms built 7 feet apart, and the space between them covered by a wooden roof. The dirt roof of the structure, after the fire had burned the rafters, had fallen on the burning floors below, smothering the fire and preserving many of the timbers in a charred state.

The floor joists were spaced 2 feet apart. These were indicated by square-cut nails that had held down the flooring and that projected up through the fallen roof dirt somewhat higher than the joists themselves. The nails as well as the other iron artifacts in the building ruin were badly corroded.

In the northwest corner of one room was a chalkstone fireplace (pl. 6, *a*). Between the back of the fireplace and the wall was a clay filling, a safety feature installed to safeguard the wall from fire. This living unit had been floored with oak planks that were 12 inches wide and less than 1 inch thick.<sup>6</sup>

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<sup>6</sup> Mr. Jack King, local informant, said that when he first homesteaded the site in the 1890's, a great many oak tree stumps covered the terrace. A sawmill is shown in this location on the 1890 Missouri River Commission map.

The structures connecting the living units had been enclosed by vertical planks, the butts set about 2 inches into the ground. These were indicated by narrow trenches along the east and west wall lines that contained bits of rotted wood. The east trench was broken by a space wide enough for a doorway, and this open area was covered with bits of fine gravel of the type that occurred in a pathway east of the building. This connecting structure must have had a dirt floor as there was no evidence of wood flooring.

In the other occupation unit a number of charred timbers were found in proximity to a probable chalkstone forge. These appeared to be roof timbers rather than supports for a wooden floor. The hard dirt floor was baked in some areas by the fire. This room may have been used as a blacksmith shop. The 5- x 4.1-foot chalkstone platform, about 8 inches high, may have been the forge. Three feet south of the forge was a 9-inch oak post that may have supported an anvil, and the remnants of what was probably a large water barrel, commonly associated with blacksmith shops, were still farther to the south (pl. 6, *b*). Here there was evidence of two iron barrel hoops and small portions of charred wood. There was a large amount of iron stock and tool fragments; the latter are represented by portions of a chisel, hoe, blade, axhead, wagon iron, and spikes. A door hook located in the center of the west wall may indicate an entrance in that vicinity.

Near the excavated building were found the remains of a well. The surface indication was a depression approximately 10 feet in diameter by 2.5 feet in depth. The outline of the well appeared in the darker fill when the top soil was removed. The well diameter was approximately 4 feet. Mr. King stated that he filled in the well in the nineties because it was a danger to stock. Thus the material in the upper part of the well is of a late date and was discarded. Below the 12-foot depth the oak cribbing in the well was still intact. This cribbing was made from a series of logs about 7 inches in diameter, split on the long axis and notched at the ends. The inside diameter of the cribbed section was 3.3 feet. The well measured over 18 feet in depth, but the exact depth was indeterminable because of the sand which seeped in from the sides with the water during the process of excavation. The well above the cribbing had evidently been walled with logs placed vertically and held by iron hoops.

The material in the lower 5 feet of the well was in excellent preservation. Fifty-eight ice gliders (pl. 7), an octagonal barrel of a buffalo gun, wagon irons, square-toed shoes, and window glass were recovered from that depth. The ice gliders are evidence of Indian activity near the site.

The one cellar excavated on the side was approximately 2.5 feet deep, 13.3 feet long, and 11.5 feet wide. The sandy walls were sloped to

obviate the necessity of a wood or stone wall lining. There was some, but not definite, evidence of a fallen dirt roof. Artifacts were few, consisting of an earthenware crock, miscellaneous iron, and a charred cask lid. Two L-shaped hinge spikes found near the center of the north wall on the cellar floor may indicate a door in that area. There was no indication of wooden flooring in the cellar.

#### ARTIFACTS

The four .50-70-caliber, center-fire cartridges with inside fuses (pl. 9, *o-r*) were of the type used by the United States Army in the 1860's and 1870's. They were probably fired in an Allen alteration rifle. Another item related to army life was a hat emblem (pl. 9, *f*) or insigne of brass. The words "E Pluribus Unum" are inscribed above the head of an eagle with outstretched wings on this piece. A toothed hide scraper of iron was recovered that is similar in shape and notching on the working edge to the toothed bone fleshers of Indian manufacture. It was probably made in the blacksmith shop and may have been a trade item.

The octagonal gun barrel from the well was part of a percussion-type sporting rifle that shot a .50-caliber rifle shell and used a special percussion cap to ignite the charge. A 5-inch piece cut off the end of the barrel (pl. 8, *i*) was also in the well, and an iron butt plate (pl. 8, *h*) that was found near this piece may have been a part of the same gun.

The boot soles found in the well are the square-toed variety of the period. The heavy hoe blade had an iron collar at the top for insertion of the handle. A frying pan located in one of the building structures was similar to modern types except for the long handle with a hand-made loop at the end.

The following information on the stoneware crock was supplied by G. Hubert Smith, Smithsonian archeologist:

The stoneware crock or jar marked "Dakota City, N.T." was probably made at the Dakota City Pottery, operated by John B. Ziegler and Charles F. Eckhart as early as 1859. (The State of Nebraska was admitted in 1867.) As early as 1857, Samuel Whitehorn, previously a resident of Vermont and New York State, had opened a brick yard at Dakota City, which is said to have been the first "industrial enterprise" of the community. (A. T. Andreas, publ., *History of the State of Nebraska*, Chicago, 1882, pp. 612-613.) Whitehorn appears to have made brick for only one season, and there seems to be no mention of the manufacture of pottery in connection with the brick business. Elsewhere, potteries were in many instances developed independent of brick manufacture, sometimes by farmers who had acquired the skill.

The date of the establishment of the Dakota City Pottery by the firm of Ziegler and Eckhart, which also operated a general store, is not known. Files of the *Dakota City Herald* preserved at the Nebraska State Historical Society begin with the year 1859, and the earliest advertisement of the firm found begins with August 13. Queensware is specially mentioned in this advertisement, but

it may be doubted that this was locally produced. The *Herald* for August 27, however, states that the steamboat *Omaha*, recently arrived from St. Louis, upon her return down river the following day took with her a large quantity of stoneware—about ten thousand gallons—from Ziegler and Eckhart's pottery. (The production of earthenware at this period was frequently given in terms of total capacity of pieces.)

Miscellaneous items include a three-tined iron fork, small three-cornered file, ax (pl. 8, *s*), and portions of a large corkscrew. Wagon part remains were the rub bar off a wagon box, the clevis (pl. 8, *a*) which couples the wagon tongue and doubletrees, iron hoop and bracing at the distal end of a wagon tongue, scrap iron from a single-tree, strap iron and bolt combination to hold the sides of a wagon to the bottom, and chain links.

The ice gliders were found below the 15-foot depth of the well. They were made from deer, elk, or cow rib, and range from 11 cm. to 20 cm. in length. The whole specimens are blunted at one end and the butts are hollowed to allow the insertion of two thin-feathered sticks. Forty-five of the specimens lack any decoration but the others evidence incising of various forms. The predominant pattern, found on three and incipient on a fourth, is a series of diamonds placed end to end (pl. 7, *a, b, e*). On one specimen (pl. 7, *b*) the diamond pattern is cross-hatched. Another design is a series of incised triangles along one edge (pl. 7, *f*). The remaining geometric designs are a series of dots forming a triangle (pl. 7, *h*), or straight lines. One piece is notched along both lateral edges (pl. 7, *e*). Two and possibly a third specimen have more or less realistic representations. One of these pictures an actual ice glider, complete with feathers (pl. 7, *d*). Another represents a bird (pl. 7, *g*). One specimen has an hourglass design formed of a number of crossed lines with a featherlike representation on the rear of the design (pl. 7, *i*). The ice gliders were thrown with an overhand motion at a target. Their presence in the well may be due to this latter object's use as a target, and the gliders were lugged across the snow to its edges (Culin, 1907, pp. 399-420).

#### SUMMARY STATEMENT

A site of white provenience situated in one of the suggested locations of the site of Fort Lower Brulé was investigated. It yielded a rather large artifact inventory and considerable data concerning architectural details of a military post of the last third of the 19th century. A well in the yard also yielded a large and interesting series of a specialized type of Indian artifact—ice gliders. Proof is yet lacking that this is actually the site of Fort Lower Brulé established in 1870. However, on the basis of general location, general architectural features, and quantity of artifactual materials of the appropriate time period, it seems highly probable that this is the actual site of Fort Lower Brulé.

## FORT LOOKOUT MILITARY AND TRADING POSTS (39LM57)

The site of Fort Lookout Military and Trading Posts was investigated in 1950 by a Smithsonian Institution reconnaissance party under the leadership of Thomas R. Garth. The two posts were assigned a single site number, as their locations were contiguous. However, it must be pointed out that Mattes' researches (Mattes, 1949) have indicated that the two, while situated contiguously, were slightly separate in location. Of course, they were also separate in time by more than a quarter of a century.

Site 39LM57, referring to both posts, lies in pastureland, bounded by two small streams, on the south boundary of the Lower Brulé Indian Reservation in Lyman County, S. Dak. (map 1). Further excavations were conducted at this site in 1951 by a second Smithsonian Institution field party, under the leadership of Carl F. Miller. The archeological data of Fort Lookout are reported by Miller, in Paper No. 17 in the present series of papers dealing with historic sites archeology. Miller also presents some documentary data supplemental to Mattes' previous reports and consequently details pertaining to this site need not be repeated here.

## FORT HALE (39LM52)

Fort Hale, originally established at the Lower Brulé Indian Agency, was relocated on the first terrace of the right bank of the Missouri River, 13 miles upriver from Oacoma in Lyman County, S. Dak. (map 1). The site was investigated by a Smithsonian Institution reconnaissance party in 1950 under the leadership of Thomas R. Garth. At that time it was ascertained that most of the building sites and parade ground had been washed into the river. A number of cellar depressions were still visible as were also sections of graveled walkways that were raised a foot or more above the terrace plane. Artifactual materials collected here in 1950 by Garth consisted of wrought-iron nails, a strap hinge, a leather shoe sole, a glass button, a piece of cut bone, and miscellaneous fragments of iron, earthenware, china, bottle glass, window glass, and wall plaster.

The writer visited the site in the summer of 1952 and found that its last remnants had been destroyed by the Missouri River flood of the same year.

## FORT RECOVERY

A site of major historic importance in the neighborhood of American Island near Oacoma is Fort Recovery. The historic references to this site are extremely confusing as has been demonstrated by Mattes' exten-

sive documentary researches.<sup>7</sup> Erected during the first quarter of the 19th century, the establishment was known by various names such as Fort Recovery, Cedar Fort, Pilcher's Post, and Fort Brasseaux, to name a few. The post had considerable significance in the early history of the area in connection with the Leavenworth Expedition of 1823 and many other historic events of the time. However, documentary sources failed to pinpoint the location of the site.

In 1950, a Smithsonian Institution party under the direction of Thomas R. Garth made an extensive search for surficial features indicating the possible location of Fort Recovery. In spite of the intensive and extensive examination of the area by this party, the results were negative. The actual location is still unknown.

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<sup>7</sup> See footnote 3, p. 31.

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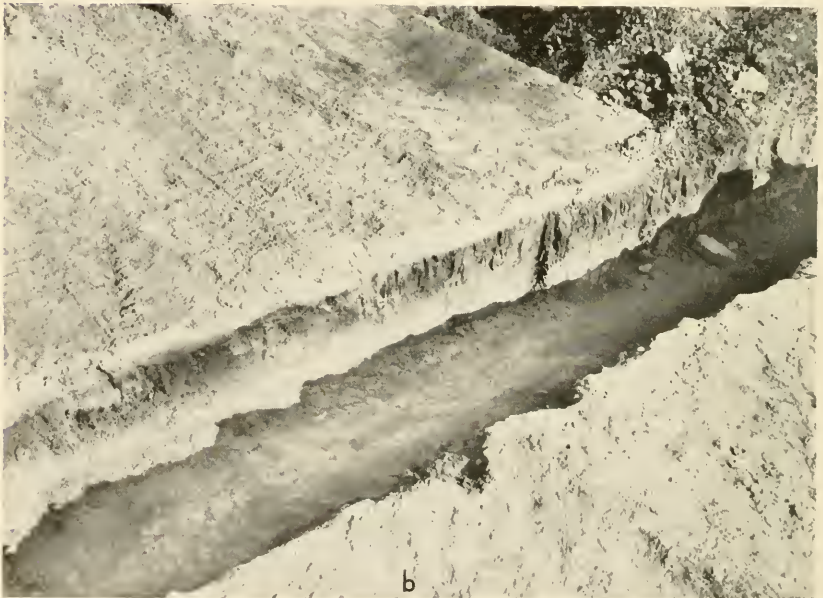
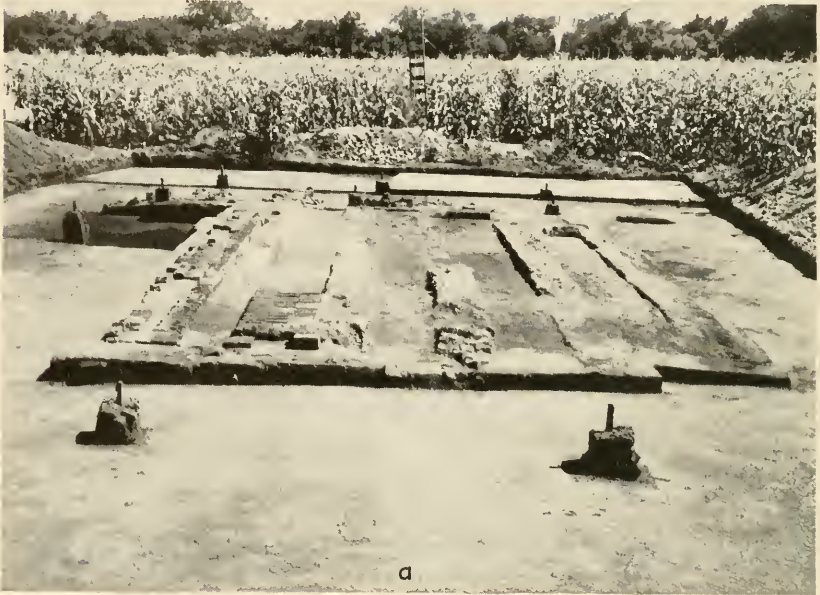
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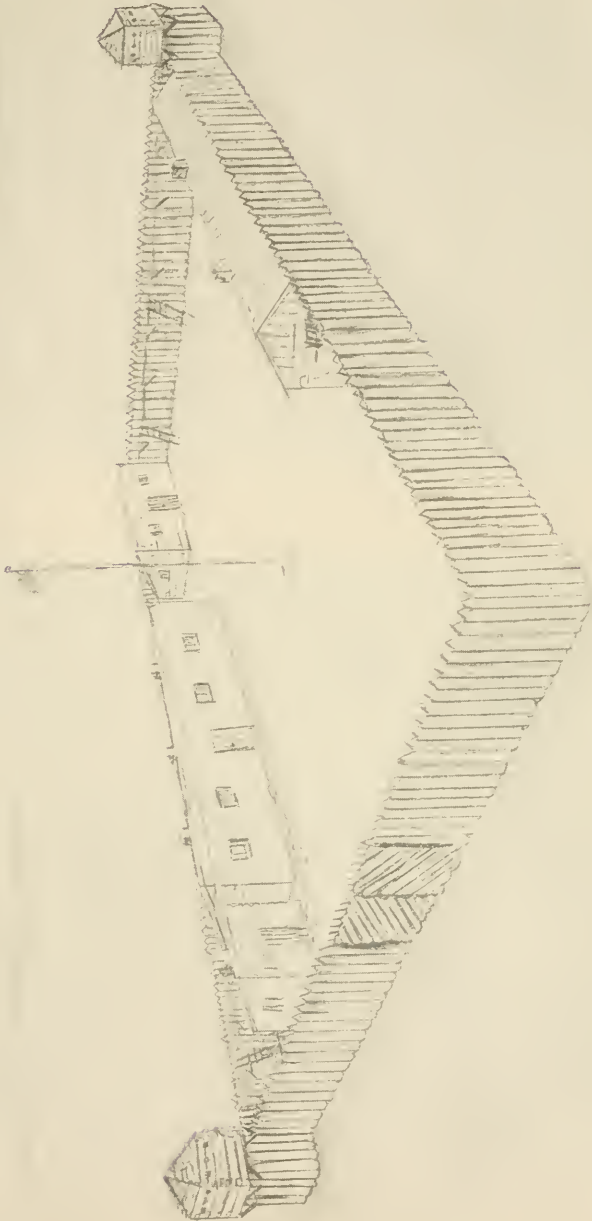




*a*, The surface of the Fort Randall brickkiln area before excavation. *b*, Some of the brick rows under the topsoil at Fort Randall brickkiln.



*a*, The Fort Randall brickkiln area after excavation showing brick rows and raised strips of mortar. *b*, Profile of the Fort Randall brickkiln area showing burned earth underlying physical remains of the site.



Drawing of probable appearance of the Whetstone Indian Agency and Army Post.



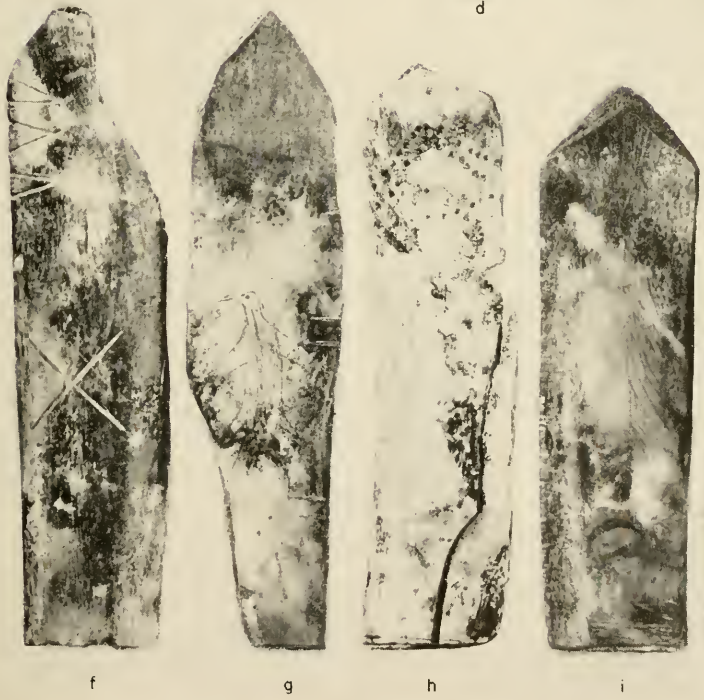
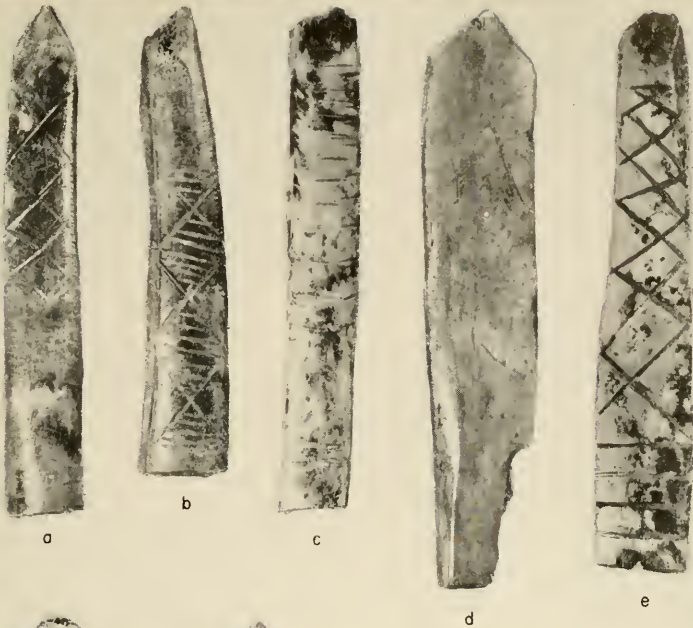
*a*, Trench line of the southwest stockade wall, Whetstone Indian Agency and Army Post.  
*b*, Remains of southwest corner stockade post, Whetstone Indian Agency and Army Post.



*a*, Site of Lower Brulé Indian Agency. *b*, Trench showing remains of north stockade wall, Whetstone Indian Agency and Army Post.

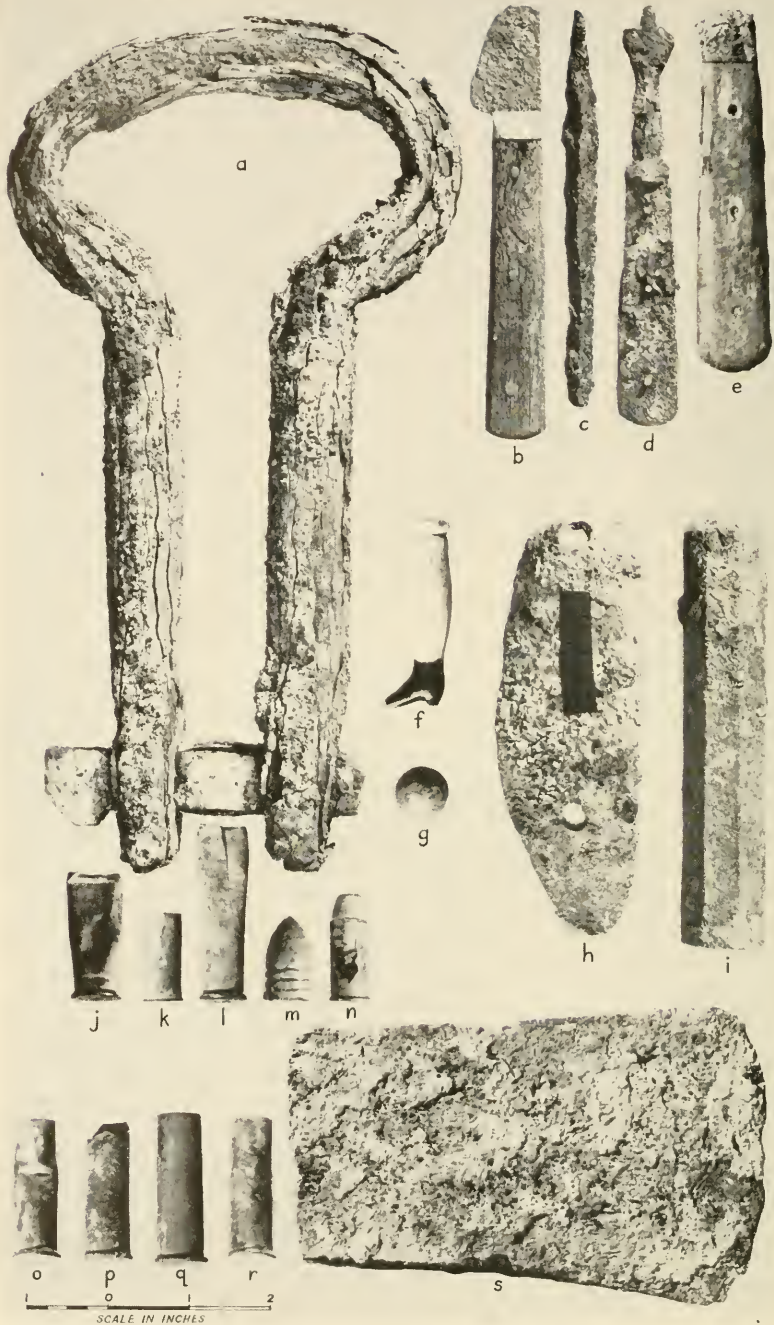


*a*, Excavation at Fort Lower Brulé. *b*, Barrel and forge remains at Fort Lower Brulé.



Scale in inches

Ice gliders from well at Fort Lower Brulé.



Artifacts from historic sites, Fort Randall Reservoir.





Artifacts from historic sites, Fort Randall Reservoir.